



**CITY COUNCIL
MEETING AGENDA**

**June 18, 2024
6:00 PM**

Location: City Council Chambers, 408 N. Spokane Street, Post Falls, ID 83854

WORKSHOP – 5:00 pm Basement Conference Room

- a. Alcoholic Beverage Fees and Foregone Discussion

REGULAR MEETING – 6:00 pm City Council Chambers

CALL TO ORDER BY MAYOR JACOBSON

PLEDGE OF ALLEGIANCE

ROLL CALL OF CITY COUNCIL MEMBERS

Samantha Steigleder, Josh Walker, Joe Malloy, Nathan Ziegler, Randy Westlund, Kenny Shove

**CEREMONIES, ANNOUNCEMENTS, APPOINTMENTS, PRESENTATION:
ACTION ITEM**

AMENDMENTS TO THE AGENDA

Final action cannot be taken on an item added to the agenda after the start of the meeting unless an emergency is declared that requires action at the meeting. The declaration and justification must be approved by motion of the Council.

DECLARATION OF CONFLICT, EX-PARTE CONTACTS AND SITE VISITS

The Mayor and members of the City Council have a duty to serve honestly and in the public interest. Where the Mayor or a member of the City Council have a conflict of interest, they may need to disclose the conflict and in certain circumstances, including land use decisions, they cannot participate in the decision-making process. Similarly, ex-parte contacts and site visits in most land use decisions must also be disclosed.

1. CONSENT CALENDAR

The consent calendar includes items which require formal Council action, but which are typically routine or not of great controversy. Individual Council members may ask that any specific item be removed from the consent calendar in order that it be discussed in greater detail. Explanatory information is included in the Council agenda packet regarding these items and any contingencies are part of the approval.

ACTION ITEMS:

- a. Minutes – June 4th 2024, City Council Meeting
- b. Payables 05/30/24 - 06/11/2024

- c. Fleet Division Request to Surplus Vehicles
- d. Ashlar Ranch Subdivision Plat Application
- e. Montrose 17th Addition Construction Improvement Agreement
- f. Hydrilla Estates Subdivision Plat Application
- g. Request for Proposals for Human Resources Consultant to Perform Salary Survey and Compensation Philosophy Review

2. PUBLIC HEARINGS

There are generally two types of public hearings. In a legislative hearing, such as adopting an ordinance amending the zoning code or Comprehensive Plan amendments, the Mayor and City Council may consider any input provided by the public. In quasi-judicial hearings, such as subdivisions, special use permits and zone change requests, the Mayor and City Council must follow procedures similar to those used in court to ensure the fairness of the hearing. Additionally, the Mayor and City Council can only consider testimony that relates to the adopted approval criteria for each matter. Residents or visitors wishing to testify upon an item before the Council must sign up in advance and provide enough information to allow the Clerk to properly record their testimony in the official record of the City Council. Hearing procedures call for submission of information from City staff, then presentation by the applicant (15 min.), followed by public testimony (4 min. each) and finally the applicant's rebuttal testimony (8 min.). Testimony should be addressed to the City Council, only address the relevant approval criteria (in quasi-judicial matters) and not be unduly repetitious.

ACTION ITEMS:

- a. Tiny Home Code TA-23-2

3. UNFINISHED BUSINESS/RETURNING ORDINANCES AND RESOLUTIONS

This section of the agenda is to continue consideration of items that have been previously discussed by the City Council and to formally adopt ordinances and resolutions that were previously approved by the Council. Ordinances and resolutions are formal measures considered by the City Council to implement policy which the Council has considered. Resolutions govern internal matters to establish fees and charges pursuant to existing ordinances. Ordinances are laws which govern general public conduct. Certain procedures must be followed in the adoption of both ordinances and resolutions; state law often establishes those requirements.

ACTION ITEMS:

- a. Adoption of the Water Reclamation Facility (WRF) Facility Planning Study
- b. Q'emiln Well Rehabilitation Consulting Services Additional Services Authorization
- c. Spokane Street Rehabilitation, Cooperative Agreement with The Idaho Transportation Department
- d. Spokane Street Rehabilitation, Engineering Services Contract Amendment
- e. Landmark Place Annexation Ordinance File No. ANNX-23-2019

4. NEW BUSINESS

This portion of the agenda is for City Council consideration of items that have not been previously discussed by the Council. Ordinances and Resolutions are generally added to a subsequent agenda for adoption under Unfinished

Business, however, the Council may consider adoption of an ordinance or resolution under New Business if timely approval is necessary.

ACTION ITEMS:

- a. Accounts Receivable Write-Offs
- b. Aggressive Solicitation Ordinance

5. CITIZEN ISSUES

This section of the agenda is reserved for citizens wishing to address the Council regarding City-related issues that are not on the agenda. Persons wishing to speak will have 5 minutes. Comments related to pending public hearings, including decisions that may be appealed to the City Council, are out of order and should be held for the public hearing. Repeated comments regarding the same or similar topics previously addressed are out of order and will not be allowed. Comments regarding performance by city employees are inappropriate at this time and should be directed to the Mayor, either by subsequent appointment or after tonight's meeting, if time permits. In order to ensure adequate public notice, Idaho Law provides that any item, other than emergencies, requiring Council action must be placed on the agenda of an upcoming Council meeting. As such, the City Council can't take action on items raised during citizens issues at the same meeting but may request additional information or that the item be placed on a future agenda.

6. ADMINISTRATIVE / STAFF REPORTS

This portion of the agenda is for City staff members to provide reports and updates to the Mayor and City Council regarding City business as well as responses to public comments. These items are for information only and no final action will be taken.

- a. Black Bay Construction Update

7. MAYOR AND COUNCIL COMMENTS

This section of the agenda is provided to allow the Mayor and City Councilors to make announcements and general comments relevant to City business and to request that items be added to future agendas for discussion. No final action or in-depth discussion of issues will occur.

8. EXECUTIVE SESSION

Certain City-related matters may need to be discussed confidentially subject to applicable legal requirements; the Council may enter executive session to discuss such matters. The motion to enter into executive session must reference the specific statutory section that authorizes the executive session. No final decision or action may be taken in executive session.

ACTION ITEMS:

- a. (f) To communicate with legal counsel for the public agency to discuss the legal ramifications of and legal options for pending litigation, or controversies not yet being litigated but imminently likely to be litigated.

RETURN TO REGULAR SESSION

ADJOURNMENT

Questions concerning items appearing on this Agenda or requests for accommodation of special needs to participate in the meeting should be addressed to the Office of the City Clerk, 408 Spokane Street or call 208-773-3511. City Council and City commission meetings are broadcast live on Post Falls City Cable on

cable channel 1300 (formerly 97.103) as well as the City's YouTube Channel
(<https://www.youtube.com/c/CityofPostFallsIdaho>).

Mayor Ronald G. Jacobson
Councilors: Samantha Steigleder, Josh Walker, Joe Malloy, Nathan Ziegler, Randy Westlund , Kenny
Shove

Mission
Building Community.

CITY OF POST FALLS
AGENDA REPORT
WORKSHOP – 5:00 pm Basement Conference Room
MEETING DATE: 6/18/2024

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: Shelly Enderud
SUBJECT: Alcoholic Beverage Fees and Foregone Discussion

ITEM AND RECOMMENDED ACTION:

A Business has filed a complaint about the cost of Alcoholic Beverage Fees for the City of Post Falls. Council members asked that the discussion be brought forward for discussion. Staff felt a workshop setting was the best venue.

DISCUSSION:

Businesses desiring to hold an Alcoholic Beverage License in the City of Post Falls city limits, must apply for and receive a State License and County license. Once those are obtained, the applicant may apply for a City license.

The City does charge fees based on the type of application being submitted. Resolution 23-04 contains the list of fees for the various types of alcoholic beverage fees. The information is also located on the top of the application contained in this packet. Idaho Code Title 23 regulates Alcoholic Beverages. Chapter 9 and 10 are included in this packet along with a link to the full Chapter.

When these fees were last updated, the prior Administration and Council supported a policy of fees support the cost of the provided service. This emphasis was to ensure the services required as little property tax support as necessary, if any at all. During the prior setting exercise earlier this Spring, the 2024 updated Budget Priorities also reflected a desire to support self-supporting fees not subsidized by taxes where possible. Alcoholic Beverage fees are used to support public safety and the issues of the licenses, along with enforcement efforts by the Police Department.

The State does limit City Liquor by Drink fees to 75% of the State Fee. The County is limited to 25% of this fee when the business resides inside an incorporated city. The State does not regulate the Beer and wine fees by 75%.

When an applicant applies for their state license, they are required to submit for a fingerprint card. The State performs a background check. Then the applicant will apply for a County license. Once both of these licenses are issued, the City will review the license and also the County and City databases to ensure nothing was missed in the original background. Once this research is completed and the application is considered responsive, the City will issue a license. Idaho Code 23-910 provides a list of crimes you cannot commit and still be eligible for a license. The City has discovered a few applications that were not truthful.

During the workshop, I will present some examples of fees for the various types of licenses. Also, contained in this packet is a list of 2024 licenses and the amounts paid for the various licenses held by the businesses.

Last, as it is difficult to provide statistics for calls for service that are related to alcohol, staff has not provided any stats for domestic disputes, fights, hit-and-run collisions, etc. We will provide the stats for

the last 10 years for DUIs.

Recommendations:

City staff recommend continuing the alcoholic beverage fees at their current rate.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

N/A

APPROVED OR DIRECTION GIVEN:

N/A

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

Currently, this line item receives approximately \$40,000 per fiscal year.

BUDGET CODE:

001-410.1423.38101

ATTACHMENTS:

1. Workshop Materials for Packet

Dear Mayor and City Councilors,

I'm writing to bring everyone up to speed regarding a recent discussion from an email exchange with Councilor Malloy concerning our city's liquor license fees. Councilor Malloy had expressed some concerns about the perceived high cost of liquor license renewals in Post Falls compared to state and county fees.

Upon closer examination of the details and figures discussed, I would like to offer some clarifications to ensure our Council has a unified understanding of the issue at hand.

First, it appears there was a misunderstanding regarding the comparative costs of our liquor license fees. By my calculation, the difference between the city's fee and the state's, in this particular case, is \$12.50, not the \$300 difference initially suggested. When considered monthly, the city's fee translates to an additional cost of approximately \$84 per month for this business.

While I recognize the importance of monitoring operational costs for businesses, it's also crucial to understand the context within which these fees are applied.

The revenue generated from the city's liquor license fees is instrumental in supporting our efforts to regulate the safe sale and consumption of alcohol. These funds are allocated towards public safety measures and enforcement of liquor regulations.

The intention behind our fee structure is not only to cover the administrative costs associated with the issuance and renewal of licenses but also to contribute to the overall well-being of our community. Compared to state and county levels, the slight increase in our fees reflects the comprehensive support and regulatory framework we provide to businesses in Post Falls city limits. This communication aims to dispel confusion and highlight the value and rationale behind our liquor license fees.

This topic will also be coming to you at a future city council workshop as we get into the budget process. City staff will provide more detailed information on the utilization of those fees at that time. Thank you for your attention to this matter.



1717 E POLSTON AVE
POST FALLS, ID 83854
208-773-3517

ALCOHOL BEVERAGE LICENSE APPLICATION
(Chapter 5.04)

FOR CITY USE ONLY:

RECEIPT # _____ \$ _____

LICENSE # _____

BEER \$ _____

WINE \$ _____

LIQUOR/WINE \$ _____

001-6321

YEAR _____

☐ New License

☐ Renewal

TAVERN SALES (ON PREMISES)

() BEER (\$200.00)

() WINE (\$200.00)

() LIQUOR/WINE (\$562.50)

() LIQUOR/WINE-CLUB (\$281.25)

() LIQUOR/WINE-GOLF COURSE (\$300.00)

STORE SALES (OFF PREMISES)

() BEER (\$50.00)

() WINE (\$200.00)

Applicant: _____

Business Name: _____

Business Address: _____

Mailing Address: _____

Business phone: _____ Other Phone: _____

Email address: _____

● *Attach copy of application for State license, including a copy of site and floor plans submitted with state application.*

● *You must submit copies of your State and County Alcohol Beverage Licenses before a City license will be issued.*

● *Attach a copy of driver's license of the alcohol beverage license holder.*

I have read all of the above, and declare under penalty of perjury that each and every statement made is true, correct, and complete.

Applicant Signature

Print Name

Date



AFFIDAVIT IN SUPPORT OF APPLICATION

(Please type or print clearly.)

STATE OF IDAHO)

:ss

Kootenai County)

Owner Full Name _____ SS# _____

Premises Address _____

Business Phone _____ Home Phone _____

Home Address _____

Place of Birth _____ Date of Birth _____

Time at home address ____ Years ____ Months

Driver's License # _____ (ATTACH COPY)

I AM OR WILL BE: ☐ Sole Owner ☐ Partner ☐ Officer ☐ Director ☐ Stock Holder ☐ Manager of business

Do you now have any direct or indirect interest in any other business licensed for the sale of alcoholic beverages?

☐ No ☐ Yes; Explain:

Have you, as an individual, or partner, or while an officer, director or stockholder or a corporation application or licensee ever had an alcoholic beverage license denied, suspended, or revoked by any jurisdiction granting such license, including the state of Idaho and Kootenai County?

☐ No ☐ Yes; Explain:

Have you ever been an alcoholic beverage licensee or officer or director of a corporation holding an alcoholic beverage license?

☐ No ☐ Yes; Explain:

CURRENT AND PAST EMPLOYMENT (for at least the past two years):

Firm Name _____ City _____ State _____ From (year) _____ To (year) _____

Type of Work _____

Firm Name _____ City _____ State _____ From (year) _____ To (year) _____

Type of Work _____

Firm Name _____ City _____ State _____ From (year) _____ To (year) _____

Type of Work _____

(Use reverse side if necessary)

Have you, any partner or the manager of the premises, within the past three years been convicted of a violation of any laws governing or prohibiting the sale of alcoholic beverages or intoxicating liquor? (If any of these events has occurred, this question must be answered "Yes" regardless of subsequent court action resulting in dismissal or expungement.)

Explain each event fully. (Use reverse side if necessary) ☐ No ☐ Yes; Explain:

Date of Conviction _____ Place of Conviction _____ Offense _____

Date of Conviction _____ Place of Conviction _____ Offense _____



Have you, any partner or the manager of the premises, within the past three years been convicted of a violation of driving under the influence of alcoholic beverages or other intoxicating substances and/or hasn't paid the fine or completed the sentence or parole/probation for such an offense? (If any of these events has occurred, this question must be answered "Yes" regardless of subsequent court action resulting in dismissal or expungement.) Explain each event fully. (Use reverse side if necessary)

☐ No ☐ Yes; Explain:

Date of Conviction _____ Place of Conviction _____ Offense _____
Date of Conviction _____ Place of Conviction _____ Offense _____

Have you, any partner or the manager of the premises, engaged in the operation of, or has been interested in, any house or place for the purpose of prostitution or engaged in any such house or premises within the city limits of Post Falls which has been declared or found a moral nuisance? (If any of these events has occurred, this question must be answered "Yes".) Explain each event fully. (Use reverse side if necessary)

☐ No ☐ Yes; Explain:

Have you, any partner or the manager of the premises, within the past five years been convicted or received a withheld judgment for any crime relating to possession of a controlled substance? (If any of these events has occurred, this question must be answered "Yes" regardless of subsequent court action resulting in dismissal or expungement.) Explain each event fully. (Use reverse side if necessary) ☐ No ☐ Yes; Explain:

Date of Conviction _____ Place of Conviction _____ Offense _____
Date of Conviction _____ Place of Conviction _____ Offense _____

Do you, any partner or the manager of the premises, allow conduct to occur on the premises which is defined as a moral nuisance by state law or Post Falls ordinance?

☐ No ☐ Yes; Explain:

Do you, any partner or the manager of the premises, manage or operate the premises in a way to be a nuisance to surrounding businesses by reason of the conduct of employees or clientele constituting lewd, violent or disorderly behavior?

☐ No ☐ Yes; Explain:

I have read all of the above, and declare under penalty of perjury that each and every statement made is true, correct and complete.

Applicant

Subscribed and sworn to before me this _____ day of _____, 20 _____

Notary Public _____

Residing at _____ My Commission Expires: _____

RESOLUTION NO. 23-04

Business Licenses & Regulations

Alcoholic Beverage Licenses

Beer (off premises)	\$ 50.00	Annually
Beer (on premises)	\$ 200.00	Annually
Wine (off premises)	\$ 200.00	Annually
Wine (on premises)	\$ 200.00	Annually
Liquor/Wine (on premises)	\$ 562.50	Annually
Liquor/Wine (club)	\$ 281.25	Annually
Liquor/Wine (golf course)	\$ 300.00	Annually
Catering Permit	\$ 20.00	Daily
Door to Door Solicitation (180 days only)	\$ 25.00	Annually
Merchant Security Police	\$ 25.00	Annually
Business Licenses	\$ 25.00	Annually

	Beer (On Premises)	Wine (On Premises)	Beer (Off Premises)	Wine (Off Premises)	Liquor by the Glass
State Fees*	\$ 50.00	\$ 100.00	\$ 50.00	\$ 100.00	\$ 800.00
County Fees**	\$ 100.00	\$ 100.00	\$ 25.00	\$ 100.00	\$ 200.00
City Fees	\$ 200.00	\$ 200.00	\$ 50.00	\$ 200.00	\$ 562.50
Total	\$ 350.00	\$ 400.00	\$ 125.00	\$ 400.00	\$1,563

*State fees can vary from this list. Keg beer to go is an extra \$20 on all licenses. In the Beer and Wine licensing, wine by the bottle is \$100 and wine by the glass is \$100. The State Liquor License includes wine but is \$50 extra for beer. If a business is purchasing an existing license from another person or business, the cost is 10% of the purchase price or goodwill (fair market value) whichever is greater, plus \$20 for beer.

**Liquor by the Glass fee for the County is calculated at 25% of State Fee, so here it is calculated at 25% of \$800

KOOTENAI COUNTY BEVERAGE LICENSE FEES

<u>LICENSE TYPE</u>	<u>SCOPE</u>	<u>COST</u>
Retail Beer	Sale of bottled and canned beer <u>OFF</u> premises only	\$25.00
Draft Beer	Includes <u>ALL</u> beer	\$100.00
Beer	Sale of bottled and canned beer on <u>OR</u> off premises	\$75.00
Retail Wine	Sale by the bottle off premises only <u>EXCEPT</u> with valid wine by the drink <u>OR</u> liquor by the drink license	\$100.00
Wine by the Drink	Sale by the glass <u>OR</u> bottle on premises only	\$100.00
Liquor by the Drink	<u>ON</u> premises only	25% of State fee \$_____

***If you have further questions regarding our fees, please call our main line at 208-446-1480**

ALCOHOL BEVERAGE LICENSE RENEWAL CHECKLIST - 2024										
Premise No.	St. Lic No	CNTY LIC NO.	City Lic. No.	Business Name	Physical Address	Mailing Address (If Different than Physical Address)	Date Renewed	Fee	Tavern or Store sales	Beer/Wine or Liquor
K-196	20227	2024-469	2024-01	CAPONE'S PUB & GRILL	315 N ROSS POINT RD	819 E ST MARIES AVE CDA ID 83814	1/8/2024	\$812.50	TAVERN	Liquor, Beer, Wine, and Beer to go.
K-193	1849	2024-480	2024-02	JONES CHEVRON & DELI	4020 E SELTICE WAY		1/9/2024	\$250.00	STORE	Beer, Wine to go
K-89	1860	2024-475	2024-03	HICO COUNTRY STORE	770 N HWY 41	15963 N HWY 41 RATHDRUM, ID 83858	1/10/2024	\$250.00	STORE	BEER, WINE TO GO
K-427	4789	2024-499	2024-04	BEVERAGE BARN DRIVE THRU	447 N BAY ST		1/11/2024	\$250.00	STORE	BEER, WINE TO GO
K-19284	19284	2024-489	2024-05	POST FALLS BREWING COMPANY	112 N SPOKANE ST		1/16/2024	\$450.00	TAVERN	BEER, WINE, AND BEER TO GO
K-371	3492	2024-545	2024-06	POST FALLS AMERICAN LEGION POST 143	1138 E POLELINE AVE		1/22/2024	\$481.25	TAVERN	BEER, LIQUOR/WINE CLUB
K-10	4401	2024-546	2024-07	ADY CONVENIENCE & CAR WASH	1815 E SELTICE WAY		1/22/2024	\$250.00	STORE	BEER, WINE TO GO
K-446	4975	2024-524	2024-08	RANCHO VIEJO	2525 E SELTICE WAY		1/23/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-12377	12377	2024-525	2024-09	THE BUNKER BAR	702 N SPOKANE ST		1/23/2024	\$812.50	TAVERN/STORE	BEER, LIQUOR/WINE, BEER TO GO
K-232	4236	2024-597	2024-10	41 EXPRESS	2503 HWY 41		1/29/2024	\$250.00	STORE	BEER AND WINE TO GO
K-259	2633	2024-607	2024-11	TORO VIEJO	3960 W 5TH AVE		1/29/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-10737	10737	2024-608	2024-12	TORO VIEJO BARGARITA	3960 W 5TH AVE B2		1/29/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-368	2539	2024-609	2024-13	HIGHLANDS GOLF COURSE	5500 E MULLAN AVE		1/29/2024	\$500.00	TAVERN	BEER, LIQUOR WINE- GOLF COURSE
K-6253	6253	2024-864	2024-14	LOCKER ROOM	4010 E SELTICE WAY		1/31/2024	\$650.00	TAVERN/STORE	BEER, WINE, BEER TO GO
K-37973	37973	2024-589	2024-15	CIRCLE K	70 N BECK RD	PO BOX 347 COLUMBUS, IN 47202	1/31/2024	\$250.00	STORE	BEER AND WINE TO GO
K-31123	31123	2024-630	2024-16	EMBERS BY THE GREEN	4365 N INVERNESS DR	12028 N WATERFORD LP HAUSER, ID 83854	1/31/2024	\$400.00	TAVERN	BEER AND WINE
K-159	3111	2024-507	2024-17	JMT XPRESSMART	211 E SELTICE WAY	1932 N GOVERNMENT WAY CDA, ID 83814	2/1/2024	\$250.00	STORE	BEER AND WINE TO GO
K-54	1793	2024-556	2024-18	FRONTIER GROCERY	2707 W SELTICE WAY		2/5/2024	\$250.00	STORE	BEER AND WINE TO GO
K-182	1691	2024-553	2024-19	COEUR D ALENE RV RESORT	2652 E MULLAN AVE	974 NW MOHOGANY LANE SILVERDALE, WA 98383	2/5/2024	\$50.00	STORE	BEER TO GO
K-218	1685	2024-621	2024-20	POST FALLS JIFI STOP	701 N SPOKANE ST	650 W CLAYTON AVE COEUR D ALENE, ID 83814	2/5/2024	\$250.00	STORE	BEER AND WINE TO GO
K-36518	36518	2024-548	2024-21	FAMILY DOLLAR #32593	317 E SELTICE WAY STE A	500 VOLVO PKWY CHESAPEAKE , VA 23320	2/5/2024	\$250.00	STORE	BEER AND WINE TO GO
k-60	3615	2024-653	2024-22	THE FALLS CLUB	611 E SELTICE WAY	PO BOX 3101 PF ID 83877	2/5/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-85	4376	2024-636	2024-23	RIVER CITY LANES	965 W SELTICE WAY	8884 N GOVERNMENT WAY STE A HAYDEN, ID 83835	2/6/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-10864	10864	2024-578	2024-24	WALMART #4395	6405 W POINTE PARKWAY	702 SW 8TH ST BENTONVILLE, AR 72716	2/6/2024	\$250.00	STORE	BEER AND WINE TO GO
K-21315	21315	2024-	2024-25	WALMART #3472 FUEL STATION	3050 E MULLAN AVE		2/6/2024	\$250.00	STORE	BEER AND WINE TO GO
K-411	4051	2024-581	2024-26	WALMART #3472	3050 E MULLAN AVE		2/6/2024	\$250.00	STORE	BEER AND WINE TO GO
K-12051	12051	2024-	2024-27	LOVE'S TRAVEL STOP #301	4218 W EXPO PARKWAY	PO BOS 26210 OKLAHOMA CITY, OK 73126	2/6/2024	\$250.00	STORE	BEER AND WINE TO GO
K-33689	33689	2024-667	2024-28	VAPORLAND	4436 W RIVERBEND AVE		2/7/2024	\$762.50	TAVERN/STORE	BEER, LIQUOR WINE, BEER AND WINE TO GO
K-25643	25643	2024-666	2024-29	GREYHOUND PARK & EVENT CENTER	5100 RIVERBEND AVE		2/7/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-32346	32346	2024-511	2024-30	KANIKSU BREWING	4045 W RIVERBEND AVE		2/8/2024	\$650.00	TAVERN/STORE	BEER AND WINE, BEER AND WINE TO GO
K-320	2640	2024-610	2024-31	GOLDEN DRAGON RESTRAUNT	106 W SELTICE WAY		2/12/2024	\$400.00	TAVERN	BEER AND WNE
K-27770	27770	2024-688	2024-32	CORBYS	2828 W SELTICE WAY		2/12/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-387	2267	2024-613	2024-33	EL RANCHERO	780 N CECIL RD STE 106&107	12196 W WELLINGTON AVE PF, ID	2/12/2024	\$1,012.50	TAVERN/STORE	BEER, WINE, LIQUOR/WINE, BEER AND WINE TO GO
k-18866	18866	2024-470	2024-34	UP NORTH DISTILLERY	846 N BOULDER CT		2/13/2024	\$812.50	TAVERN/STORE	BEER, LIQUOR/WINE, BEER TO GO
K-55	1926	2024-702	2024-35	BOB'S 21 CLUB	212 E SELTICE WAY		2/13/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-12692	12692	2024-721	2024-36	FU-KI JAPANESE STEAK HOUSE	1500 E SELTICE WAY		2/15/2024	\$400.00	TAVERN	BEER AND WINE
K-239	1877	2024-692	2024-37	FUEL N SNACK	4100 W EXPO PKWY		2/15/2024	\$250.00	STORE	BEER AND WINE
K-10749	10749	2024-691	2024-38	BEST FOOD STOP	105 W SELTICE WAY		2/15/2024	\$250.00	STORE	BEER AND WINE
K-18329	18329	2024-600	2024-39	BIG SMOKE #119	3134 E MULLAN AVE STE A	1445 W COMMERCE AVE STE 100 BOISE, ID 83705	2/15/2024	\$250.00	STORE	BEER AND WINE
K-26162	26162	2024-560	2024-40	ROGER'S BURGERS	403 N SPOKANE ST	2418 N GOVERNMENT WAY	2/15/2024	\$400.00	TAVERN	BEER AND WINE
K-45	1686	2024-708	2024-41	SUPER 1 FOODS	805 E POLSTON AVE		2/20/2024	\$250.00	STORE	BEER AND WINE TO GO
K-30950	30950	2024-729	2024-42	THE RACKETEER	605 E 8TH AVE STE B	227 E MOUNTAIN VIEW RD CLARK FORK, ID 83811	2/20/2024	\$1,012.50	TAVERN/STORE	BEER, LIQUOR/WINE, BEER TO GO
K-10606	10606	2024-726	2024-43	VINTAGE 77	740 N CECIL RD STE 104	8077 N STONEHAVEN DR HAYDEN, ID 83835	2/20/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-12400	12400	2024-764	2024-44	PIZZA HUT	920 E POLSTON	12121 HARBOUR REACH DR #200	2/21/2024	\$200.00	TAVERN	BEER
K-70	2395	2024-698	2024-45	YOKE'S FRESH MARKET #17	1501 E SELTICE WAY	3426 S UNIVERSITY RD SPOKANE VALLEY, WA 99206	2/21/2024	\$250.00	STORE	BEER AND WINE TO GO
K-28	2230	2024-658	2024-46	7 ELEVEN #23781E	650 N IDAHO ST		2/21/2024	\$250.00	STORE	BEER AND WINE TO GO
K-489	5383	2024-735	2024-47	CLUB TEQUILA	402 E SELTICE WAY		2/21/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-169	3080	2024-737	2024-48	LA CABANA MEXICAN RESTAURANT	604 E SELTICE WAY		2/21/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-20929	20929	2024-734	2024-49	LA CABANA RESTAURANT	4041 W RIVERBEND		2/21/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-349	1876	2024-760	2024-50	SUPER STORE	4000 W RIVERBEND		2/21/2024	\$250.00	STORE	BEER AND WINE TO GO
K-127	3150	2024-758	2024-51	HANDY MART	312 N SPOKANE ST		2/21/2024	\$250.00	STORE	BEER AND WINE TO GO
K-37844	37844	2024-778	2024-52	WESTSIDE PIZZA	920 N WHY 41 STE 1		2/21/2024	\$400.00	TAVERN	BEER AND WINE
K-276	2564	2024-496	2024-53	RED LION POST FALLS	414 E FIRST AVE		2/21/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-6309	6309	2024-543	2024-54	BULLET BAR & GRILL	761 N IDAHO ST	8074 N AINSWORTH DR HAYDEN, ID 83835	2/22/2024	\$812.50	TAVERN	BEER, LIQUOR/WINE, BEER TO GO
K10461	10461	2024-673	2024-55	WALGREEN CO	703 SELTICE WAY	PO BOX 901 DEERFIELD, IL 60015	2/22/2024	\$250.00	STORE	BEER AND WINE TO GO
K-22810	22810	2024-748	2024-56	SCARLETT'S GOLF EXPERIENCE	4254 W RIVERBEND AVE		2/22/2024	\$400.00	TAVERN	BEER AND WINE
K-26678	26678	2024-792	2024-57	ROBS SEAFOOD & BURGERS	104 E SELTICE WAY	PO BOX 1766	2/22/2024	\$400.00	TAVERN	BEER AND WINE
K-25717	25717	2024-521	2024-58	THE FILLING STATION POST FALLS	306 N SPOKANE ST	8295 W OREGON ST RATHDRUM, ID 83858	2/26/2024	\$400.00	TAVERN	BEER AND WINE

K-11211	11211	2024-654	2024-59	GATHERED FAMILY RESTAURANT	830 N SPOKANE ST STE 2		2/26/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-14508	14508	2024-804	2024-60	SELKIRK ABBEY	6180 E SELTICE WAY		2/26/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
k-32246	32246	2024-731	2024-61	THE OLD EUROPEAN RESTAURANT	1710 E SCHNEIDMILLER AVE		2/26/2024	\$200.00	TAVERN	WINE
K-83	3330	2024-817	2024-62	POST FALLS EAGLES	209 E RAILROAD AVE		2/27/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-25971	25971	2024-557	2024-63	MAVERIK #607	5992 W POINTE PARKWAY	185 S STATE STREET SUITE 800 SALT LAKE CITY, UT 84111	2/28/2024	\$250.00	STORE	BEER AND WINE TO GO
K-30242	30242	2024-550	2024-64	MAVERIK #629	847 N HWY 41	185 S STATE STREET SUITE 800 SALT LAKE CITY, UT 84111	2/28/2024	\$250.00	STORE	BEER AND WINE TO GO
K-35557	35557	2024-831	2024-65	IRON WOOD & ICE PRAIRIE FALLS GOLF COURSE	3200 N SPOKANE ST BLDG 1		2/28/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-11266	11266	2024-836	2024-66	HIGHLANDS DAY SPA	4365 INVERNESS DR	5934 W GUMWOOD CIR	2/28/2024	\$650.00	TAVERN/STORE	BEER AND WINE , BEER AND WINE TO GO
K-25002	25002	2024-834	2024-67	THE WHITE HOUSE GRILL	712 N SPOKANE ST		2/28/2024	\$962.50	TAVERN	BEER AND WINE, LIQUOR/WINE
K-15883	15883	2024-842	2024-68	THE REPUBLIC KITCHEN & TAPHOUSE	120 E 4TH AVE		2/29/2024	\$1,012.50	TAVERN/STORE	BEER, LIQUOR/WINE, BEER AND WINE TO GO
K-7	2856	2024-860	2024-69	PILOT TRAVEL CENTER #639 - FLYING J	3636 W 5TH AVE	ATTN: LICENSING DEPT 10146 KNOXVILLE, TN 37939	2/29/2024	\$250.00	STORE	BEER AND WINE TO GO
K-144	4451	2024-852	2024-70	BIG BEAR DELI	700 E 8TH AVE	302 N SPOKANE ST POST FALLS	2/29/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-121	1665	2024-851	2024-71	SAW MILL GRILLE & SPIRITS	302 N SPOKANE ST		2/29/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-38493	38493	2024-867	2024-72	NEW YORK PIZZA DEPT	4380 W RIVERBEND AVE		3/1/2024	\$450.00	TAVERN/STORE	BEER AND WINE, BEER TO GO
K-33667	33667	2024-866	2024-73	STOGIES CIGAR & WHISKEY LOUNGE	3920 W 5TH #A1	4380 W RIVERBEND AVE	3/1/2024	\$762.50	TAVERN	BEER, LIQUOR/WINE
K-38287	38287	2024-869	2024-74	INDIA HOUSE AUTHENTIC CUISINE	740 N CECIL RD #110		3/4/2024	\$450.00	TAVERN/STORE	BEER AND WINE, BEER TO GO
K-38432	38432	2024-871	2024-75	STATELINE SUBS & PIZZA	4055 W RIVERBEND AVE		3/4/2024	\$400.00	TAVERN	BEER AND WINE
K-14272	14272	2024-865	2024-76	TILLY'S ON 7TH	212 E 7TH AVE		3/4/2024	\$400.00	TAVERN	BEER AND WINE
K-38755	38755	2024-890	2024-77	AMERICAN PAWS N BREWS LODGING AND DAYCARE	4565 S SELTICE WAY		4/22/2024	\$400.00	TAVERN	BEER AND WINE
K-276	2564	2024-	2024-78	TEMPLINS RESTAURANT	414 E 1ST AVE	2936 W DAKOTA AVE HAYDEN, ID	5/9/2024	\$1,012.50	TAVERN	BEER, LIQUOR/WINE, BEER/WINE TOGO

TITLE 23
ALCOHOLIC BEVERAGES

CHAPTER 9
RETAIL SALE OF LIQUOR BY THE DRINK

23-901. DECLARATION OF POLICY -- RETAIL SALE OF LIQUOR. It is hereby declared as the policy of the state of Idaho that it is necessary to further regulate and control the sale and distribution within the state of alcoholic beverages and to eliminate certain illegal traffic in liquor now existing and to insure the entire control of the sale of liquor it is advisable and necessary, in addition to the operation of the state liquor stores now provided by law, that the director of the Idaho state police and the county commissioners and the councils of cities in the state of Idaho be empowered and authorized to grant licenses to persons qualified under this act to sell liquor purchased by them at state liquor stores at retail posted prices in accordance with this act and under the rules promulgated by said director and under his strict supervision and control and to provide severe penalty for the sale of liquor except by and in state liquor stores and by persons licensed under this act. The restrictions, rules, and provisions contained in this act are enacted by the legislature for the protection, health, welfare and safety of the people of the state of Idaho and for the purpose of promoting and encouraging temperance in the use of alcoholic beverages within the state of Idaho.

[23-901, added 1947, ch. 274, sec. 1, p. 870; am. 1974, ch. 27, sec. 16, p. 811; am. 2000, ch. 469, sec. 61, p. 1510.]

23-902. DEFINITIONS. The following words and phrases used in this chapter shall be given the following interpretation:

(1) "Club" includes any of the following organizations where the sale of spirituous liquor for consumption on the premises is made to members and to bona fide guests of members only:

(a) A post, chapter, camp or other local unit composed solely of veterans and their duly recognized auxiliary, and which is a post, chapter, camp or other local unit composed solely of veterans which has been chartered by the congress of the United States for patriotic, fraternal or benevolent purposes, and which has, as the owner, lessee or occupant, operated an establishment for that purpose in this state; or

(b) A chapter, aerie, parlor, lodge or other local unit of an American national fraternal organization, which has, as the owner, lessee or occupant, operated an establishment for fraternal purposes in this state and actively operates in not less than thirty-six (36) states or has been in continuous existence for not less than twenty (20) years; and which has no fewer than fifty (50) bona fide members in each unit, and which owns, maintains or operates club quarters, and is authorized and incorporated to operate as a nonprofit club under the laws of this state, and which has recognized tax exempt status under section 501(c) (8) or 501(c) (10) of the Internal Revenue Code, and has been continuously incorporated and operating for a period of not less than one (1) year. The club shall have had, during that period of one (1) year, a bona fide membership with regular meetings conducted at least once each month, and the membership shall be and shall have been actively engaged in carrying out the objects of the club. The club

membership shall consist of bona fide dues-paying members, recorded by the secretary of the club, paying at least six dollars (\$6.00) per year in dues, payable monthly, quarterly or annually; and the members at the time of application for a club license shall be in good standing, having paid dues for at least one (1) full year.

(2) "Convention" means a formal meeting of members, representatives, or delegates, as of a political party, fraternal society, profession or industry.

(3) "Director" means the director of the Idaho state police.

(4) "Festival" means a period or program of festive activities, cultural events or entertainment lasting three (3) or more consecutive days.

(5) "Gaming" means any and all gambling or games of chance defined in chapters 38 and 49, [title 18](#), Idaho Code, or any section or sections thereof, whether those games are licensed or unlicensed.

(6) "Interdicted person" means a person to whom the sale of liquor is prohibited under law.

(7) "License" means a license issued by the director to a qualified person, under which it shall be lawful for the licensee to sell and dispense liquor by the drink at retail, as provided by law.

(8) "Licensee" means the person to whom a license is issued under the provisions of law.

(9) "Liquor" means all kinds of liquor sold by and in a state liquor store of the state of Idaho.

(10) "Live performance" means a performance occurring in a theater and not otherwise in violation of any provision of Idaho law.

(11) "Municipal license" means a license issued by a municipality of the state of Idaho under the provisions of law.

(12) "Party" means a social gathering especially for pleasure or amusement and includes, but is not limited to, such social events as weddings, birthdays, and special holiday celebrations to include, but not be limited to, New Year's celebrations, Super Bowl Sunday, St. Patrick's Day, the Fourth of July and Labor Day.

(13) "Person" means any individual, corporation, business corporation, nonprofit corporation, benefit corporation as defined in section [30-2002](#)(1), Idaho Code, partnership, limited partnership, limited liability company, general cooperative association, limited cooperative association, estate, unincorporated nonprofit association, statutory trust, business trust, common-law business trust, estate trust, association, joint venture, public corporation, government or governmental subdivision, agency or instrumentality, any entity defined in section [30-21-102](#), Idaho Code, or any other commercial entity, whether conducting the business singularly or collectively.

(14) "Plaza" means a public square, marketplace, or similar open space in a city or town.

(15) "Premises" means the building and contiguous property owned or leased or used under a government permit by a licensee, as part of the business establishment in the business of sale of liquor by the drink at retail, which property is improved to include decks, docks, boardwalks, lawns, gardens, golf courses, ski resorts, courtyards, patios, poolside areas or similar improved appurtenances in which the sale of liquor by the drink at retail is authorized under the provisions of law.

(16) "Rules" means rules promulgated by the director in accordance with the provisions of law.

(17) "State liquor store" means a liquor store or distributor established under and pursuant to the laws of the state of Idaho for the package sale of liquor at retail.

(18) "Theater" means a room, place or outside structure for performances or readings of dramatic literature, plays or dramatic representations of an art form not in violation of any provision of Idaho law.

(19) "Brewery" means a place, premises or establishment for the manufacture, bottling or canning of beer.

(20) "Winery" means a place, premises or establishment within the state of Idaho for the manufacture or bottling of table wine or dessert wine for sale. Two (2) or more wineries may use the same premises and the same equipment to manufacture their respective wines, to the extent permitted by federal law.

(21) All other words and phrases used in this chapter, the definitions of which are not herein given, shall be given their ordinary and commonly understood and acceptable meanings.

[23-902, added 1947, ch. 274, sec. 2, p. 870; am. 1949, ch. 276, sec. 1, p. 565; am. 1974, ch. 27, sec. 17, p. 811; am. 1978, ch. 44, sec. 1, p. 78; am. 1983, ch. 203, sec. 1, p. 552; am. 1986, ch. 36, sec. 1, p. 118; am. 1999, ch. 58, sec. 1, p. 146; am. 2000, ch. 469, sec. 62, p. 1511; am. 2003, ch. 111, sec. 1, p. 349; am. 2016, ch. 153, sec. 1, p. 422; am. 2016, ch. 268, sec. 1, p. 721; am. 2016, ch. 357, sec. 1, p. 1048; am. 2017, ch. 58, sec. 11, p. 106; am. 2019, ch. 83, sec. 1, p. 198.]

23-903. LICENSE TO RETAIL LIQUOR. (1) The director of the Idaho state police is hereby empowered, authorized, and directed to issue licenses to qualified applicants, as provided in this chapter, whereby the licensee shall be authorized and permitted to sell liquor by the drink at retail, and, upon the issuance of such license, the licensee shall be authorized to sell liquor at retail by the drink, but only in accordance with the rules promulgated by the director and the provisions of this chapter. No license shall be issued for the sale of liquor on any premises outside the incorporated limits of any city except as provided in this chapter, and the number of licenses so issued for any city shall not exceed one (1) license for each one thousand five hundred (1,500) of population of said city or fraction thereof, as established in the last preceding census, or any subsequent special census conducted by the United States census bureau or by an estimate that is statistically valid including adding the number of new residential utility connections or including adding the population of areas annexed into the city after the last census or special census was conducted, except that upon proper application thereof not more than two (2) licenses may be issued for each incorporated city with a population of one thousand five hundred (1,500) or less, unless the retail licensing of liquor by the drink has been previously disapproved under the provisions of sections [23-917](#), [23-918](#), [23-919](#), [23-920](#) and [23-921](#), Idaho Code; provided however, that any license heretofore issued may be renewed from year to year without regard to the population or status of the city for which such license is issued. Any license issued that has remained in effect at its location for a consecutive period of ten (10) years or more shall be deemed to have been validly issued and may be renewed from year to year, provided that the applicant for the renewal of such license is not otherwise disqualified for licensure pursuant to section [23-910](#), Idaho Code, and, if the premises required special characteristics for original licensure, other than being either within or without

the incorporated limits of a city, that said premises continue to have such special characteristics at the time of the application for renewal.

(2) Nothing in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of an actual bona fide golf course whether located within or without the limits of any city, or located on premises also operated as a winery or ski resort, or to the lessee of any premises situate thereon, whether located within or without the limits of any city. For the purpose of this section, a golf course shall comprise an actual bona fide golf course, which is regularly used for the playing of the game of golf, having not less than nine (9) tees, fairways, and greens laid out and used in the usual and regular manner of a golf course. Nine (9) hole courses must have a total yardage of at least one thousand (1,000) yards, and eighteen (18) hole courses must have a total yardage of at least two thousand (2,000) yards as measured by totaling the tee-to-green distance of all holes. The course must be planted in grass except that it may provide artificial tee mats. Where any such golf course is owned or leased by an association of members and is used or enjoyed by such members or their guests, none of the disqualifications contained in section [23-910](#), Idaho Code, shall apply to such association as a licensee where such disqualifications, or any of them, would apply only to a member of such association where such member has no interest therein except as a member thereof. Provided, a building that is located on a lake of not less than one hundred sixty (160) acres with not less than two hundred (200) feet of lake frontage, owned or leased and operated exclusively by an actual bona fide golf course licensed for the sale of liquor by the drink, as otherwise defined in this subsection, located not more than five tenths (.5) of a mile from the golf course exterior boundaries, and accessible by that golf course by private or public roadway or right-of-way shall be deemed part of and contiguous to the licensed golf course premises for purposes of the sale of liquor by the drink upon such premises.

(3) For purposes of this section, a ski resort shall comprise real property of not less than ten (10) acres in size, exclusive of the terrain used for skiing and upon which the owner, operator, or lessee of the ski resort has made available himself or through others, including but not limited to the owners of condominiums, permanent bona fide overnight accommodations available to the general public for one hundred (100) persons or more, and which real property is contiguous to or located within the area in which skiing occurs and is regularly operated as a ski resort in the wintertime where the owner, operator, or lessee of the ski resort is also the owner, operator, or lessee of the area served by a bona fide chair ski lift facility or facilities. Alternatively, for the purpose of this section, a ski resort may also be defined as a downhill ski area, open to the public, comprising real property of not less than two hundred fifty (250) skiable acres, operating two (2) or more chairlifts with a vertical lift of one thousand (1,000) feet or more, and capable of transporting a minimum of one thousand eight hundred (1,800) skiers per hour. A ski resort qualifying under this definition shall also have on the premises a lodge facility providing shelter and food service to the public, the operator of which shall also be the valid owner or lessee of the grounds and facilities upon which the ski resort offers downhill skiing services to the public. The fees for licenses granted to ski resorts shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code. Not more than one (1) licensed premises shall be permitted on any golf course or any ski resort or within the area comprising the same.

(4) Nothing in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of an actual bona fide equestrian facility located on not less than forty (40) contiguous acres, with permanently erected seating of not less than six thousand (6,000) seats, no part of which equestrian facility or the premises thereon is situate within the incorporated limits of any city, and which facility shall have at least three (3) days per year of a professionally sanctioned rodeo. Not more than one (1) licensed premises shall be permitted at any equestrian facility or within an area comprising such a facility. The fees for licenses granted to equestrian facilities shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code.

(5) Nothing in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of a restaurant operated on an airport owned or operated by a county or municipal corporation or on an airport owned or operated jointly by a county and municipal corporation, and which said airport is served by a trunk or local service air carrier holding a certificate of public convenience and necessity issued by the civil aeronautics board of the United States of America. Not more than one (1) license shall be issued on any airport.

(6) Nothing in this chapter shall prohibit the issuance of one (1) club license to a club as defined in section [23-902](#), Idaho Code. The holder of a club license is authorized to sell and serve alcoholic beverages for consumption only within the licensed establishment owned, leased, or occupied by the club and only to bona fide members of the club and to bona fide members' guests. A club license issued pursuant to the provisions of this section is not transferable and may not be sold. Any club license issued pursuant to the provisions of this section will revert to the director when, in his judgment, the licensee ceases to operate as a bona fide club as defined in section [23-902](#), Idaho Code. No club may hold a liquor license and a club license simultaneously. A club that on July 1, 1983, holds a liquor license may continue to possess that license. Any club that possesses a liquor license on January 1, 1983, or thereafter, and then sells that liquor license, may not obtain a club license, and the director shall not issue a club license to that club for a period of five (5) years following such sale. The fee for any license issued to a qualifying club within an incorporated municipality shall be as prescribed in subsections (1), (2) and (3) of section [23-904](#), Idaho Code. The fee for any license issued to a qualifying club not situate within an incorporated municipality shall be as specified for golf courses under section [23-904](#)(6), Idaho Code. The provisions of section [23-916](#), Idaho Code, regarding county and city licenses shall pertain to club licenses. The burden of producing sufficient documentation of qualifications for club licensure shall be with the club applicant.

(7) Nothing in this chapter to the contrary shall prohibit the issuance of a license to the owner, operator, or lessee of an actual bona fide convention center that is within the incorporated limits of a city having a population of three thousand (3,000) or greater, and which city does not have located therein a convention center with a valid convention center license to sell liquor by the drink. For the purpose of this section, a convention center means a facility having at least thirty-five thousand (35,000) square feet of floor space or a facility having at least one hundred twenty (120) sleeping rooms and an adjoining meeting room that will accommodate not less than three hundred fifty (350) persons, whether or not such room may be partitioned into smaller rooms, and provided that such meeting room shall con-

tain at least three thousand (3,000) square feet of floor space. Such license must be placed in actual use in said convention center within one (1) year from the date of its issuance. The fee for any license issued to a qualifying convention center shall be as prescribed in subsection (3) of section [23-904](#), Idaho Code. The holder of a convention center license shall not be eligible for the issuance of a license in the same city pursuant to any other provision of this chapter. For purposes of this section, the term "holder" shall include an owner, operator, or lessee and shall include a stockholder, director, or officer of a corporation or a partner in a partnership, which corporation or partnership has been issued a convention center license pursuant to this chapter. Not more than one (1) licensed premises shall be permitted on any convention center or within the area comprising the same, including convention centers that also comprise golf courses or ski resorts as defined in this section.

(8) If an owner, operator, or lessee has a validly issued retail liquor by the drink license at the time of application, nothing in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of a food, beverage, and/or lodging facility that has been in continuous operation in the same location for at least seventy-five (75) years, except for temporary closings for refurbishing or reconstruction, or a food, beverage, and lodging facility serving the public by reservation only, having a minimum of five (5) rooms operating in a structure that has been in existence for at least seventy-five (75) years and has been on the historic register for a minimum of ten (10) years, is situated within five hundred (500) yards of a natural lake containing a minimum of thirty-six thousand (36,000) acre feet of water when full with a minimum of thirty-two (32) miles of shoreline, and is located in a county with a minimum population of sixty-five thousand (65,000). The provisions of section [23-910](#), Idaho Code, shall apply to licenses issued to continuous operation facilities. The fees shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code. No license shall be issued under this subsection on or after July 1, 2028.

(9) Nothing in this chapter shall prohibit the issuance of a license to a federally recognized Indian tribe as defined in section [67-4001](#), Idaho Code, which is an owner, operator, or lessee of a food, conference, and lodging facility located within the boundaries of the Indian tribe's reservation and containing a minimum of thirty-five thousand (35,000) square feet and fifty (50) guest rooms. Licenses issued to Indian tribes are not transferable.

(10) Nothing in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of the lodging, dining, and entertainment facilities owned by a gondola resort complex and operated in conjunction with the other public services provided by a gondola resort complex located within the ownership/leasehold boundaries of a gondola resort complex. For purposes of this subsection, a gondola resort complex means an actual bona fide gondola capable of transporting people for recreational or entertainment purposes at least three (3) miles in length with a vertical rise of three thousand (3,000) feet, portions of which may be located within or over the limits of one (1) or more cities.

(11) Nothing in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of a winery also operating a golf course on the premises.

(12) Subject to approval of the mayor and city council, nothing in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of a food, conference, and lodging facility constructed after May 1, 2000, containing a minimum of thirty-five thousand (35,000) square feet and fifty-five (55) guest rooms with a minimum taxable value of three million dollars (\$3,000,000) in a city with a population of less than five thousand (5,000) according to the most recent census.

(13) Nothing in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of a conference and event center that is within the city limits of a resort city as defined in section [50-1044](#), Idaho Code, that has enacted local option nonproperty taxes in accordance with section [50-1046](#), Idaho Code, including, at the time of issuance, a resort city tax on sales of liquor by the drink, wine, and beer sold at retail for consumption on the licensed premises. There shall be only one (1) conference and event center license to sell liquor by the drink issued per resort city pursuant to this subsection. For the purposes of this section, a conference and event center means facilities situated on premises consisting of a building or buildings and the contiguous property owned or leased and under common ownership or control by the licensee. Such facilities must provide no less than four thousand (4,000) square feet of enclosed space for conference and event purposes, exclusive of space dedicated by the licensee to the commercial kitchen. The commercial kitchen must include a type 1 commercial hood and cooking equipment, exclusive of microwave ovens and grills. The fee for any license issued to a qualifying licensee shall be as prescribed in section [23-904](#)(1), (2), or (3), Idaho Code, depending on the population of the resort city in which the conference and event center is located and as prescribed in section [23-916](#), Idaho Code. A license issued pursuant to this subsection may be renewed without regard to the population or status of the city for which the license was issued and without regard for the continuation of local option nonproperty taxes by the city, provided the applicant for renewal is not otherwise disqualified from licensure pursuant to section [23-910](#), Idaho Code. Not more than one (1) license shall be issued to a conference and event center. A conference and event center license shall not be transferable and may not be sold. For the purpose of issuance and maintenance of a license under this subsection, such facilities may serve liquor only while such facilities are hosting a conference or event. Nothing in this subsection shall excuse a conference and event center from complying with actual use standards in [title 23](#), Idaho Code, or administrative rules promulgated pursuant to statutory authority granted under this title.

(14) The provisions of section [23-910](#), Idaho Code, shall apply to licenses issued under the provisions of this section. The fees shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code. Except for licenses issued pursuant to subsection (1) of this section, licenses issued under the provisions of this section are not transferable to any other location, facility, or premises.

(15) A license issued pursuant to subsection (1) of this section on or after July 1, 2023:

- (a) May not be sold or leased;
- (b) Shall not be transferable to any other location, facility, or premises; and
- (c) Shall not qualify for the discount established in section [23-217](#)(2), Idaho Code.

(16) A license issued pursuant to subsection (1) of this section prior to July 1, 2023, may be sold or transferred to another location, facility, or premises only once on or after July 1, 2023, and shall thereafter be non-transferable. Prior to such sale or transfer, the licensee shall be entitled to the discount established in section [23-217](#)(2), Idaho Code. Subsequent to such sale or transfer, the licensee shall not be entitled to such discount. For purposes of this subsection only, the following circumstances shall not qualify as a sale or transfer:

- (a) The license is inherited or otherwise acquired through a will, trust, or other estate-planning document;
- (b) The license is given to a person by the person's parent, grandparent, child, sibling, aunt, uncle, or first cousin without consideration or remuneration;
- (c) A business or other entity with which the license is associated is sold or leased, and the license remains associated with such business or entity, provided that such business or entity must have occupied its location, facility, or premises at the time of sale or lease for at least one (1) year prior to the sale or lease, and provided further, that such business or entity may not move from its location, facility, or premises within one (1) year following the sale or lease. Any sale or lease that does not conform to the provisions of this paragraph shall be considered a sale or transfer; or
- (d) The licensee owns, operates, or leases more than one (1) business or entity and transfers the license from one business or entity to another owned, operated, or leased by such licensee.

(17) If a license that was issued pursuant to subsection (1) of this section is under lease before July 1, 2023, then such license shall revert to the owner's possession upon the conclusion of the lease period. Once such reversion occurs, the license owner may sell or transfer the license subject to the provisions of subsection (16) of this section. The license owner may sell such license subject to the provisions of subsection (16) of this section under an installment contract wherein such contract shall not exceed a term of five (5) years.

[23-903, added 1947, ch. 274, sec. 3, p. 870; am. 1957, ch. 151, sec. 1, p. 250; am. 1959, ch. 118, sec. 1, p. 254; am. 1963, ch. 215, sec. 1, p. 622; am. 1965, ch. 35, sec. 1, p. 52; am. 1972, ch. 34, sec. 1, p. 52; am. 1974, ch. 27, sec. 18, p. 811, am. 1978, ch. 126, sec. 2, p. 285; am. 1983, ch. 167, sec. 1, p. 473; am. 1983, ch. 203, sec. 2, p. 553; am. 1984, ch. 244, sec. 1, p. 591; am. 1989, ch. 164, sec. 1, p. 411; am. 1989, ch. 207, sec. 1, p. 507; am. 1989, ch. 301, sec. 1, p. 749; am. 1990, ch. 252, sec. 1, p. 722; am. 1990, ch. 255, sec. 1, p. 729; am. 1990, ch. 392, sec. 1, p. 1098; am. 1992, ch. 233, sec. 1, p. 697; am. 1993, ch. 240, sec. 1, p. 846; am. 1995, ch. 358, sec. 1, p. 1215; am. 1996, ch. 349, sec. 1, p. 1168; am. 1997, ch. 263, sec. 1, p. 749; am. 2000, ch. 469, sec. 63, p. 1512; am. 2004, ch. 44, sec. 1, p. 165; am. 2006, ch. 449, sec. 3, p. 1335; am. 2008, ch. 335, sec. 1, p. 920; am. 2008, ch. 405, sec. 1, p. 1110; am. 2013, ch. 167, sec. 1, p. 382; am. 2013, ch. 278, sec. 1, p. 718; am. 2015, ch. 333, sec. 1, p. 1260; am. 2023, ch. 100, sec. 1, p. 296; am. 2023, ch. 201, sec. 1, p. 559.]

23-903a. LICENSE TO RETAIL LIQUOR -- SKI RESORTS -- CROSS-COUNTRY SKIING FACILITIES. If the director determines that an applicant or applicants are qualified to receive a ski resort or cross-country skiing facility li-

cense, he shall notify the chairman of the board of county commissioners in the county in which the ski resort or cross-country skiing facility license is to be issued. The county commissioners shall, within fifteen (15) days after receipt of notification from the director, approve or disapprove the issuance of the license. In the event the county commissioners do not approve the proposed license, a license shall not be issued.

[23-903a, added 1972, ch. 34, sec. 2, p. 52; am. 1974, ch. 27, sec. 19, p. 811; am. 1987, ch. 32, sec. 1, p. 53.]

23-903b. LICENSES ISSUED TO OWNERS, OPERATORS OR LESSEES OF GOLF COURSES, SKI RESORTS, CROSS-COUNTRY SKIING FACILITIES AND WATERFRONT RESORTS -- LIMITATIONS ON SALES OR TRANSFERS. No license issued to an owner, operator, or lessee of a golf course, ski resort, cross-country skiing facility or waterfront resort, as defined in sections [23-903](#), [23-948](#) and [23-952](#), Idaho Code, shall be transferable to another location or facility, except as otherwise provided in section [23-956](#), Idaho Code.

[23-903b, added 1979, ch. 256, sec. 1, p. 679; am. 1987, ch. 32, sec. 2, p. 54; am. 1991, ch. 137, sec. 1, p. 320; am. 2005, ch. 357, sec. 1, p. 1128.]

23-904. LICENSE FEES. Each licensee licensed under the provisions of this act shall pay an annual license fee to the director as follows:

(1) For each license in a city of one thousand (1,000) population or less, three hundred dollars (\$300) per annum.

(2) For each license in a city of from one thousand (1,000) to three thousand (3,000) population, five hundred dollars (\$500) per annum.

(3) For each license in a city having a population of more than three thousand (3,000), seven hundred fifty dollars (\$750) per annum.

(4) For each railroad train for sale only in buffet, club or dining cars, fifty dollars (\$50.00) per annum of the scheduled run of such train within the state of Idaho; provided, that such license shall be in full, and in lieu of all other licenses herein provided for.

(5) For each common carrier boat line for sale only in buffet, club dining rooms, two hundred fifty dollars (\$250) per annum. Such license shall be in full, and in lieu of all other licenses herein provided for.

(6) For each license issued to the owner, operator, or lessee of a golf course as described in section [23-903](#), Idaho Code, or to the lessee of any premises situate on such golf course, situate in any county having a population of:

(a) Less than twenty thousand (20,000), two hundred dollars (\$200) per annum;

(b) Twenty thousand (20,000) but less than forty thousand (40,000), three hundred dollars (\$300) per annum; and

(c) Forty thousand (40,000) or more, four hundred dollars (\$400) per annum.

(7) For each common carrier airline for sale only in common carrier aircraft, two hundred fifty dollars (\$250) per annum. Such license shall be in full, and in lieu of all other licenses herein provided for.

(8) For each license issued to the owner, operator, or lessee of a restaurant operated on an airport, as described in section [23-903](#), Idaho Code, situate within the corporate limits of a city, the fee shall be the same as provided in paragraphs (1) through (3), inclusive, of this section.

(9) For each license issued to the owner, operator, or lessee of a restaurant operated on an airport, as described in section [23-903](#), Idaho Code, situate without the corporate limits of a city, the fee shall be the same as provided in paragraph (6) of this section. Licenses issued under and pursuant to the provisions of this act shall expire at 1:00 o'clock a.m. on the first day of January of the following year.

(10) For each license issued to an owner or operator of a year-round resort as described in section [23-957](#), Idaho Code, a one (1) time fee of twenty-five thousand dollars (\$25,000), with a subsequent renewal fee of three thousand five hundred dollars (\$3,500) per annum. For each license issued to an owner or operator of a beverage, lodging or dining facility within the premises of a year-round resort as described in section [23-957](#), Idaho Code, a one (1) time fee of twenty-five thousand dollars (\$25,000) with a subsequent renewal fee of three thousand five hundred dollars (\$3,500) per annum. For each license issued to a lessee of a beverage, lodging or dining facility within the premises of the year-round resort as described in section [23-957](#), Idaho Code, a one (1) time fee of twenty-five thousand dollars (\$25,000) with a subsequent renewal fee of three thousand five hundred dollars (\$3,500) per annum.

Provided that any licensee who operates for only a portion of a year may have his license fee prorated from the date he commences operation to the end of the calendar year, but in no event for less than six (6) months.

In the event a licensee who was previously issued a license on a prorated basis under the provisions hereof desires to have such license renewed for the same period for the next succeeding year, he shall file his intention to so apply for such license with the director, accompanied by the fee required for the issuance of such license on or before December 31 of the year preceding.

The license fees herein provided for are exclusive of and in addition to other license fees chargeable in the state of Idaho.

The basis upon which respective populations of municipalities shall be determined is the last preceding census or any subsequent special census conducted by the United States bureau of the census, unless a direct enumeration of the inhabitants thereof be made by the state of Idaho, in which case such later direct enumeration shall constitute such basis.

[23-904, added 1947, ch. 274, sec. 4, p. 870; am. 1949, ch. 277, sec. 1, p. 567; am. 1953, ch. 125, sec. 1, p. 196; am. 1957, ch. 151, sec. 2, p. 250; am. 1959, ch. 118, sec. 2, p. 254; am. 1963, ch. 423, sec. 1, p. 1098; am. 1965, ch. 35, sec. 2, p. 52; am. 1967, ch. 143, sec. 1, p. 326; am. 1967, ch. 417, sec. 1, p. 1227; am. 1974, ch. 27, sec. 20, p. 811; am. 1991, ch. 137, sec. 2, p. 320; am. 2006, ch. 449, sec. 1, p. 1333; am. 2008, ch. 178, sec. 1, p. 529.]

23-905. APPLICATION FOR LICENSES -- PENALTY FOR FALSE STATEMENTS. Prior to the issuance of a license as herein provided, the applicant shall file with the director an application, in writing, signed by the applicant and containing such information and statements relative to the applicant and the premises where the liquor is to be sold as may be required by the director. The application shall be verified by the affidavit of the person making the same before a person authorized to administer oaths and shall be accompanied with the license fee herein required.

In addition to setting forth the qualifications required by other provisions of this act, the application must show:

(1) A detailed description of the premises for which a license is sought and its location.

(2) A detailed statement of the assets and liabilities of the applicant.

(3) The names and addresses of all persons who will have any financial interest in any business to be carried on in and upon the licensed premises, whether such interest results from open loans, mortgages, conditional sales contracts, silent partnerships, trusts or any other basis than open trade accounts incurred in the ordinary course of business, and the amounts of such interests.

(4) The name and address of the applicant, which shall include all members of a partnership or association and the officers, members of the governing board and ten (10) principal stockholders of a corporation.

(5) A copy of the articles of incorporation and bylaws of any corporation, the articles of association and the bylaws of any association, or the articles of partnership of any partnership.

(6) If during the period of any license issued hereunder any change shall take place in any of the requirements of subparagraph (3), (4), or (5) of this section, the licensee shall forthwith make a written report of such change to the director.

(7) If during the period of any license issued hereunder the licensee seeks to move his business from one premise to another in the same city, he may do so subject to the director's approval that the new premise is suitable for the carrying on of the business.

If any false statement is made in any part of said application, or any subsequent report, the applicant, or applicants, shall be deemed guilty of a felony and upon conviction thereof shall be imprisoned in the state prison for not less than one (1) year nor more than five (5) years and fined not less than one thousand dollars (\$1,000) nor more than five thousand dollars (\$5,000), or both such fine and imprisonment.

[23-905, added 1947, ch. 274, sec. 5, p. 870; am. 1974, ch. 27, sec. 21, p. 811; am. 1980, ch. 313, sec. 1, p. 803; am. 1991, ch. 137, sec. 3, p. 321; am. 1994, ch. 14, sec. 3, p. 22.]

23-906. LICENSES FOR DINING, BUFFET AND CLUB CARS, COMMON CARRIER BOATS, AND COMMON CARRIER AIRLINES. Any person operating any line of railroad using dining club or buffet cars in connection with regularly operated train service, or any common carrier boat or boats, or any common carrier airline, desiring a license to sell liquor under the provisions of this act in any such cars, boats, or common carrier aircraft shall apply to the director for a license, as in this act provided, accompanying the application with the license fee herein prescribed.

[23-906, added 1947, ch. 274, sec. 6, p. 870; am. 1963, ch. 423, sec. 2, p. 1098; am. 1974, ch. 27, sec. 22, p. 811.]

23-907. INVESTIGATION OF APPLICATIONS. Upon receipt of an application for a license under this act, accompanied by the necessary license fee, the director, within ninety (90) days thereafter, shall cause to be made a thorough investigation of all matters pertaining thereto. The investigation shall include a fingerprint-based criminal history check of the Idaho central criminal history database and the federal bureau of investigation criminal history database. Each person listed as an applicant on an initial

application shall submit a full set of fingerprints and the fee to cover the cost of the criminal history background check for such person with the application. If the director shall determine that the contents of the application are true, that such applicant is qualified to receive a license, that his premises are suitable for the carrying on of the business, and that the requirements of this act and the rules promulgated by the director are met and complied with, he shall issue such license; otherwise the application shall be denied and the license fee, less the costs and expenses of investigation, returned to the applicant.

In making the investigation required by this section the director shall have the power to investigate and examine the books and records of the licensee and any person having a financial interest in any business to be conducted on the licensed premises, including, but not limited to, their bank accounts, returns filed under the Idaho income tax act, as amended, and any other sources of information deemed desirable by the director and not specifically prohibited by law.

[23-907, added 1947, ch. 274, sec. 7, p. 870; am. 1974, ch. 27, sec. 23, p. 811; am. 2001, ch. 284, sec. 1, p. 1015; am. 2016, ch. 77, sec. 1, p. 254.]

23-908. FORM OF LICENSE -- AUTHORITY -- EXPIRATION -- LIMITATIONS. (1) Every license issued under the provisions of this chapter shall set forth the name of the person to whom issued, the location by street and number, or other definite designation, of the premises, and such other information as the director shall deem necessary. If issued to a partnership, the names of the persons constituting such partnership shall be set forth in the application. If issued to a corporation or association, the names of the principal officers and the governing board shall be set forth in the application. Such license shall be signed by the licensee and prominently displayed in the place of business at all times. Every license issued under the provisions of this chapter is separate and distinct and no person except the licensee therein named except as herein otherwise provided, shall exercise any of the privileges granted thereunder. All licenses shall expire at 1:00 o'clock a.m. on the first day of the renewal month which shall be determined by the director by administrative rule and shall be subject to annual renewal upon proper application. The director will determine the renewal month by county based on the number of current licenses within each county, distributing renewals throughout the licensing year. The director may adjust the renewal month to accommodate population increases. Each licensee will be issued a temporary license to operate until their renewal month has been determined. Thereafter, renewals will occur annually on their renewal month. Renewal applications for liquor by the drink licenses accompanied by the required fee must be filed with the director on or before the first day of the designated renewal month. Any licensee holding a valid license who fails to file an application for renewal of his current license on or before the first day of the designated renewal month shall have a grace period of an additional thirty-one (31) days in which to file an application for renewal of the license. The licensee shall not be permitted to sell and dispense liquor by the drink at retail during the thirty-one (31) day extended time period unless and until the license is renewed. In any city of less than sixteen thousand (16,000) population, as established in the last preceding census or any subsequent special census conducted by the United States bureau of the census, no person shall be granted more than one (1) license in any city for any one

(1) year; and no partnership, association or corporation in such city of less than sixteen thousand (16,000) population holding a license under the provisions of this chapter shall have as a member, officer or stockholder any person who has any financial interest of any kind in, or is a member of, another partnership or association or an officer of another corporation holding a license in the same city for the same year; provided that this section shall not prevent any person, firm or corporation, owning two (2) or more buildings on connected property in a city from making application for and receiving licenses permitting the sale of liquor by the drink in such building.

(2) An application to transfer any license issued pursuant to [chapter 9, title 23](#), Idaho Code, shall be made to the director. Upon receipt of such an application, the director shall make the same investigation and determinations with respect to the transferee as are required by section [23-907](#), Idaho Code, and if the director shall determine that all of the conditions required of a licensee under [chapter 9, title 23](#), Idaho Code, have been met by the proposed transferee, then the license shall be indorsed over to the proposed transferee by said licensee for the remainder of the period for which such license has been issued and the director shall issue a license to the transferee.

(3) The director, in his discretion, may deny the transfer of a license during the pendency of any proceedings for suspension or revocation which were instituted pursuant to the terms of this chapter.

(4) Each new license issued on or after July 1, 1980, shall be placed into actual use by the original licensee at the time of issuance and remain in use for at least six (6) consecutive months or be forfeited to the state and be eligible for issue to another person by the director after compliance with the provisions of section [23-907](#), Idaho Code. Such license shall not be transferable for a period of two (2) years from the date of original issuance, except as provided by subsection (5) (a), (b), (c), (d) or (e) of this section.

(5) The fee for transferring a liquor license shall be ten percent (10%) of the purchase price of the liquor license or the cost of good will, whichever is greater; except no fee shall be collected in the following events:

- (a) The transfer of a license between husband and wife in the event of a property division; or
- (b) The transfer of a license to a receiver, trustee in bankruptcy or similar person or officer; or
- (c) The transfer of a license to the heirs or personal representative of the estate in the event of the death of the licensee; or
- (d) The transfer of a license arising out of the dissolution of a partnership where the license is transferred to one (1) or more of the partners; or
- (e) The transfer of a license within a family whether an individual, partnership or corporation.

(6) The fee for transferring a liquor license for other than a sale shall be fifty percent (50%) of the per annum license fee set forth in section [23-904](#), Idaho Code; except no fee shall be collected for transfers as outlined in subsection (5) (a), (b), (c), (d) or (e) of this section.

[23-908, added 1947, ch. 274, sec. 8, p. 870; am. 1949, ch. 276, sec. 2, p. 565; am. 1959, ch. 118, sec. 3, p. 254; am. 1967, ch. 143, sec. 2, p. 326; am. 1974, ch. 27, sec. 24, p. 811; am. 1977, ch. 143, sec. 1, p. 316; am. 1978, ch. 353, sec. 1, p. 936; am. 1980, ch. 313, sec. 2, p. 804; am.

1981, ch. 75, sec. 1, p. 107; am. 1991, ch. 28, sec. 1, p. 55; am. 1991, ch. 283, sec. 1, p. 729; am. 2001, ch. 30, sec. 1, p. 43.]

23-910. PERSONS NOT QUALIFIED TO BE LICENSED. No license shall be issued to:

(1) Any person, or any one (1) of its members, officers, or governing board, who has, within three (3) years prior to the date of making application, been convicted of any violation of the laws of the United States, the state of Idaho, or any other state of the United States, or of the resolutions or ordinances of any county or city of this state, relating to the importation, transportation, manufacture or sale of alcoholic liquor or beer; or who has been convicted of, paid any fine, been placed on probation, received a deferred sentence, received a withheld judgment or completed any sentence of confinement for any felony within five (5) years prior to the date of making application for any license.

(2) A person who is engaged in the operation, or interested therein, of any house or place for the purpose of prostitution or who has been convicted of any crime or misdemeanor opposed to decency and morality.

(3) A person whose license issued under this act has been revoked; an individual who was a member of a partnership or association which was a licensee under this act and whose license has been revoked; an individual who was an officer, member of the governing board or one (1) of the ten (10) principal stockholders of a corporation which was a licensee under this act and whose license has been revoked; a partnership or association one (1) of whose members was a licensee under this act and whose license was revoked; a corporation one (1) of whose officers, member of the governing board or ten (10) principal stockholders was a licensee under the provisions of this act and whose license has been revoked; an association or partnership, one (1) of whose members was a member of a partnership or association licensed under the provisions of this act and whose license has been revoked; a partnership or association, one (1) of whose members was an officer, a member of the governing board, or one (1) of the ten (10) principal stockholders of a corporation licensed under the provisions of this act and whose license has been revoked; a corporation, one (1) of whose officers, member of the governing board, or ten (10) principal stockholders was a member of a partnership or association licensed under the provisions of this act and whose license was revoked; a corporation, one (1) of whose officers, member of the governing board, or ten (10) principal stockholders was an officer, member of the governing board, or one (1) of the ten (10) principal stockholders of a corporation licensed under the provisions of this act and whose license was revoked.

(4) Any officer, agent, or employee of any distillery, winery, brewery, or any wholesaler, or jobber, of liquor or malt beverages except as provided in section [23-912](#), Idaho Code. This prohibition shall not apply to officers, agents, or employees of any winery operating a golf course on the same premises as the winery.

(5) A person who does not hold a retail beer license issued under the laws of the state of Idaho.

(6) Any license, held by any licensee disqualified under the provisions of this section from being issued a license, shall forthwith be revoked by the director.

[23-910, added 1947, ch. 274, sec. 10, p. 870; am. 1957, ch. 124, sec. 1, p. 205; am. 1961, ch. 28, sec. 1, p. 37; am. 1963, ch. 423, sec. 3, p. 1098; am. 1969, ch. 406, sec. 1, p. 1126; am. 1991, ch. 179, sec. 1, p.

442; am. 1992, ch. 315, sec. 1, p. 937; am. 1994, ch. 14, sec. 5, p. 23; am. 1996, ch. 349, sec. 2, p. 1171; am. 1999, ch. 141, sec. 1, p. 404.]

23-911. RESTRICTIONS ON MANUFACTURERS, TRANSPORTERS OR DISTILLERS. Except as provided in section [23-912](#), Idaho Code, no manufacturer, rectifier, wholesaler, stockholder, shareholder, partner, or the owner of any other interest in any corporations, association or partnership financially interested in the manufacture, transportation or sale of liquor shall furnish, give, rent, lend or sell any equipment or fixtures directly or indirectly, or through a subsidiary or affiliate or by any officer, director, or firm member of the industry or otherwise furnish financial aid to any person engaged in the sale of liquor hereunder and no licensee hereunder shall receive or be the beneficiary of any of the benefits hereby prohibited.

[23-911, added 1947, ch. 274, sec. 11, p. 870; am. 1973, ch. 75, sec. 1, p. 121; am. 1999, ch. 141, sec. 2, p. 405.]

23-912. RESTRICTIONS OF PERSONS INTERESTED IN PREMISES. (1) Except as provided in subsection (2) of this section, no manufacturer, rectifier, wholesaler, stockholder, shareholder, partner or the owner of any other interest in any corporation, association or partnership financially interested in the manufacture, transportation (except public carriers) or sale of liquor shall hold any interest in any premise licensed hereunder for the sale of liquor or receive any rental or remuneration from any such premise.

(2) A manufacturer, rectifier, wholesaler, stockholder, shareholder, partner or the owner of any interest in any corporation, association or partnership financially interested in the manufacture, transportation or sale of liquor may hold interest in a licensed premises if the licensed premises serves food cooked on the site of the licensed premises, and the person or entity can show through recordkeeping that no more than fifty percent (50%) of the gross revenue to the licensed premises is derived from the sale of alcoholic beverages on-site. The owner of the licensed premises pursuant to this subsection shall comply with and be subject to all other rules, regulations or other provisions of law which apply to manufacturers, rectifiers, wholesalers, stockholders, shareholders, partners or the owners of any interest in any corporation, association or partnership financially interested in the manufacture, transportation or sale of liquor save and except as such rules, regulations or laws may restrict such sales at the licensed premises. The holder of a license pursuant to this section shall not be disqualified from holding a beer license, a retail wine license or wine by the drink license for the sale of beer or wine at the licensed premises on the grounds that the licensee is also a manufacturer, wholesaler, stockholder, shareholder, partner or the owner of any interest in any corporation, association or partnership financially interested in the manufacture, transportation or sale of liquor, beer or wine. This subsection shall not be deemed to grant a license for the retail sale of liquor by the drink and the license must be obtained through normal lawful means.

[23-912, added 1947, ch. 274, sec. 12, p. 870; am. 1999, ch. 141, sec. 3, p. 405.]

23-913. LICENSEE NOT ALLOWED NEAR CHURCHES OR SCHOOLS -- EXCEPTIONS. No license shall be issued for any premises in any neighborhood which is predominantly residential or within 300 feet of any public school, church, or any

other place of worship, measured in a straight line to the nearest entrance to the licensed premises, except with the approval of the governing body of the municipality; provided, that this limitation shall not apply to any duly licensed premises that at the time of licensing did not come within the restricted area but subsequent to licensing same [came] therein.

[23-913, added 1947, ch. 274, sec. 13, p. 870.]

23-914. LICENSEE MUST PURCHASE FROM DIVISION -- PRICE. All liquor sold by any licensee shall be purchased from the division through its regular retail stores and distributing stations at the posted price thereof. The division is hereby authorized and directed to make such sales pursuant to section [23-309](#), Idaho Code, upon a special permit issued to such licensee in such form as shall be prescribed by the director of the division. The posted price as used herein shall mean the retail price of such liquor as fixed and determined by the division.

It shall be unlawful for any licensee to sell, or keep for sale, or have on his premises for any purpose whatsoever, any liquor except that purchased as herein authorized and provided, and any licensee found in possession of, selling or keeping for sale any liquor not purchased as herein authorized shall be guilty of a felony and upon conviction thereof shall be fined not less than one thousand dollars (\$1,000) nor more than five thousand dollars (\$5,000), or by imprisonment in the state prison for not more than five (5) years, or by both such fine and imprisonment. Any license issued to such person shall be immediately and permanently revoked. The amount of liquor to be sold to licensees hereunder in any city or village shall be determined by the director or other executive officer of the division, but such sales shall be regulated so as to maintain adequate stocks of merchandise for sale to persons other than said licensees.

The provisions of this section notwithstanding, railroad companies shall have the right to have in their possession liquors other than those purchased from the division.

[23-914, added 1947, ch. 274, sec. 14, p. 870; am. 1949, ch. 277, sec. 2, p. 567; am. 1988, ch. 216, sec. 2, p. 411; am. 2009, ch. 23, sec. 53, p. 67; am. 2012, ch. 113, sec. 18, p. 316.]

23-915. OFFICERS MAY SEIZE ILLEGAL LIQUOR. The director, or any of his agents, any sheriff, constable, or other police officer who shall find any liquor kept or held by any person in violation of the provisions of this act may forthwith seize and remove the same and keep the same as evidence and upon conviction of the person for violation of the provisions hereof, the said liquor, and all packages or receptacles containing the same, shall be forfeited to the state of Idaho and in addition the person so violating this act shall be subject to the other penalties herein prescribed.

[23-915, added 1947, ch. 274, sec. 15, p. 870; am. 1974, ch. 27, sec. 25, p. 811.]

23-916. COUNTY AND CITY LICENSES. In addition to the licensing and control herein provided for the retail sale of liquor by the drink, each county and incorporated city in the state of Idaho is hereby authorized and empowered to license the sale of liquor by the drink at retail within the corporate limits of such city. The respective local authorities may impose and

collect license fees for the use and benefit of such city not to exceed seventy-five percent (75%) of the amount of the license fee collected by the director as herein provided and for the use and benefit of such county not to exceed twenty-five percent (25%) of the amount of the license fee collected by the director as herein provided. The governing authority of such city may provide further regulations for the control of such business, and the board of county commissioners of any county may fix the fee for, and may regulate and control the use of, any license issued for the sale of liquor by the drink at retail in any licensed premises not situate within the incorporated limits of any city, not in conflict with the provisions of this act.

[23-916, added 1947, ch. 274, sec. 16, p. 870; am. 1957, ch. 151, sec. 3, p. 250; am. 1974, ch. 27, sec. 26, p. 811.]

23-917. REFERENDUM -- LOCAL OPTION. No license shall be issued hereunder until on or after July 1, 1947. Within sixty (60) days after the effective date of this chapter a petition in writing signed by not less than twenty percent (20%) of the registered, qualified electors of any city may be filed with the clerk of said city as their protest against the issuance of any license in said city under the provisions of this chapter. In the event said petition is presented, the governing body of any such city shall, within five (5) days after the presentation of said petition, meet and determine the sufficiency thereof by ascertaining whether said petition is signed by the required number of registered, qualified electors of the city affected. In the event the governing body of said city determines that said petition is signed by the required percentage of registered, qualified electors, said city governing body shall forthwith make an order calling an election to be held within said city, subject to the provisions of section [34-106](#), Idaho Code, in accordance with the provisions of [title 34](#), Idaho Code, which shall apply to the holding of the election provided for in this section, except where specifically modified herein. In addition to the other requirements of law, the notice of election shall notify the electors of the issue to be voted upon at said election.

[23-917, added 1947, ch. 274, sec. 17, p. 870; am. 1995, ch. 118, sec. 12, p. 440; am. 2009, ch. 341, sec. 7, p. 1000.]

23-918. FORM OF BALLOT. The county clerk must furnish the ballots to be used in such election, which ballots must contain the following words:

"Sale of liquor by the drink, Yes,"

"Sale of liquor by the drink, No,"

and the elector in order to vote must indicate the elector's choice opposite one (1) of the questions in a space provided therefor.

[23-918, added 1947, ch. 274, sec. 18, p. 870; am. 2009, ch. 341, sec. 8, p. 1000.]

23-919. EFFECT OF ELECTION -- LIQUOR STORE SALES NOT AFFECTED. Upon a canvass of the votes cast, the county board of canvassers shall certify the result to the city who shall report the results to the director. If a majority of the votes cast are "Sale of liquor by the drink, Yes," licenses shall be issued in said city as in this chapter provided. If a majority of the votes cast are "Sale of liquor by the drink, No," then no licenses shall be issued in said city unless thereafter authorized by a subsequent election in said

city; provided, however, that nothing herein contained shall be construed to prevent or prohibit the sale of liquor at or by a state liquor store or state distributor.

[23-919, added 1947, ch. 274, sec. 19, p. 870; am. 1974, ch. 27, sec. 27, p. 811; am. 2009, ch. 341, sec. 9, p. 1000.]

23-920. SUBSEQUENT ELECTIONS. A similar election may be subsequently called and held upon the issue of whether the sale of liquor by the drink shall be prohibited or, if prohibited, then an election to determine whether the sale of liquor by the drink shall be licensed. Such subsequent election shall be held upon the filing of a petition, as provided in section [23-917](#), signed by the requisite percentage of qualified electors. No such subsequent election shall be held prior to November 1, 1949, or oftener than two (2) years after the holding of any such subsequent election.

[23-920, added 1947, ch. 274, sec. 20, p. 870.]

23-921. NO RETAIL SALE EXCEPT BY THE DRINK. It shall be unlawful for any licensee to sell, keep for sale, dispense, give away, or otherwise dispose of any liquor in the original containers or otherwise than by retail sale by the drink.

[23-921, added 1947, ch. 274, sec. 21, p. 870.]

23-926. DESTRUCTION OF STAMPS -- SANITARY REQUIREMENTS. It shall be the duty of any licensee hereunder immediately upon emptying any liquor container to deface, so that the same may not again be used, all government or state stamps or labels. Any licensed premises shall be maintained in sanitary condition according to the requirements of [chapter 16, title 39](#), Idaho Code, and any city ordinances pertaining thereto.

[23-926, added 1947, ch. 274, sec. 24, p. 870; am. 1974, ch. 247, sec. 1, p. 1624.]

23-927. HOURS OF SALE OF LIQUOR. (1) No liquor shall be sold, offered for sale, or given away upon any licensed premises, and all liquor not in sealed bottles must be locked in a separate room or cabinet during the following hours:

- a. Sunday, Memorial Day, Thanksgiving and Christmas from 1 o'clock A.M., to 10 o'clock A.M. the following day; provided however, that on any Sunday not otherwise being a prescribed holiday, it shall be lawful for a licensee having banquet area or meeting room facilities, separate and apart from the usual dispensing area (bar room) and separate and apart from a normal public dining room unless such dining room is closed to the public, to therein dispense liquor between the hours of 2 o'clock P.M. and 11 o'clock P.M. to bona fide participants of banquets, receptions or conventions for consumption only within the confines of such banquet area or meeting room facility.
- b. On any other day between 1 o'clock A.M. and 10 o'clock A.M.
- c. When any city or county has any ordinance further limiting the hours of sale of liquor, by the drink, then such hours shall be fixed by such ordinance.

(2) A county or city may, however, by ordinance, allow the sale of liquor by the drink on a Sunday, Memorial Day and Thanksgiving, and may also extend until 2 o'clock A.M. the hours of the sale of liquor by the drink.

(3) Any patron present on the licensed premises after the sale of liquor has stopped as provided in subsection (1) and subsection (2) above shall have a reasonable time, not to exceed thirty (30) minutes, to consume any beverages already served.

(4) Any person who consumes or intentionally permits the consumption of any alcoholic beverage upon licensed premises after the time provided for in subsection (3) shall be guilty of a misdemeanor.

(5) It shall be the duty of every person who is employed at or upon a licensed premises or who owns or manages a licensed premises and is present upon the licensed premises during the hours and at the time set forth in subsection (1) and subsection (2) of this section to lock up and keep locked up in a locked room or locked cabinet all unsealed containers of liquor during the hours and at the times set forth in subsection (1) and subsection (2) of this section, and any such person who fails to perform the duty provided herein shall be guilty of a misdemeanor.

[23-927, added 1947, ch. 274, sec. 25, p. 870; am. 1971, ch. 95, sec. 1, p. 207; am. 1977, ch. 143, sec. 3, p. 318; am. 1986, ch. 223, sec. 1, p. 610; am. 1987, ch. 110, sec. 1, p. 222; am. 1989, ch. 64, sec. 8, p. 104; am. 2003, ch. 284, sec. 1, p. 769; am. 2008, ch. 248, sec. 2, p. 729.]

23-928. SALE AWAY FROM LICENSED PREMISES PROHIBITED -- GAMBLING PROHIBITED. (1) It shall be unlawful for any licensee to sell, give away, dispense, vend, or deliver any liquor in any fashion or by means or device, except upon the licensed premises.

(2) It shall be unlawful for any licensee granted a license under the authority of [title 23](#), Idaho Code, to permit, conduct, play, carry on, open or cause to be opened any gaming in or upon the licensed premises or in or upon any premises directly connected by a door, hallway, or other means of access from the licensed premises. Any licensee authorized under the authority of this title and who is also authorized by other Idaho law to conduct the lawful activities of lottery, bingo, raffles, and pari-mutuel betting on the licensed premises shall be exempt from the provisions of this subsection as long as the lawful activities are conducted in conformity with statute and rules promulgated pursuant thereto.

[23-928, added 1947, ch. 274, sec. 26, p. 870; am. 1997, ch. 343, sec. 1, p. 1027.]

23-930. OFFICERS MAY EXAMINE PREMISES. The director or his duly authorized representative, the sheriff of any county, a constable, or other police officer, shall have the right at any time to make an examination of the premises of any licensee as to whether the laws of the state of Idaho, the rules and regulations of the director, and the ordinances of any city are being complied with and shall also have the right to inspect the cars of any railroad system licensed under this act.

[23-930, added 1947, ch. 274, sec. 28, p. 870; am. 1974, ch. 27, sec. 30, p. 811.]

23-931. ADVERTISING PROHIBITED. It shall be unlawful for any licensee to adopt or use any name, sign or advertisement outside of the licensed premises advertising the handling or sale of liquor.

[23-931, added 1947, ch. 274, sec. 29, p. 870.]

23-932. DIRECTOR TO MAKE REGULATIONS -- FURNISH FORMS AND RECORDS. For the purpose of the administration of this act the director shall make, promulgate and publish such rules and regulations as the said director may deem necessary for carrying out the provisions of this act and for the orderly and efficient administration hereof, and except as may be limited or prohibited by law and the provisions of this act, such rules and regulations so made and promulgated shall have the force of statute. Every licensee shall advise himself of such rules and regulations, and ignorance thereof shall be no defense. Without limiting the generality of the foregoing provisions, the said director shall be empowered and it is made his duty to prescribe forms to be used in the administration of this act, the proof to be furnished and the conditions to be observed in the issuance of licenses, prescribing forms or records to be kept of the sale of liquor by stores, prescribing notices required by this act or the regulations thereof, and the manner of giving and serving the same, prescribing, subject to the provisions of this act, the conditions and qualifications necessary to obtain a license, the books and records to be kept by the licensee, the form of returns to be made by them, and providing for the inspection of such licensed premises, specifying and describing the place and manner in which the liquor may be lawfully kept or stored, covering the conduct, management and equipment of premises licensed to sell liquor and make regulations respecting the sale and consumption of liquor in clubs, hotels and other places of business to licensees.

[23-932, added 1947, ch. 274, sec. 30, p. 870; am. 1974, ch. 27, sec. 31, p. 811.]

23-933. SUSPENSION, REVOCATION, AND REFUSAL TO RENEW LICENSES. (1) The director may suspend, revoke, or refuse to renew a license issued pursuant to the terms of this chapter for any violation of or failure to comply with the provisions of this chapter or rules and regulations promulgated by the director or the state tax commission pursuant to the terms and conditions of this chapter. Procedures for the suspension, revocation, or refusal to grant or renew licenses issued under this chapter shall be in accordance with the provisions of [chapter 52, title 67](#), Idaho Code.

(2) When the director determines to suspend such license, the affected licensee may petition the director prior to the effective date of the suspension requesting that a monetary payment be allowed in lieu of the license suspension. If the director determines such payment to be consistent with the purpose of the laws of the state of Idaho and is in the public interest, he shall establish a monetary payment in an amount not to exceed five thousand dollars (\$5,000). The licensee may reject the payment amount determined by the director, and instead be subject to the suspension provisions of subsection (1) of this section. Upon payment of the amount established, the director shall cancel the suspension period. The director shall cause any payment to be paid to the treasurer of the state of Idaho for credit to the state's general account in the state operating fund.

(3) The suspension of a license for the sale of beer or wine shall automatically result in the suspension of any license for the sale of liquor held

by the same licensee and issued for the same premises or location. Such additional suspension shall be equal in length to and run concurrently with the period of the original suspension.

(4) When a proceeding to revoke or suspend a license has been or is about to be instituted, during the time a renewal application of such license is pending before the director, the director shall renew the license notwithstanding the pending proceedings, but such renewed license may be revoked or suspended without hearing if and when the previous license is, for any reason, revoked or suspended.

[23-933, added 1980, ch. 223, sec. 2, p. 497; am. 1981, ch. 199, sec. 1, p. 351; am. 1991, ch. 50, sec. 1, p. 91; am. 1993, ch. 347, sec. 1, p. 1291.]

23-933A. LICENSES -- SUSPENSION OR REVOCATION FOR VIOLATION OF OBSCENITY LAWS. In the event of a conviction for a violation of [chapter 41, title 18](#), Idaho Code, relating to obscenity, by any:

- (1) licensee,
- (2) agent of licensee or
- (3) employee or licensee if such licensee knew or should have known in the exercise of reasonable diligence that said employee was violating the provisions of [chapter 41, title 18](#), Idaho Code, and if the violation committed by any of the above occurred on, or in connection with, premises licensed under this act by such licensee, the director shall suspend the license of such licensee for a period of six (6) months. If such licensee, or his agent or employee, has previously been convicted of a violation of [chapter 41, title 18](#), Idaho Code, relating to obscenity, which violation occurred on, or in connection with, the premises licensed under this act by such licensee, the director shall revoke the license of such licensee.

[I.C., sec. 23-933A, as added by 1973, ch. 305, sec. 19, p. 655; am. 1974, ch. 27, sec. 33, p. 811.]

23-933B. PROCEDURE FOR OTHER LICENSING AUTHORITIES. The licensing authority of any county or incorporated municipality shall have and exercise the same powers to revoke, suspend, or to refuse grant of renewal of a retailer's license issued or issuable by it, as are granted to the director in this act. The determination of any such licensing authority to revoke, suspend, or to refuse grant of renewal of any retailer's license, shall be upon the same grounds referred to in section [23-933](#), Idaho Code, and may also be upon the grounds that the licensee has violated an ordinance validly enacted by it and regulating, governing or prohibiting the sale, manufacture, transportation or possession of beer or intoxicating liquor and notice thereof shall be given, and proceedings to contest said determination allowed, as provided for in this act with respect to state licenses issued by the director. The order to show cause shall be addressed to the board of county commissioners of the county or to the city council of the incorporated municipality, requiring the commissioners or councilmen, or such representative as they may designate, to appear in response thereto. Service of the order to show cause and petition shall be ordered to be made upon the chairman of the board of county commissioners or mayor or city manager of the municipality, as the case may be.

[23-933B, added 1977, ch. 143, sec. 4, p. 319.]

23-934. UNLICENSED ROOMS UNLAWFUL -- EXCEPTION. It shall be unlawful for any person to keep or maintain any rooms or premises in which liquor is received or kept, whether owned by such person or by another, or to which liquor is brought, for consumption on the premises by members of the public or of any club, incorporated or unincorporated, or a corporation or association, unless such person and the premises are licensed under this act, except as provided under a liquor catering permit.

[23-934, added 1955, ch. 227, sec. 1, p. 500; am. 1965, ch. 211, sec. 1, p. 484.]

23-934A. ALCOHOL BEVERAGE CATERING PERMIT -- APPLICATION. An alcohol beverage catering permit is a permit issued pursuant to this section that authorizes the permittee to serve and sell liquor by the drink, beer and wine, or beer, or wine, at a festival or convention, for a time period not to exceed five (5) consecutive days, with an option to request one (1) permit extension on the same terms and conditions as the original permit, which extension may be issued or denied at the sole and absolute discretion of the original issuing entity, or at a party for a time period not to exceed two (2) consecutive days. An alcohol beverage catering permit shall be limited to authorization to sell liquor or beer or wine, or any combination thereof, based upon the type of license the applicant possesses. Applications for such permit shall be made to the city within which the liquor, beer or wine is to be served, or if not within a city then to the county, on such form as prescribed by the city or county which shall contain at a minimum, but not limited to, the following information:

(1) The name and address of the applicant and the number of his state liquor, beer or wine license.

(2) The dates and hours during which the original permit is to be effective, not to exceed five (5) consecutive days.

(3) The names of the organizations, groups, or persons sponsoring the event.

(4) The address at which the liquor, beer or wine is to be served, and if a public building, the rooms in which the liquor, beer or wine is to be served.

The application shall be verified by the applicant and filed with the appropriate governing body or its designee. A filing fee in the amount of twenty dollars (\$20.00) for each day the permit is to be effective shall be paid to the treasury of the governing body which shall not be refunded in any event. Any alcohol beverage catering permit shall be valid only within the issuing jurisdiction.

No alcohol beverage catering permit issued pursuant to this section shall be used on a licensed premise. An alcohol beverage catering permit issued pursuant to this section shall only be exercised by the licensee on record.

[23-934A, added 1965, ch. 211, sec. 2, p. 484; am. 1970, ch. 258, sec. 1, p. 690; am. 1974, ch. 27, sec. 34, p. 811; am. 1987, ch. 58, sec. 1, p. 104; am. 1992, ch. 57, sec. 1, p. 167; am. 1999, ch. 58, sec. 2, p. 148; am. 2016, ch. 268, sec. 2, p. 722.]

23-934B. FILING OF APPLICATION -- APPROVAL. Upon the filing of an application for an alcohol beverage catering permit, the city council or its designee, or county commissioners or their designee receiving the application shall, upon the advice and recommendation of the chief of police and chief of fire or sheriff, approve or disapprove the application and indicate the determination on the face of the application by endorsement signed by the clerk of the city or county. The chief of police and chief of fire are, or the sheriff is, authorized to endorse an application for an alcohol beverage catering permit with sufficient conditions to ensure public safety. Copies of the application with signed endorsements thereon shall be mailed, delivered by electronic mail or delivered immediately to the chief of police or sheriff, the director and the applicant, and a signed copy retained by the clerk. An application approved in this manner shall constitute an alcohol beverage catering permit.

[23-934B, added 1965, ch. 211, sec. 2, p. 484; am. 1970, ch. 258, sec. 2, p. 690; am. 1974, ch. 27, sec. 35, p. 811; am. 1987, ch. 58, sec. 2, p. 104; am. 1992, ch. 57, sec. 2, p. 168; am. 1999, ch. 58, sec. 3, p. 149; am. 2016, ch. 268, sec. 3, p. 723.]

23-934C. REGULATORY AND PENALTY PROVISIONS APPLICABLE. All of the regulatory and penal provisions of [title 23](#), Idaho Code, shall apply to the exercise of alcohol beverage catering permits, including the penalties for violations thereof, except such provisions declared to be inapplicable to alcohol beverage catering permits by rules prescribed by the director of the Idaho state police; provided, however, the director shall have no power to declare inapplicable any of the provisions of section [23-927](#), Idaho Code.

[I.C., sec. 23-934C, as added by 1965, ch. 211, sec. 2, p. 484; am. 1999, ch. 58, sec. 4, p. 149; am. 2000, ch. 469, sec. 64, p. 1516.]

23-935. VIOLATION -- MISDEMEANORS. A violation of any of the provisions of this act by any agent, employee, servant, or other person in any way acting in behalf of the licensee shall be presumed to be a violation by the licensee. Any person violating any of the provisions of this act, except where a specific penalty is provided, shall be guilty of a misdemeanor and upon conviction thereof shall be fined not less than the sum of one hundred dollars (\$100) nor more than the sum of three hundred dollars (\$300) or be imprisoned in the county jail for not less than thirty (30) days nor more than six (6) months, or both such fine and imprisonment. Any court in which a judgment of conviction against any licensee shall be entered shall forthwith certify a copy thereof to the director and the director shall thereupon give intended notice of revocation of any license to such convicted person.

[23-935, added 1947, ch. 274, sec. 32, p. 870; am. 1970, ch. 258, sec. 3, p. 690; am. 1974, ch. 27, sec. 36, p. 811.]

23-936. DUTY OF PUBLIC OFFICERS. It is hereby made the duty of the prosecuting attorneys, sheriffs, and all constables and peace officers of the counties or municipalities knowing of any violation of this act to make complaint before the proper tribunal and perform the duties of their offices with respect to the prosecution and conviction of such offenders. Any such officer knowingly refusing to inform against or prosecute any offender under

the provisions of this act shall be subject to action against him as provided in [chapter 41, title 19](#), Idaho Code.

[23-936, added 1947, ch. 274, sec. 33, p. 870; am. 1999, ch. 103, sec. 3, p. 328.]

23-937. VIOLATION A MORAL NUISANCE. Any violation of the provisions of this act or any rule or regulation of the director promulgated hereunder shall constitute a moral nuisance under the provisions of section [52-204](#), Idaho Code.

[23-937, added 1947, ch. 274, sec. 34, p. 870; am. 1974, ch. 27, sec. 37, p. 811.]

23-938. SELLING LIQUOR WITHOUT LICENSE -- PENALTY. Any person who sells or keeps for sale any liquor without a license as provided in this act shall be guilty of a felony and upon conviction thereof shall be fined not less than one thousand dollars (\$1,000) or [nor] more than five thousand dollars (\$5,000), or be imprisoned in the state prison for not less than one (1) year nor more than five (5) years, or both such fine and imprisonment.

[23-938, added 1947, ch. 274, sec. 35, p. 870.]

23-939. SEPARABILITY. If any clause, sentence, paragraph, section, or any part of this act, shall be declared and adjudged to be invalid and/or unconstitutional, such invalidity or unconstitutionality shall not affect, invalidate, or nullify the remainder of this act.

[23-939, added 1947, ch. 274, sec. 36, p. 870.]

23-940. ALCOHOL BEVERAGE CONTROL FUND. (1) There is hereby created in the state treasury the alcohol beverage control fund. All moneys from license and transfer fees that are collected by the director pursuant to the provisions of this chapter shall be paid over to the state treasurer for deposit in the alcohol beverage control fund. Expenditures of moneys in the fund shall be subject to legislative appropriation for the use of the Idaho state police alcohol beverage control bureau in carrying out the provisions of [title 23](#), Idaho Code, and the rules promulgated by the director thereunder. At the beginning of each fiscal year, those moneys in the alcohol beverage control fund that exceed two hundred percent (200%) of that fiscal year appropriation, as certified by the state treasurer, shall be transferred to the general fund.

(2) All other moneys collected by the director pursuant to the provisions of this chapter shall be paid over to the state treasurer for deposit in the general fund.

[23-940, added 1947, ch. 274, sec. 37, p. 870; am. 1974, ch. 27, sec. 38, p. 811; am. 2012, ch. 160, sec. 1, p. 435.]

23-941. DECLARATION OF PUBLIC POLICY. It is hereby declared that the intent of this act is to restrict persons under the ages herein specified from entering, remaining in or loitering in or about certain places, as herein defined, which are operated and commonly known as taverns, barrooms, taprooms and cocktail lounges and which do not come within the definition of

restaurant as herein contained and are not otherwise expressly exempted from the restrictions herein contained.

[23-941, added 1955, ch. 195, sec. 1, p. 420.]

23-942. DEFINITIONS. The following definitions shall apply in the interpretation of the enforcement of this act:

(a) "Licensee" shall mean any person licensed to sell liquor by the drink at retail pursuant to the provisions of [chapter 9, title 23](#), Idaho Code, and any person licensed to sell beer for consumption on the premises where sold pursuant to the provisions of [chapter 10, title 23](#), Idaho Code, or county or municipal ordinance.

(b) "Place," as used in this act, means any room of any premises licensed for the sale of liquor by the drink at retail wherein there is a bar and liquor, bar supplies and equipment are kept and where beverages containing alcoholic liquor are prepared or mixed and served for consumption therein, and any room of any premises licensed for the sale of beer for consumption on the premises wherein there is a bar and beer, bar supplies and equipment are kept and where beer is drawn or poured and served for consumption therein.

(c) "Restaurant," as used in this act, means any restaurant, cafe, hotel dining room, coffee shop, cafeteria, railroad dining car or other eating establishment having kitchen and cooking facilities for the preparation of food and where hot meals are regularly served to the public.

[23-942, added 1955, ch. 195, sec. 2, p. 420.]

23-943. PERSONS UNDER SPECIFIED AGES FORBIDDEN TO ENTER, REMAIN IN OR LOITER AT CERTAIN LICENSED PLACES. No person under the age of twenty-one (21) years shall enter, remain in or loiter in or about any place, as herein defined, licensed for the sale of liquor by the drink at retail, or sale of beer for consumption on the premises; nor shall any licensee of either such place, or any person in charge thereof, or on duty while employed by the licensee therein, permit or allow any person under the age specified with respect thereto to remain in or loiter in or about such place.

Provided, however, it is lawful for persons who are musicians and singers eighteen (18) years of age or older, to enter and to remain in any place as defined in section [23-942](#), Idaho Code, but only during and in the course of their employment as musicians and singers. Provided further, that it is lawful for persons who are nineteen (19) years of age or older to sell, serve, possess or dispense liquor, beer or wine in the course of their employment in any place as defined in section [23-942](#), Idaho Code, or in any other place where liquor, beer or wine are lawfully present, so long as such place is the place of employment for such person under twenty-one (21) years of age. However the foregoing shall not permit the sale or distribution of any alcoholic beverages to any person under the ages specified for sale of alcoholic beverages.

[23-943, added 1955, ch. 195, sec. 3, p. 420; am. 1971, ch. 59, sec. 1, p. 134; am. 1972, ch. 330, sec. 5, p. 828; am. 1972, ch. 332, sec. 1, p. 834; am. 1987, ch. 212, sec. 6, p. 450.]

23-943A. IDENTIFICATION. It shall be a misdemeanor for any person to refuse to present identification indicating age, when requested by a peace officer of the state of Idaho when: (a) he or she shall possess, purchase,

attempt to purchase or consume alcoholic liquor, as defined by section [23-105](#), Idaho Code; or (b) he or she shall possess, purchase, attempt to purchase or consume beer as defined by section [23-1001](#), Idaho Code; or (c) he or she is on a premises licensed to sell liquor by the drink at retail, or licensed to sell beer for consumption on the premises.

[23-943A, added 1977, ch. 264, sec. 1, p. 772.]

23-944. EXCEPTIONS FROM RESTRICTION ON ENTERING OR REMAINING. It shall not be unlawful for, nor shall section [23-943](#), Idaho Code, be construed to restrict, any person under the age of twenty-one (21) years from entering or being:

(1) Upon the premises of any restaurant, as herein defined, or in any railroad observation or club car or any airplane of a commercial airline, notwithstanding that such premises may also be licensed for the sale of liquor by the drink or for the sale of beer for consumption on the premises or that alcoholic beverages, or beer, or both, are prepared, mixed or dispensed and served and consumed therein;

(2) In any building, a part or portion of which is used as a place, as herein defined, provided such place is separated or partitioned from the remainder of said building and access to such place through a doorway or doorways or other means of ingress can be controlled to prevent persons under the ages specified with respect thereto in section [23-943](#), Idaho Code, from entering therein;

(3) In any baseball park, sports arena, convention center, multipurpose arena, plaza, theater that is presenting live performances, or fairgrounds, notwithstanding that such premises or any portion thereof may be licensed for the sale of liquor by the drink, wine or beer for consumption on the premises or that such products are dispensed and served and consumed therein; provided, that the person under the age of twenty-one (21) years is attending a lawful activity, show, exhibition, performance or event on the premises or is required to be present as a condition of his employment. It is lawful for persons under the age of twenty-one (21) years to enter and remain in a baseball park, sports arena, convention center, multipurpose arena, plaza, theater that is presenting live performances, or fairgrounds as long as the activity, show, exhibition, performance or event is lawful and the person does not violate section [23-949](#), Idaho Code;

(4) Upon the premises of any licensed brewery or winery notwithstanding that such premises or any portion thereof may also be licensed for the sale of beer or wine for consumption on the premises or that beer or wine is dispensed and served and consumed therein;

(5) Upon the licensed premises of a wine retailer, wholly owned and operated by a licensed winery that retails exclusively the products of that winery;

(6) At a location, other than a liquor, beer, or wine licensed premises, authorized to serve alcoholic beverages under a valid alcohol beverage catering permit; or

(7) In any movie theater that is allowed to sell beer or wine for consumption on the premises pursuant to a valid license and which movie theater had a license that was valid and not suspended or revoked on January 1, 2006, or any other theater or movie theater built prior to January 1, 1950, and listed on the national register of historic places. No films, still pictures, electronic reproductions or other visual reproductions that are in violation of [chapter 41, title 18](#), Idaho Code (indecentcy and obscenity), or

are in violation of federal law regarding pornography, indecency or obscenity shall be shown or displayed on the premises. As used in this subsection, "movie theater" means a motion picture theater that is being utilized solely for exhibition of a motion picture.

[23-944, added 1955, ch. 195, sec. 4, p. 420; am. 1972, ch. 330, sec. 6, p. 828; am. 1972, ch. 332, sec. 2, p. 834; am. 1987, ch. 212, sec. 7, p. 451; am. 1990, ch. 320, sec. 1, p. 876; am. 1999, ch. 58, sec. 5, p. 149; am. 2000, ch. 361, sec. 1, p. 1198; am. 2003, ch. 111, sec. 2, p. 350; am. 2006, ch. 378, sec. 1, p. 1171; am. 2016, ch. 357, sec. 2, p. 1050; am. 2019, ch. 83, sec. 2, p. 200; am. 2019, ch. 87, sec. 1, p. 212; am. 2020, ch. 9, sec. 1, p. 11.]

23-945. POSTING SIGNS AS TO RESTRICTION. Every licensee herein referred to shall keep a sign conspicuously posted over or near each entrance to any place from which persons under twenty-one (21) years are herein restricted giving public notice of such fact. The wording and size of such signs shall be in accordance with such regulations as the director may prescribe.

[23-945, added 1955, ch. 195, sec. 5, p. 420; am. 1972, ch. 330, sec. 7, p. 828; am. 1972, ch. 332, sec. 3, p. 834; am. 1974, ch. 27, sec. 39, p. 811; am. 1987, ch. 212, sec. 8, p. 451.]

23-946. STATEMENT MADE BY LICENSEES OF PREMISES OPERATED AS RESTAURANTS -- INDORSEMENT UPON LICENSE. (a) Every applicant for a state license for the sale of liquor by the drink or for the sale of beer for consumption on the premises claiming that the premises for which such license is sought constitute and are operated as a restaurant, as herein defined, shall, on each application for state license and on each application for renewal of license, state that such premises constitute and are operated as such restaurant. Upon issuance of state license for the sale of liquor by the drink or for the sale of beer for consumption on the premises, for premises constituting and operated as a restaurant, the licensee of which has made the proper statement on the application, the director shall indorse on the face of the license the fact that it has been issued to a restaurant as herein defined. Unless such statement shall have been filed with the director and his said indorsement shall appear on the face of the license, the restrictions contained in section [23-943](#), Idaho Code, shall apply, notwithstanding that such premises may in fact constitute and be operated as a restaurant, and the posting of signs as provided for in section [23-945](#), Idaho Code, shall be required. The filing of any false statement on the application as herein required shall be grounds for suspension or revocation of license. If premises, licensed as a restaurant under this act, subsequently ceases to meet the qualifications of a restaurant, as defined in section [23-942](#), Idaho Code, the restrictions contained in section [23-943](#), Idaho Code, shall apply and the posting of signs as provided for in section [23-945](#), Idaho Code, shall be required. In such event the licensee shall advise the director, by mail, that his premises no longer constitute a restaurant, so that the license may be modified accordingly.

(b) The powers of the director to make, promulgate and publish rules and regulations as set forth in section [23-932](#), Idaho Code, shall apply to sections [23-941](#) to [23-946](#), Idaho Code.

[23-946, added 1955, ch. 195, sec. 5, p. 420; am. 1957, ch. 45, sec. 1, p. 80; am. 1974, ch. 27, sec. 40, p. 811; am. 1991, ch. 137, sec. 8, p. 324.]

23-947. VIOLATIONS OF ACT A MISDEMEANOR. The violation of any of the provisions of this act shall constitute a misdemeanor.

[23-947, added 1955, ch. 195, sec. 7, p. 420.]

23-948. WATERFRONT RESORTS -- LICENSING EVEN IF OUTSIDE CORPORATE LIMITS OF CITY. (a) Nothing contained in section [23-903](#), Idaho Code, shall prohibit the issuance of a license to the owner, operator or lessee of a waterfront resort, even if situated outside the incorporated limits of a city. The provisions of section [23-910](#), Idaho Code, shall apply to licenses issued under the provisions of this section. For the purpose of this section, a waterfront resort shall comprise real property with not less than two hundred (200) feet of lake frontage upon a lake or reservoir as defined by the army corps of engineers of not less than one hundred sixty (160) acres, or river frontage upon a river with at least an average six (6) months' flow of eleven thousand (11,000) cubic feet per second, and shall be open to the public, where people assemble for the purpose of vacationing, boating or fishing, and each waterfront resort must have suitable docks or permanent improved boat-launching facilities not less than sixteen (16) feet in width on property owned or leased by the resort operator or on property contiguous thereto owned by this state; the county; city, if within a city; or the federal government open to the public for recreational uses for the purpose of caring for vacationers, or other recreational users and either of the following:

(1) Hotel or motel accommodations for not less than fifty (50) persons, including a full-service restaurant that serves regularly at least two (2) meals per day to the public during a continuous period of at least four (4) months per year; or

(2) A building of not less than three thousand (3,000) square feet of public use floor space, including a full-service restaurant that serves regularly at least two (2) meals per day to the public during a continuous period of at least four (4) months per year and paved or gravelled parking for fifty (50) automobiles on the operator's owned or leased property and any contiguous property upon which are the docks or boat-launching facilities described in this subsection.

(b) For purposes of satisfying the requirements of subsection (a) of this section, an otherwise qualifying applicant shall not be deemed ineligible for a waterfront resort license because a public right-of-way runs directly between, and contiguous to, the real property upon which the restaurant is located and the real property containing the required water frontage.

(c) The fees for licenses granted under the provisions of this section shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code, unless said resort is located within the corporate limits of a city or village, in which case the license fee shall be the same as for other licensees within such corporate limits.

(d) The provisions of this section shall not be construed to interfere with the privileges of the holder of a waterfront resort license issued under this section prior to the effective date of this section.

(e) Licenses issued pursuant to this section shall remain valid and may be transferred according to the provisions of this chapter even if the lake,

reservoir or river on which the waterfront resort is situated ceases to meet or, subsequent to first issuance or any renewal thereof, is found not to have met the applicable waterflow or lake acreage requirements, but otherwise met and meets upon issuance or renewal all other applicable requirements provided in subsection (a) of this section.

[23-948, added 1959, ch. 151, sec. 1, p. 348; am. 1967, ch. 123, sec. 1, p. 118; am. 1986, ch. 145, sec. 1, p. 407; am. 1988, ch. 333, sec. 1, p. 999; am. 2018, ch. 226, sec. 1, p. 517; am. 2021, ch. 223, sec. 1, p. 657; am. 2021, ch. 335, sec. 1, p. 1018.]

23-949. PERSONS NOT ALLOWED TO SELL, SERVE OR DISPENSE BEER, WINE OR OTHER ALCOHOLIC LIQUOR. It is unlawful for any person under the age of twenty-one (21) years to sell, serve or dispense beer, wine or other alcoholic liquor; provided, however, that any person who is nineteen (19) years of age or older may sell, serve and dispense liquor, beer or wine in the course of his employment in any place as defined in section [23-942](#), Idaho Code, or other place where liquor, beer or wine is lawfully present so long as such place is the place of employment for such person under twenty-one (21) years of age.

For purposes of this section, a person who sells, serves or dispenses liquor, beer or wine in compliance with the provisions of this section shall not be deemed to "possess" alcohol in violation of section [23-604](#), Idaho Code.

Any person violating the provisions of this section shall be guilty and punished in accordance with section [18-1502](#), Idaho Code.

[23-949, added 1961, ch. 18, sec. 1, p. 21; am. 1972, ch. 330, sec. 8, p. 828; am. 1978, ch. 374, sec. 1, p. 980; am. 1981, ch. 222, sec. 4, p. 413; am. 1982, ch. 110, sec. 5, p. 313; am. 1987, ch. 212, sec. 9, p. 452; am. 2000, ch. 334, sec. 1, p. 1125; am. 2016, ch. 344, sec. 5, p. 990.]

23-950. RESTRICTION AGAINST TRANSFER OF LICENSE. (1) No license issued under the provisions of this chapter shall be renewed, transferred, assigned, leased or sold if:

(a) The state tax commission has notified the director and the licensee in writing that any tax imposed by chapters 30 and 36, [title 63](#), Idaho Code, interest, penalty, and additional amount, which has accrued as a result of the operation of the licensed premises has been assessed as that term is defined in section [63-3045A](#), Idaho Code, against the licensee or any person operating the licensed premises with the permission of the licensee; or

(b) The department of labor has notified the director and the licensee in writing that a lien has been filed against the licensee or any person operating the licensed premises with the permission of the licensee, as a result of the operation of the licensed premises securing amounts due pursuant to [chapter 13, title 72](#), Idaho Code.

(2) At such time as the state tax commission or the department of labor has notified the director and licensee as herein provided, the license issued for the premises the operation of which has resulted in the accrual of the tax for which the warrant or lien is outstanding shall be subject to levy and distraint pursuant to [chapter 30, title 63](#), Idaho Code, or seizure pursuant to section [72-1360A](#), Idaho Code.

[23-950, added 1981, ch. 6, sec. 1, p. 13; am. 1987, ch. 86, sec. 6, p. 164; am. 2005, ch. 5, sec. 1, p. 6; am. 2007, ch. 360, sec. 12, p. 1073.]

23-951. DISTILLED SPIRITS FUELS. (1) Any person, partnership, association or corporation registered to produce alcohol for use in motor fuels and in possession of a federal operating permit pursuant to [title 27](#), code of federal regulations, part 201.131 - 201.138 or part 201.64, 201.65 shall not be deemed to be making alcoholic liquor within the meaning of section [23-105](#), Idaho Code, provided:

(a) Such person, partnership, association or corporation prior to commencing operation furnishes the Idaho state police with a true copy of the operating permit application described in [title 27](#), code of federal regulations, part 201.137 or 201.65 and a true copy of the operating permit or other authorizing document;

(b) Such person, partnership, association or corporation faithfully complies with all security and supervision requirements of the federal government; and

(c) Alcohol possessed or produced under the federal operating permit is not used, sold or made available for human consumption.

(2) The Idaho state police shall maintain a list of persons, partnerships, associations or corporations in the state of Idaho who hold federal operating permits as described in subsection (1) of this section.

[(23-951) 23-950, added 1981, ch. 6, sec. 1, p. 13; am. 1987, ch. 86, sec. 6, p. 164; am. and redesignated 2000, ch. 469, sec. 65, p. 1516.]

23-952. CROSS-COUNTRY SKIING FACILITY -- LICENSING EVEN IF OUTSIDE CORPORATE LIMITS OF CITY. Nothing contained in law shall prohibit the issuance of a license to the owner, operator or lessee of an actual cross-country skiing facility if situated five (5) or more miles outside the corporate limits of a city. The provisions of section [23-910](#), Idaho Code, shall be applicable to licenses issued pursuant to this section. For the purposes of this section, a cross-country skiing facility shall comprise real property, open to the public, with not less than fifteen (15) miles of groomed cross-country skiing trails, and overnight accommodations for not less than twenty (20) persons. The fees for licenses granted under the provisions of this section shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code. Not more than one (1) licensed premises shall be permitted on any cross-country skiing facility or within the area comprising the facility.

[23-952, added 1987, ch. 32, sec. 3, p. 54.]

23-953. RACING FACILITIES -- LICENSING. Nothing contained in this chapter shall prohibit the issuance of a license to the owner, operator or lessee of a racing facility, even if situated outside the incorporated limits of a city. A "racing facility" means an actual, bona fide racing facility located on not less than twenty (20) contiguous acres with permanently erected seating of not less than one thousand (1,000) capacity, and which has a license to conduct pari-mutuel racing. The provisions of section [23-910](#), Idaho Code, shall apply to licenses issued under the provisions of this section. The fees for licenses granted under the provisions of this section shall be the same as those prescribed for golf courses as set forth

in section [23-904](#), Idaho Code. Licenses issued under the provisions of this section are not transferable.

[23-953, added 1988, ch. 287, sec. 1, p. 921.]

23-954. THEME PARKS -- LICENSING. Nothing contained in this chapter shall prohibit the issuance of a license to the owner, operator or lessee of a theme park, even if situated outside the incorporated limits of a city. A "theme park" means a facility located on not less than forty (40) contiguous acres, and permanently constructed for the purpose of conducting, presenting or providing activities and services normally related to family oriented entertainment and recreational programs, which is open to the public and which provides meeting facilities. The provisions of section [23-910](#), Idaho Code, shall apply to licenses issued under the provisions of this section. The fees for licenses granted under the provisions of this section shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code.

[23-954, added 1988, ch. 307, sec. 1, p. 962.]

23-955. SPLIT OWNERSHIP FACILITY -- LICENSING. Nothing contained in this chapter shall prohibit the issuance of a license to the owner, operator or lessee of a premises that has been, because of a split in ownership of the original premises, separated from a ski resort facility or golf course already licensed under the provisions of section [23-903](#), Idaho Code. The provisions of section [23-910](#), Idaho Code, shall be applicable to licenses issued pursuant to this section. The fees for licenses granted under the provisions of this section shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code. Licenses issued under the provisions of this section are not transferable.

[23-955, added 1994, ch. 432, sec. 1, p. 1396; am. 1995, ch. 145, sec. 1, p. 612; am. 2004, ch. 259, sec. 1, p. 734.]

23-956. CONTINUATION OF GOLF COURSE LIQUOR LICENSE FOLLOWING CHANGE OF LAND USE. Nothing contained in this chapter shall prohibit the issuance of a license to the owner, operator, or lessee of a premises previously licensed as a golf course under the provisions of section [23-903](#), Idaho Code, following termination of the golf course use and conversion of the premises to another use or uses, provided that the golf course was licensed as a golf course under the provisions of section [23-903](#), Idaho Code, for a minimum of twenty (20) years prior to such termination. The provisions of section [23-910](#), Idaho Code, shall be applicable to licenses issued pursuant to this section. The fees for licenses granted under the provisions of this section shall be the same as those prescribed for golf courses as set forth in section [23-904](#), Idaho Code, unless the premises is located within the incorporated limits of any city, in which case the fee shall be the same as that prescribed for a license in a city of that size as set forth in section [23-904](#), Idaho Code. Licenses issued under the provisions of this section are not transferable away from the premises. Upon termination of the golf course use, no part of the premises shall be eligible for the issuance of an additional license pursuant to section [23-955](#), Idaho Code, due to a split in ownership which occurs after such termination. The eligibility to obtain a license pursuant to this section following termination of the golf course use shall,

in the event of a later split in ownership of the premises, be allocated to one (1) of the parcels resulting from such split, either by contract between the parties to the split or by grant or reservation in the deed of conveyance. In the event the contract between the parties or the deed of conveyance fails to specify which parcel retains eligibility under this section, eligibility shall be deemed to be retained by the parcel upon which is, or was, located the greater share of physical improvements at or within which alcohol was served prior to the split in ownership. Upon any further split of the parcel retaining eligibility to obtain a license pursuant to this section, the same restrictions shall apply to the new split in ownership and any future splits of the parcel retaining such eligibility, such that there shall never be more than one (1) license issued pursuant to this section for the land constituting the original golf course premises. Nothing in this section shall prohibit the issuance of a license to the owner, operator or lessee of any split-off parcel to the extent such parcel qualifies for a license under any other provision of this chapter.

[23-956, added 2005, ch. 357, sec. 2, p. 1128.]

23-957. YEAR-ROUND LIQUOR LICENSE. (1) Nothing in this chapter shall prohibit the issuance of not more than twelve (12) licenses to the owner, operator or lessee of beverage, lodging or dining facilities located and operated within the ownership, boundaries, or leasehold premises of a year-round resort.

(2) Nothing contained in this chapter shall prohibit the issuance of a license to the owner, operator or lessee of a golf course, ski resort, cross-country skiing facility or waterfront resort, as defined in sections [23-903](#), [23-903a](#) and [23-948](#), Idaho Code, located within the ownership, boundaries, or leasehold premises of a year-round resort, provided that such license shall count against the maximum number of licenses allowed by subsection (1) of this section.

(3) No license issued to the owner, operator or lessee of beverage, lodging or dining facilities located and operated within the ownership, boundaries, or leasehold premises of a year-round resort shall be transferable to another location or facility located outside the ownership, boundaries, or leasehold premises of the year-round resort.

(4) The fees for licenses granted to the owner, operator or lessee of beverage, lodging or dining facilities located and operated within the ownership, boundaries, or leasehold premises of a year-round resort shall be the same as those prescribed for year-round resorts in section [23-904](#)(10), Idaho Code.

(5) "Year-round resort" means a resort open to the public year-round that shall have all of the following within the ownership, boundaries, or leasehold premises of the resort:

- (a) Cross-country skiing on not less than thirty (30) kilometers of groomed cross-country skiing trails;
- (b) Alpine skiing on real property of not less than eight hundred fifty (850) acres, operating two (2) or more chairlifts with a vertical lift of two thousand eight hundred (2,800) feet or more, and having operating snowmaking equipment providing coverage to at least seventy-five (75) acres of skiing;
- (c) A golf course having:
 - (i) No less than eighteen (18) holes with greens, fairways and tees laid out in the usual and regular manner of a golf course;

(ii) A total distance of seven thousand (7,000) yards as measured by totaling the tee-to-green distance of all holes; and

(iii) The course planted in grass;

(d) Mountain bike activities that include at least twelve (12) miles of single-track trails, chairlift-served access to at least two thousand eight hundred (2,800) feet of vertical descent and a full-service bike rental and repair facility; and

(e) At least seventy (70) private residences and accommodations available to provide overnight lodging and dining facilities serving at least two (2) meals per day for at least five hundred (500) persons located within the ownership, boundaries, or leasehold premises of the resort.

[23-957, added 2006, ch. 449, sec. 2, p. 1334; am. 2008, ch. 178, sec. 2, p. 530; am. 2019, ch. 88, sec. 1, p. 216.]

TITLE 23
ALCOHOLIC BEVERAGES

CHAPTER 10
BEER

23-1001. DEFINITIONS. As used in this chapter:

(a) "Beer" means any beverage obtained by the alcoholic fermentation of an infusion or decoction of barley, malt and/or other ingredients in drinkable water.

(b) "Brewer" means a person licensed to manufacture beer.

(c) "Certificate of approval" means a license issued to a person whose business is located outside of the state of Idaho who sells beer to wholesalers located within the state of Idaho.

(d) "Contractee brewer" means a brewer producing fewer than thirty thousand (30,000) barrels of beer in aggregate annually, including any beer manufactured outside the state of Idaho, that enters into a contractual relationship with another brewer to produce beer on the contractee's behalf.

(e) "Contractor brewer" means a brewer producing fewer than thirty thousand (30,000) barrels of beer in aggregate annually, including any beer manufactured outside the state of Idaho, that enters into a contractual relationship with a contractee brewer to produce beer for the contractee brewer on the contractor brewer's licensed premises.

(f) "Dealer" means a person licensed to import beer into this state for sale to a wholesaler.

(g) "Director" means the director of the Idaho state police.

(h) "Live performance" means a performance occurring in a theater and not otherwise in violation of any provision of Idaho law.

(i) "Person" includes any individual, firm, copartnership, association, corporation or any group or combination acting as a unit, and the plural as well as the singular number unless the intent to give a more limited meaning is disclosed by the context.

(j) "Premises" means the building and contiguous property owned, or leased or used under government permit, by a licensee as part of the business establishment in the business of sale of beer at retail, which property is improved to include decks, docks, boardwalks, lawns, gardens, golf courses, ski resorts, courtyards, patios, poolside areas or similar improved appurtenances in which the sale of beer at retail is authorized under the provisions of law.

(k) "Retailer" means a person licensed to sell beer to consumers at premises described in the license.

(l) "Theater" means a room, place or outside structure for performances or readings of dramatic literature, plays or dramatic representations of an art form not in violation of any provision of Idaho law.

(m) "Wholesaler" means any person licensed to sell beer to retailers, wholesalers, permittees or consumers and to distribute beer from warehouse premises described in the license.

(n) All other words and phrases used in this chapter, the definitions of which are not herein given, shall be given their ordinary and commonly understood and acceptable meanings.

[23-1001, added 1935, ch. 132, sec. 1, p. 312; am. 1974, ch. 27, sec. 41, p. 811; am. 1976, ch. 123, sec. 1, p. 472; am. 1987, ch. 200, sec. 1, p. 421; am. 1989, ch. 291, sec. 1, p. 718; am. 1991, ch. 137, sec. 4, p.

322; am. 1994, ch. 14, sec. 4, p. 23; am. 1995, ch. 311, sec. 1, p. 1071; am. 2000, ch. 469, sec. 66, p. 1517; am. 2003, ch. 111, sec. 3, p. 351; am. 2015, ch. 220, sec. 1, p. 682; am. 2019, ch. 214, sec. 1, p. 651.]

23-1002. ALCOHOLIC CONTENT. Beer containing not more than sixteen percent (16%) of alcohol by volume may be manufactured, imported, and/or sold and distributed in and into this state or possessed therein in the manner and under the conditions prescribed in this act and not otherwise.

[23-1002, added 1935, ch. 132, sec. 2, p. 312; am. 1988, ch. 301, sec. 1, p. 957; am. 2015, ch. 244, sec. 4, p. 1010; am. 2021, ch. 233, sec. 1, p. 710.]

23-1003. BREWERS', DEALERS' AND WHOLESALERS' LICENSES. (a) Before any brewer shall manufacture or any dealer or wholesaler import or sell beer within the state of Idaho, such brewer shall apply to the director for a license. The application form shall be prescribed and furnished by the director and require that the applicant show that such brewer possesses all the qualifications and none of the disqualifications of a licensee. To determine qualification for a license, the director shall cause an investigation that shall include a fingerprint-based criminal history check of the Idaho central criminal history database and the federal bureau of investigation criminal history database. Each person listed as an applicant on an initial application shall submit a full set of fingerprints and the fee to cover the cost of the criminal history background check with the application. The application shall also be accompanied by the required licensee fee; provided, that where the applicant is or will be within more than one (1) of the foregoing classifications, the applicant shall apply for each classification but shall pay only one (1) license fee, which shall be for the classification requiring the highest fee. If the director is satisfied that the applicant possesses the qualifications and none of the disqualifications for the license, the director shall issue a license for each classification applied for, subject to the restrictions and upon the conditions in this act specified, which license or licenses shall be at all times prominently displayed in the place of business of the licensee.

(b) Each wholesaler shall, in addition to the application, file with the director a notice in writing signed by the dealer or brewer and the wholesaler stating the geographic territory within which the wholesaler will distribute beer to retailers. The territory will be agreed upon between the dealer or brewer and the wholesaler and may not be changed or modified without the consent of both the dealer or brewer and the wholesaler. Provided however, nothing in this section shall be interpreted to prohibit a brewer or dealer from permitting more than one (1) distributor for the same geographic territory.

(c) In the event that a wholesaler sells beer to a retailer who is located outside the geographical territory designated by that wholesaler on the notice provided for in subsection (b) of this section, the dealer or wholesaler who has designated the geographical territory in which the sale occurred may apply to a district court of this state for the issuance of an injunction enjoining sales of beer by the wholesaler outside of its designated geographical territory. The procedure for issuance of an injunction pursuant to this act shall be subject to the Idaho rules of civil procedure. Upon proof to the court that a wholesaler has made a sale of beer outside of its designated geographical territory, the court shall issue an

injunction directed to the wholesaler prohibiting sales of beer outside of its designated geographical territory.

(d) Any brewer licensed within the state of Idaho who produces fewer than thirty thousand (30,000) barrels of beer annually, upon payment of a retailer's annual license fee, may be issued a brewer's retail beer license for the retail sale of the products of its brewery at its licensed premises or one (1) remote retail location, or both. Any brewer selling beer at retail or selling to a retailer must pay the taxes required in section [23-1008](#), Idaho Code, but need not be licensed as a wholesaler for the purpose of selling beer at the brewery or at one (1) remote retail location.

(e) Any brewer licensed within the state of Idaho who produces fewer than thirty thousand (30,000) barrels of beer annually may be issued a brewer's pub license. Upon payment of a retailer's annual license fee, and subject to the fees in sections [23-1015](#) and [23-1016](#), Idaho Code, a brewer may, at its licensed brewery or at one (1) remote retail location, or both, sell at retail the products of any brewery by the individual bottle, can or glass. Any brewer selling beer at retail or selling products of its brewery to a retailer must pay the taxes required in section [23-1008](#), Idaho Code, on the products of its brewery, but need not be licensed as a wholesaler for the purpose of selling beer at the brewery or at one (1) remote retail location.

(f) A brewer licensed under the provisions of subsection (d) or (e) of this section may be licensed as a wholesaler for the sale of beer produced by such brewery to retailers other than at the licensed brewery and one (1) remote retail location and shall not be required to pay an additional fee. Such brewer shall, however, comply with and be subject to all other regulations or provisions of law that apply to a wholesaler's license, except as the laws may restrict sales at the licensed brewery or one (1) other remote retail location. The holder of a brew pub license shall not be disqualified from holding a retail wine license or wine by the drink license for the sale of wine at the brew pub premises on the grounds that the licensee is also licensed as a wholesaler.

[23-1003, added 1935, ch. 132, sec. 3, as added by 1943, ch. 167, sec. 2, p. 349; am. 1972, ch. 370, sec. 1, p. 1087; am. 1974, ch. 27, sec. 42, p. 811; am. 1987, ch. 22, sec. 1, p. 29; am. 1989, ch. 290, sec. 1, p. 717; am. 2001, ch. 284, sec. 2, p. 1015; am. 2013, ch. 187, sec. 2, p. 449; am. 2014, ch. 97, sec. 5, p. 269; am. 2015, ch. 220, sec. 2, p. 683.]

23-1004. DEALERS' LICENSE FEE. Every dealer for whom no license fee is elsewhere provided in this act shall, except as provided in section [23-1003](#), pay to the state of Idaho an annual license fee of one hundred dollars (\$100), and a like amount for each separate warehouse used for the purpose of, or in connection with, the importing of beer into this state.

[23-1004, added 1935, ch. 132, sec. 3-a, as added by 1943, ch. 167, sec. 2, p. 349.]

23-1005. QUALIFICATIONS OF LICENSEES. No license shall issue to an applicant for a dealer's or wholesaler's license unless the applicant is authorized to do business within the state of Idaho; nor shall such license be issued to an applicant whose license, or the license of any partner, has been revoked within two (2) years; nor to an applicant who, or if a partnership any partner of whom, has been convicted of any violation of any law of Idaho or of the United States regulating, governing, or prohibiting the sale of al-

coholic beverages or intoxicating liquor. Any such license issued shall be revoked if the licensee ceases to have the qualifications, or acquires the disqualifications, in this section provided.

[23-1005, added 1935, ch. 132, sec. 3-b, as added by 1943, ch. 167, sec. 2, p. 349; am. 1992, ch. 315, sec. 2, p. 939; am. 1994, ch. 14, sec. 8, p. 27.]

23-1005A. TRANSFER OF LICENSE -- FEE -- APPLICATION FOR APPROVAL. (a) No brewer, dealer or wholesaler of beer license issued pursuant to section [23-1003](#), Idaho Code, or any beer retailer license issued pursuant to section [23-1010](#), Idaho Code, may be transferred to another person, including an executor, administrator, or trustee in bankruptcy of the estate of the licensee, unless the transferee shall first have obtained the approval of the director to such transfer upon application containing substantially the same information required of an applicant for a brewer's, dealer's, wholesaler's or retailer's beer license, as the case may be. If the transferee possesses all the qualifications and none of the disqualifications for such license, the director shall approve the transfer by issuing a license to the transferee. The fee for each transfer of a brewer's, dealer's, wholesaler's or retailer's beer license shall be twenty dollars (\$20.00), which fee shall accompany the application for transfer.

(b) Application for a transfer of any beer license from one location to another shall be made to the director on forms prescribed and furnished by the director. The director shall approve such transfer upon submission of the application and receipt by the director of a transfer fee of twenty dollars (\$20.00).

(c) The director, in his discretion, may deny the transfer of a license during the pendency of any proceedings for suspension or revocation instituted pursuant to the provisions of this chapter.

[23-1005A, added 1979, ch. 137, sec. 1, p. 433; am. 1991, ch. 28, sec. 2, p. 56.]

23-1006. RECORDS AND RETURNS OF LICENSEES -- INVESTIGATIONS AND EXAMINATIONS. Every licensed dealer, brewer and wholesaler shall have, and notify the director of, a place of business within the state of Idaho where such licensee will and shall keep a record of his or its imports into, and sales of beer within, the state, including the date, quantity, from whom purchased for import, the carrier or other person or means by whom or which transported for import, and the name and address of the vendee, and shall so keep such record of each such sale or import for a period of four (4) years thereafter. Such licensee shall, on or before the 15th day of each month, make a return to the director of the amount of beer sold in, and imported by him into, the state of Idaho for the preceding month, which shall be upon forms furnished by the director. The director may require such additional information to be included in such returns as shall assist him in determining whether or not such licensee is complying with, or violating, this act and whether or not all taxes and license fees provided for by this act are being fully paid. The director shall have the right at any time to make an examination of each dealer's, brewer's and wholesaler's books, records and premises, make an inventory and otherwise check the accuracy of such returns, and investigate for any violation of this act, and file, and retain in his office for not less than two (2) years, a report thereof. An application for, and acceptance

of a license by, a dealer, brewer, wholesaler or retailer shall constitute consent to, and be authority for, entry by the director, or his authorized agents, upon any premises related to the licensee's business, or wherein are, or should be, kept, any of the licensee's books, records, supplies or other property related to said business, and to make the inventory, check and investigations aforesaid with relation to said licensee or any other licensee.

[23-1006, added 1935, ch. 132, sec. 3-c, as added by 1943, ch. 167, sec. 2, p. 349; am. 1974, ch. 27, sec. 43, p. 811; am. 1984, ch. 104, sec. 1, p. 242; am. 1999, ch. 129, sec. 1, p. 373; am. 2000, ch. 333, sec. 1, p. 1123.]

23-1007. SALES BY DEALERS AND WHOLESALERS -- PROHIBITED UNLESS OBTAINED FROM LICENSEES -- CONSUMPTION ON PREMISES PROHIBITED -- MINIMUM SALE ON LICENSED PREMISES OF UNBROKEN PACKAGES OR KEGS. Except as provided in section [23-1007A](#), Idaho Code, it shall be unlawful for any dealer or wholesaler to sell for use within the state of Idaho any unbroken packages or kegs of beer produced, manufactured, imported or bought by such dealer except to licensed dealers, wholesalers, retailers to whom a license has been issued by the director, or to employees of the wholesaler or dealer; nor shall any dealer or wholesaler allow for a consideration such beer to be consumed upon the premises of such dealer or wholesaler; provided, however, that any dealer or wholesaler shall be allowed to make sales of beer in kegs of not less than five (5) gallons to a consumer at his licensed premises. Licensed brewers may sell at retail only as provided in section [23-1003](#) (d) and (e), Idaho Code.

[23-1007, added 1935, ch. 132, sec. 3-d, as added by 1943, ch. 167, sec. 2, p. 349; am. 1965, ch. 292, sec. 1, p. 778; am. 1982, ch. 307, sec. 1, p. 772; am. 1987, ch. 22, sec. 2, p. 30; am. 1991, ch. 279, sec. 1, p. 721; am. 2013, ch. 95, sec. 1, p. 232.]

23-1007A. BEER SOLD OR DONATED FOR BENEVOLENT, CHARITABLE OR PUBLIC PURPOSES -- PERMIT REQUIRED. (1) Notwithstanding the provisions of section [23-1007](#), Idaho Code, to the contrary, nothing shall prevent any licensed dealer, wholesaler or retailer from selling or donating unbroken packages of beer or kegs of beer to a person which has not been issued any license for the sale of alcoholic beverages in this state, for benevolent, charitable or public purposes if a permit has been issued to the person or nonprofit entity as provided in subsection (2) of this section.

(2) Upon application to the director of the Idaho state police, the director may issue a permit authorizing the sale or dispensing of beer by a person if the director is satisfied that the proceeds, after deducting reasonable expenses incurred, will be donated for a benevolent, charitable or public purpose. The director shall prescribe the form of the application which may require:

- (a) Disclosure of names of sponsors;
- (b) Quantities and types of beer products to be used at the event;
- (c) Names of the dealer or wholesaler from whom the beer is to be received;
- (d) The retailer, if any, designated by such person or nonprofit entity to receive, store or dispense beer on behalf of the permittee;

(e) Dates and hours during which the permit is to be effective, not to exceed three (3) consecutive days;

(f) That the applicant submit a report to the director subsequent to the benevolent, charitable or public purpose event showing the disposition of funds from the event; and

(g) Such other information directly related to the event and the applicant that the director may require.

The director shall collect a twenty dollar (\$20.00) fee for each permit issued.

(3) Should the director determine that an applicant, permittee or its representative is violating or has in the past violated any law pertaining to the dispensing or sale of beer by a licensed retailer relating to hours of sale, relating to restrictions concerning age provided in section [23-1013](#), Idaho Code, or has failed in the past to submit such information as may have been requested by the director, such permit may be summarily suspended by the director prior to hearing, or may be denied or cancelled pending a hearing.

(4) A licensed retailer may, on behalf of the permittee, receive or store beer to be used at the event and may dispense such beer to attendees of the benevolent, charitable or public purpose event for which the permit was issued.

[23-1007A, added 1991, ch. 279, sec. 2, p. 722; am. 2000, ch. 469, sec. 67, p. 1517.]

23-1008. TAX -- DISTRIBUTION -- RULES -- REPORTS. (1) A tax of four dollars and sixty-five cents (\$4.65) per barrel of thirty-one (31) gallons, and a like rate for any other quantity or fraction thereof, is hereby levied and imposed on each and every barrel of beer containing not more than five percent (5%) of alcohol by volume sold for use within the state of Idaho. A tax of thirteen dollars and ninety-five cents (\$13.95) per barrel of thirty-one (31) gallons, and a like rate for any other quantity or fraction thereof, is hereby levied and imposed on each and every barrel of beer containing more than five percent (5%) of alcohol by volume.

Any wholesaler who shall sell beer, upon which the tax herein imposed has not been paid, and any person who shall purchase, receive, transport, store or sell any beer upon which the tax herein imposed has not been paid shall be guilty of a misdemeanor, and any beer so purchased, received, transported, stored or possessed or sold shall be subject to seizure by the commission, any inspector or investigator of the commission, or by any sheriff, constable or other police officer, and the same may be removed and kept for evidence. Upon conviction of any person for violation of the provisions of this section, the said beer, and all barrels, kegs, cases, cartons and cans containing the same, shall be forfeited to the state of Idaho, and, in addition, the person so convicted shall be subject to the other penalties in this chapter prescribed.

Beer and all barrels, kegs, cases, cartons or cans so forfeited to the state of Idaho shall be sold by the commission at public auction to any brewer, wholesaler, or retailer licensed under the provisions of this chapter making the highest bid. Such sale shall be held at such place and time as may be designated by the commission after reasonable notice thereof given in such manner and for such time as the commission may by rule prescribe. From the purchase price received upon such sale, the commission shall first deduct an amount sufficient to pay the tax due on such beer and to pay all costs incurred in connection with such sale. The commission shall deposit

the balance remaining with the state treasurer, who shall place the same in the general fund of the state of Idaho, and it shall become a part thereof.

(2) The revenues received from the taxes, interest, penalties, or deficiency payments imposed by this section shall be distributed as follows:

(a) An amount of money shall be distributed to the state refund account sufficient to pay current refund claims. All refunds authorized by law to be paid by the state tax commission shall be paid through the state refund account and those moneys are continuously appropriated.

(b) For revenue deriving from beer containing not more than five percent (5%) of alcohol by volume, the balance remaining after distributing the amount in paragraph (a) of this subsection shall be distributed as follows:

(i) Twenty percent (20%) shall be distributed to the substance abuse treatment fund, which is created in section [23-408](#), Idaho Code;

(ii) Thirty-three percent (33%) shall be distributed to the permanent building fund; and

(iii) The remainder shall be distributed to the general fund.

(c) For revenue deriving from beer containing more than five percent (5%) of alcohol by volume, the balance remaining after distributing the amount in paragraph (a) of this subsection shall be distributed as follows:

(i) Twelve percent (12%) shall be distributed to the substance abuse treatment fund created in section [23-408](#), Idaho Code;

(ii) In fiscal year 2022 only, one and one-half percent (1.5%) shall be distributed to the Idaho hop grower's commission fund created in section [22-3112](#), Idaho Code, and three and one-half percent (3.5%) shall be distributed to the Idaho grape growers and wine producers account created in section [54-3607](#), Idaho Code. In fiscal year 2023 only, three and one-half percent (3.5%) shall be distributed to the Idaho hop grower's commission fund, and one and one-half percent (1.5%) shall be distributed to the Idaho grape growers and wine producers account. In fiscal year 2024 and each fiscal year thereafter, five percent (5%) shall be distributed to the Idaho hop grower's commission fund; and

(iii) The remainder shall be distributed to the general fund.

(3) The commission is empowered to prescribe rules:

(a) For reports by carriers for hire and also all other carriers owned and/or employed, directly or indirectly, by out-of-state brewers, dealers or other persons, of all deliveries of beer in and into the state of Idaho, stating especially the origin and destination of the beer, the quantity thereof, and also the names and addresses, respectively, of the consignors and consignees.

(b) For reports by out-of-state brewers and manufacturers of beer, of all shipments by them of beer into the state of Idaho, stating especially the matters mentioned in paragraph (a) of this subsection.

[23-1008, added 1935, ch. 132, sec. 4, p. 312; am. 1949, ch. 192, sec. 1, p. 462; am. 1949, ch. 281, sec. 1, p. 575; am. 1961, ch. 43, sec. 3, p. 66; am. 1980, ch. 239, sec. 1, p. 554; am. 1980, ch. 391, sec. 1, p. 994; am. 1986, ch. 73, sec. 3, p. 203; am. 1987, ch. 260, sec. 2, p. 547; am. 2007, ch. 141, sec. 5, p. 410; am. 2013, ch. 10, sec. 1, p. 20; am. 2021, ch. 233, sec. 2, p. 711.]

23-1009. RETAILERS' LOCAL LICENSES. No retailer shall sell beer within this state, until he or it shall be licensed therefor by a municipality, if the business is to be conducted therein, and by the county wherein said business is to be conducted, and by the director. Applications for retailer's licenses shall be made under oath first to the director of the Idaho state police, and if the license be issued, to the county and then to the municipality, upon forms to be supplied by each, which forms shall require that the applicant show that the applicant possesses all of the qualifications and none of the disqualifications of a retailer licensee under this act, and, as to the municipal license, under any ordinance thereof. Each application shall be accompanied with the required license fee. If the applications conform hereto the director, county and municipality respectively, shall each issue a retailer's license to the applicant, subject to the restrictions and upon the conditions in this act specified, and, as to the municipal license, in the ordinance aforesaid. Said licenses shall at all times be prominently displayed in the place of business of the licensee, and shall be issued only for the particular premises described therein, but the municipality, county and director may permit a transfer to other particularly described premises. No license transferred by process of law or otherwise shall authorize the transferee, including any executor, administrator or trustee in bankruptcy of the estate of the licensee, to retail beer thereunder until the transferee shall have filed under oath applications therefor containing substantially the same information required of an applicant for a license, and if the transferee possesses the qualifications and none of the disqualifications for a license as herein provided, the director, county and municipality shall approve such transfer and issue a license so to show. The transferee shall accompany the state application for transfer with, and shall pay, the fee as set out in section [23-1005A](#), Idaho Code. Such transferee shall accompany each such county and municipality application for transfer with, and shall pay, the sum of five dollars (\$5.00).

[23-1009, added 1935, ch. 132, sec. 5, as added by 1943, ch. 167, p. 349; am. 1974, ch. 27, sec. 44, p. 811; am. 1991, ch. 137, sec. 5, p. 323; am. 2000, ch. 469, sec. 68, p. 1518.]

23-1010. LICENSE TO SELL BEER AT RETAIL -- APPLICATION PROCEDURE AND FORM -- SHOWING OF ELIGIBILITY FOR LICENSE AND DISQUALIFICATIONS. (1) Every person who shall apply for a state license to sell beer at retail shall tender the license fee to, and file written application for license with, the director. The application shall be on a form prescribed by the director that shall require such information concerning the applicant, the premises for which license is sought and the business to be conducted thereon by the applicant as the director may deem necessary or advisable, and which shall enable the director to determine that the applicant is eligible and has none of the disqualifications for license, as provided for in this section. If the applicant is applying for a license solely for a theater that is presenting live performances as those terms are defined in section [23-1001](#), Idaho Code, or a movie theater, as defined in section [23-944](#), Idaho Code, built prior to January 1, 1950, and listed on the national register of historic places, the application shall so state. Such information shall include the following:

- (a) The name and place of residence of the applicant and length of his residence within the state of Idaho and, if the applicant is a partnership, the names, places of residence and lengths of residence within the state of Idaho of each partner and, if the applicant is a corporation or

association, the date and place of incorporation or organization, the location of its principal place of business in Idaho and the names and places of residence of its officers, directors or members of its governing board and of the person who manages or will manage the business of selling beer at retail;

(b) The particular place for which the license is desired, designating the same by a street and number, if practicable, or by such other apt description as definitely locates such place, and the name of the owner of the premises for which license is sought;

(2) The application shall affirmatively show:

(a) That the applicant is the bona fide owner of the business that will be engaged in the sale of beer at retail and with respect to which license is sought;

(b) That the condition of the place or building wherein it is proposed to sell beer at retail conforms to all laws and rules of the state of Idaho and to the ordinances of the county and municipality applicable thereto relating to public health and safety and to the zoning ordinances of the municipality applicable thereto;

(c) That there is no stamp or permit outstanding and in force that has been issued to any person by the United States government for the premises for which license to sell beer at retail is sought, which stamp or permit denotes payment of any special tax imposed by the United States government on a retail dealer in liquor or wines, unless said premises are premises for which a retail license for sale of liquor by the drink, issued under the provisions of [chapter 9, title 23](#), Idaho Code, is in force and effect;

(d) That the individual applicant, or each partner of a partnership applicant, or a corporation applicant or an association applicant is qualified to do business within the state of Idaho;

(e) That the applicant, if an individual, is not less than nineteen (19) years of age;

(f) That, within three (3) years immediately preceding the date of filing the application, the applicant has not been convicted of the violation of any law of the state of Idaho, any other state, or of the United States regulating, governing or prohibiting the sale, manufacture, transportation or possession of alcoholic beverages or intoxicating liquors, or, within said time, suffered the forfeiture of a bond for failure to appear in answer to charges of any such violation;

(g) That, within five (5) years immediately preceding the date of filing the application, the applicant has not been convicted of any felony or paid any fine or completed any sentence of confinement therefor within said time;

(h) That, within three (3) years next preceding the date of filing said application, the applicant has not had any license provided for herein, or any license or permit issued to the applicant pursuant to the law of this state, or any other state, or of the United States to sell, manufacture, transport or possess alcoholic beverages or intoxicating liquors, revoked.

(3) To determine qualification for a license, the director shall also cause an investigation that shall include a fingerprint-based criminal history check of the Idaho central criminal history database and the federal bureau of investigation criminal history database. Each person listed as an applicant on an initial application shall submit a full set of fingerprints

and the fee to cover the cost of the criminal history background check for such person with the application.

(4) The affirmative showing required with respect to an applicant under paragraphs (e), (f), (g) and (h) of subsection (2) of this section shall also be required to be made with respect to each partner of a partnership applicant and to each incumbent officer, director or member of the governing board of a corporation or association applicant.

(5) The application must be subscribed and sworn to by the individual applicant, or by a partner of a partnership applicant, or by an officer or manager of a corporation or association applicant, before a notary public or other person authorized by law to administer oaths.

(6) If an applicant shall be unable to make any affirmative showing required in this section or if an application shall contain a false material statement, knowingly made, the same shall constitute a disqualification for license and license shall be refused. If license is received on any application containing a false material statement, knowingly made, such license shall be revoked. If at any time during the period for which license is issued, a licensee becomes unable to make the affirmative showings required by this section, license shall be revoked, or, if disqualification can be removed, the license shall be suspended until the same shall be removed. The procedure to be followed upon refusal, revocation or suspension of license as herein provided for shall be in accordance with the procedure set forth in this act.

(7) All licenses shall expire at 1:00 a.m. on the first day of the renewal month, which shall be determined by the director by administrative rule and shall be subject to annual renewal upon proper application. The director will determine the renewal month by county based on the number of current licenses within each county, distributing renewals throughout the licensing year. The director may adjust the renewal month to accommodate population increases. Each licensee will be issued a temporary license to operate until the renewal month has been determined. Thereafter, renewals will occur annually on their renewal month. Renewal applications for licenses accompanied by the required fee must be filed with the director on or before the first day of the designated renewal month. Any licensee holding a valid license who fails to file an application for renewal of the current license on or before the first day of the designated renewal month shall have a grace period of an additional thirty-one (31) days in which to file an application for renewal of the license. The licensee shall not be permitted to sell beer at retail during the thirty-one (31) day extended time period unless and until the license is renewed.

[I.C., sec. 23-1010, as added by 1961, ch. 299, sec. 2, p. 543; am. 1972, ch. 332, sec. 4, p. 834; am. 1974, ch. 27, sec. 45, p. 811; am. 1976, ch. 156, sec. 1, p. 555; am. 1978, ch. 304, sec. 1, p. 762; am. 1981, ch. 52, sec. 1, p. 78; am. 1983, ch. 159, sec. 1, p. 458; am. 1992, ch. 315, sec. 3, p. 939; am. 1994, ch. 14, sec. 6, p. 25; am. 2001, ch. 30, sec. 2, p. 45; am. 2001, ch. 284, sec. 3, p. 1017; am. 2003, ch. 111, sec. 4, p. 352; am. 2019, ch. 87, sec. 2, p. 213.]

23-1011. ISSUANCE OF LICENSES. Notwithstanding any other provision of [chapter 10, title 23](#), Idaho Code, all applications for retail sale of beer licenses, renewals, or transfers thereof, shall be first presented to the director of the Idaho state police for approval and issuance of the state license required by state law. If the license, renewal or transfer thereof is

approved by the director, then such license, renewal or transfer thereof may be issued by the city or county, or both, as the case may be. Approval of such license, renewal or transfer thereof may be by endorsement upon the state license or by the issuance of an additional license, at the option of the city or county.

[23-1011, added 1976, ch. 165, sec. 1, p. 595; am. 1983, ch. 50, sec. 1, p. 121; am. 1991, ch. 137, sec. 6, p. 324; am. 2000, ch. 469, sec. 69, p. 1519.]

23-1011A. OFFICERS MAY EXAMINE PREMISES. The director or his duly authorized representative, the sheriff of any county, or any other police officer, shall have the right at any time to make an examination of the premises of any licensee as to whether the laws of the state of Idaho, the rules and regulations of the director, and the ordinances of any city or county are being complied with.

[(23-1011A) I.C., sec. 23-1011 [23-1011a], as added by 1976, ch. 236, sec. 1, p. 829; am. and redesignated as sec. 23-1011A, 1983, ch. 50, sec. 2, p. 121.]

23-1011B. BARS OR TAVERNS NOT ALLOWED NEAR CHURCHES OR SCHOOLS -- EXCEPTIONS. No license shall be issued for any place where beer is sold or dispensed to be consumed on the premises, whether conducted for pleasure or profit, that is within three hundred (300) feet of any public school, church, or any other place of worship measured in a straight line to the nearest entrance to the licensed premises, except with the approval of the governing body of the municipality; provided that this limitation shall not apply to any duly licensed premises that at the time of licensing did not come within the restricted area but subsequent to licensing came therein.

[23-1011B, added 1978, ch. 349, sec. 1, p. 913.]

23-1012. HOURS OF SALE. (1) It shall be unlawful and a misdemeanor for any person in any place licensed to sell beer or where beer is sold or dispensed to be consumed on the premises, whether conducted for pleasure or profit, to sell, dispense or give away beer between the hours of one (1) o'clock A.M. and six (6) o'clock A.M.

(2) Any patron present on the licensed premises after the sale of beer has stopped as provided in subsections (1) and (4) herein shall have a reasonable time, not to exceed thirty (30) minutes, to consume any beverage already served.

(3) Any person who consumes or intentionally permits the consumption of any alcoholic beverage upon the licensed premises after the time provided for in subsection (2) shall be guilty of a misdemeanor.

(4) A county or city may, however, extend, until two (2) o'clock A.M., the hours of the sale of beer.

[23-1012, added 1943, ch. 167, sec. 5, p. 349; am. 1978, ch. 39, sec. 1, p. 68; am. 1987, ch. 110, sec. 2, p. 223; am. 1987, ch. 351, sec. 1, p. 780; am. 2003, ch. 284, sec. 2, p. 770.]

23-1013. RESTRICTIONS CONCERNING AGE. Any person who is nineteen (19) years of age or older may sell, serve, possess or dispense beer in the course

of his employment, otherwise it shall be unlawful for any person to sell, serve or dispense beer to or by any person under twenty-one (21) years of age, proof of which, shall be a validly issued state, district, territorial, possession, provincial, national or other equivalent government driver's license, identification card or military identification card bearing a photograph and date of birth, or a valid passport.

[I.C., sec. 23-1013, as added by 1961, ch. 299, sec. 4, p. 543; am. 1967, ch. 19, sec. 1, p. 37; am. 1972, ch. 332, sec. 5, p. 834; am. 1975, ch. 179, sec. 2, p. 485; am. 1987, ch. 212, sec. 10, p. 452; am. 1991, ch. 269, sec. 2, p. 661.]

23-1014. LICENSE FEES. Every person licensed under the provisions of this chapter shall pay to the state of Idaho an annual license fee according to the following schedule:

(1) Brewer annually producing	Fee
(a) Under 10,000 gallons	\$ 50.00
(b) 10,000 to 100,000 gallons	\$100.00
(c) 100,000 to 930,000 gallons	\$200.00
(d) 930,000 gallons or more	\$500.00

A like amount shall be paid for each separate brewery operated by the licensee.

(2) Wholesaler	
(a) For each separate warehouse used for the purpose of wholesaling or dispensing beer	\$300.00
(3) Dealer	\$100.00
(4) Retailer	
(a) For each store from which beer is retailed	\$ 50.00
(b) For each store from which a licensed retailer sells keg beer for consumption off premises	\$ 20.00

Nothing in this chapter shall be so construed to prohibit municipalities or counties from licensing and regulating places of business where beer is sold to the consumer.

[23-1014, added 1987, ch. 91, sec. 2, p. 173; am. 1994, ch. 13, sec. 1, p. 20.]

23-1015. COUNTY RETAILERS' LICENSE, WHEN REQUIRED, PROCEDURE. (1) It shall be unlawful for any retailer to sell beer without first procuring a retailer's license from the county, said license to be issued on such conditions and terms as may be required by the board of county commissioners in the county wherein such place of sale of beer is located; provided, that no county shall exact a license fee from any dealer except as follows:

- (a) Where such retailer sells only bottled or canned beer: none of which is consumed on the premises where sold, the license fee shall be equal to twenty-five per cent (25%) of the license fee exacted under subsection (1) (b) of this section relating to draught beer and bottled or canned beer, or draught beer only; and where such bottled or canned beer is consumed on the premises where sold the license fee shall be seventy-five per cent (75%) of the fee exacted under said subsection (b) hereof.
- (b) Where such retailer sells draught beer and bottled or canned beer, or draught beer only, not in excess of one hundred dollars (\$100), a year.

(2) The board of county commissioners shall establish a procedure for processing applications for licenses, transfers or renewals thereof in a timely manner. Each application for a license, transfer or renewal thereof, required by the provisions of this section, shall be submitted to the board of county commissioners for a decision. The board of county commissioners shall have a reasonable time to examine the application before a decision is made on granting or denying the license, or the transfer or renewal thereof. Each board of county commissioners shall establish, by ordinance, a time period within which a decision must be made following submission of an application. Whenever a board of county commissioners denies an application, the board shall specify in writing:

- (a) The statutes, ordinances and standards used in evaluating the application;
- (b) The reasons for denial; and
- (c) The actions, if any, that the applicant could take to obtain the license, transfer or renewal thereof.

(3) An applicant denied a license, transfer or renewal thereof or aggrieved by a decision of the board of county commissioners pursuant to this section may, within twenty-eight (28) days, after all remedies have been exhausted under county ordinances or procedures, seek judicial review under the procedures provided in [chapter 52, title 67](#), Idaho Code, and for such purposes a county shall be construed to mean an agency.

(4) In all cases where the board of county commissioners is considering applications for licenses, transfers or renewals thereof, a transcribable verbatim record of the proceedings shall be made. If the application for a license, transfer or renewal is denied, a transcribable, verbatim record of the proceedings shall be kept for a period of not less than six (6) months after a final decision on the matter. Upon written request and within the time period provided for retention of the record, any person may have the record transcribed at his expense. The board of county commissioners shall also provide for the keeping of minutes of the proceedings. Minutes shall be retained indefinitely or as otherwise provided by law.

[23-1015, added 1935, ch. 132, sec. 7-A, as added by 1947, ch. 192, sec. 7, p. 462; am. 1983, ch. 50, sec. 3, p. 121; am. 1993, ch. 216, sec. 6, p. 592.]

23-1016. MUNICIPAL LICENSE ALSO REQUIRED -- PROCEDURE. (1) It shall be competent and lawful for an incorporated municipality within the county wherein said county license to sell beer is granted by the county, by proper ordinance and regulation, to prohibit the sale of beer within the incorporated limits of such incorporated municipality until a retailer's license is first obtained from such incorporated municipality. Provided, however, that no incorporated municipality shall issue a license to any retailer until such retailer shall have first obtained a county license from the board of county commissioners, and that a revocation of the license granted by the board of county commissioners shall work a revocation of license granted by such incorporated municipality. Provided, further, that no municipality, whether operating under a special charter or otherwise, shall exact a license fee from any retailer except as follows:

- (a) Where such retailer sells only bottled or canned beer: none of which is consumed on the premises where sold, the license fee shall be equal to twenty-five per cent (25%) of the license fee exacted under subsection (1) (b) of this section.

(b) Where such retailer sells for consumption on the premises, draught beer and bottled or canned beer or draught beer only, not in excess of two hundred dollars (\$200) a year.

(2) The city council shall establish by ordinance a procedure for processing applications for licenses, transfers or renewals thereof in a timely manner. Each application for a license, transfer or renewal thereof, required by the provisions of this section, shall be submitted to the city council for a decision. The city council shall have a reasonable time to examine the application before a decision is made on granting or denying the license, or the transfer or renewal thereof. Each city council shall establish, by ordinance, a time period within which a decision must be made following submission of an application. Whenever a city council denies an application, the council shall specify in writing:

(a) The statutes, ordinances and standards used in evaluating the application;

(b) The reasons for denial; and

(c) The actions, if any, that the applicant could take to obtain the license, transfer or renewal thereof.

(3) Nothing in this section shall be construed as prohibiting the delegation of the processing of an application and the granting or denying thereof, as provided in subsection (2) of this section, to a municipality's city clerk. If the licensing power is delegated, an applicant denied a license, transfer, or renewal thereof may appeal the city clerk's decision to the city council, within the time and in the manner as the city council may provide by ordinance.

(4) An applicant denied a license, transfer or renewal thereof or aggrieved by a decision of the city council pursuant to this section may, within twenty-eight (28) days, after all remedies have been exhausted under city ordinances and procedures, seek judicial review under the procedures provided in [chapter 52, title 67](#), Idaho Code, and for such purposes a city shall be construed to mean an agency.

(5) In all cases where the city council is considering an application for or hearing an appeal from a denial of a license, transfer or renewal thereof, a transcribable verbatim record of the proceedings shall be made. If the application for or appeal from a denial of a license, transfer or renewal is denied, a transcribable, verbatim record of the proceedings shall be kept for a period of not less than six (6) months after a final decision on the matter. For the purpose of this section, the date of final decision shall be the date upon which the written decision of the city council is transmitted. Upon written request and within the time period provided for retention of the record, any person may have the record transcribed at his expense. The city council shall also provide for the keeping of minutes of the proceedings. Minutes shall be retained indefinitely or as otherwise provided by law.

[23-1016, added 1935, ch. 132, sec. 7-B, as added by 1947, ch. 192, sec. 7, p. 462; am. 1981, ch. 237, sec. 1, p. 477; am. 1983, ch. 50, sec. 4, p. 122; am. 1987, ch. 12, sec. 1, p. 16; am. 1993, ch. 216, sec. 7, p. 593.]

23-1017. INTENTION OF PRECEDING SECTION. It is hereby declared to be the intention of section [23-1016](#) that both counties and incorporated municipalities may levy and collect a license [fee] for the retail sale of beer as herein provided, and the granting of power to license retailer of beer in an

incorporated municipality shall not be held as in any way conflicting with the provisions of this act relating to the granting of retailer's license by the county.

[23-1017, added 1935, ch. 132, sec. 7-C, as added by 1947, ch. 192, sec. 7, p. 462.]

23-1018. SALE OF KEG BEER -- PENALTIES. (1) Retail and wholesale licensees selling keg beer for consumption off licensed premises shall place an identification tag onto all kegs of beer at the time of sale and require the signing of a receipt therefor by the purchaser in order to allow kegs to be traced if the contents are used in violation of this act. The keg identification shall be in the form of a numbered label prescribed and supplied by the director of the Idaho state police, which identifies the seller and which is removable or obliterated when the keg is processed for refilling. The receipt shall be on a form prescribed and supplied by the director of the Idaho state police and shall include the name and address of the purchaser and such other information as may be required by the director of the Idaho state police.

(2) Any licensee selling keg beer for off-premises consumption who fails to require the signing of a receipt at the time of sale and fails to place a numbered identification label onto the keg shall be subject to having his license suspended as set forth in section [23-1038](#), Idaho Code.

(3) Possession of a keg containing beer which is not identified as required by subsection (1) of this section is a misdemeanor.

(4) Any purchaser of keg beer who knowingly provides false information on the receipt required by subsection (1) of this section shall be guilty of a misdemeanor.

(5) As used in this section, "keg" means any brewery-sealed, individual container of beer having a liquid capacity of five (5) gallons or more.

[23-1018, added 1981, ch. 76, sec. 1, p. 109; am. 1989, ch. 314, sec. 1, p. 810; am. 1990, ch. 428, sec. 1, p. 1184; am. 2000, ch. 469, sec. 70, p. 1519; am. 2013, ch. 95, sec. 2, p. 232.]

23-1019. BEER SAMPLE TASTING REQUIREMENTS AND LIMITATIONS FOR EVENTS ON RETAIL BEER LICENSED PREMISES. (1) Breweries, wholesalers and distributors may conduct or assist a retail beer licensee at a beer sample tasting on premises not licensed for the sale of beer by the individual glass or opened bottle for consumption on the premises or on the premises of the holder of a beer by the drink license for the purpose of promoting their beer products to the public. The holder of a retail beer license or a beer by the drink license may also conduct beer sample tasting events, with or without the assistance of a brewery, wholesaler or distributor in accordance with this section.

(2) A retail beer licensee shall not be required to hold a beer by the drink license for the purpose of conducting or permitting beer sample tasting events on the premises in accordance with this section unless a charge or other consideration is required of the customer by the retailer in exchange for such beer sample.

(3) Sample tasting events permitted pursuant to this section shall be conducted subject to all of the following requirements:

(a) Sample sizes. The size of each sample of beer shall not exceed one and one-half (1.5) ounces.

(b) Identified tasting area. The retail beer licensee who conducts tastings or who allows a brewer, wholesaler, distributor or retailer to conduct tastings on the retail beer premises shall identify a specific tasting area or areas. Such area or areas shall be of a size and design such that the retail beer licensee and the persons conducting the tasting can observe and control persons in the area to ensure that no minors or visibly intoxicated persons possess or consume alcohol. Customers must remain in the tasting area or areas until they have finished consuming the sample. The retailer shall keep on file at the premises a floor plan identifying the tasting area or areas. If a retailer does not have an identified tasting area or areas, the director may require prior approval of an area or areas before the retailer conducts any more tastings or allows any more tastings to be conducted by the brewer, distributor or retailer on the premises.

(c) Number of in-store tastings. Although there is no limit on the number of tastings a retailer may conduct without the assistance of a brewer, wholesaler or distributor, the retailer shall not permit a brewer or distributor to conduct, or assist in conducting, tastings on the premises of the same licensee more than eight (8) times per calendar year.

(d) Brewer, wholesaler or distributor conducted tastings. A brewer, wholesaler or distributor may hold tastings on consecutive days on one (1) retail premises, provided the tastings shall not exceed two (2) consecutive days. Tastings shall be conducted at least four (4) weeks apart. If a brewer, wholesaler or distributor holds tastings on two (2) consecutive days, they shall not hold another tasting on those retail premises for at least four (4) weeks.

(e) Server requirements. Persons serving or pouring beer at beer tastings on premises for which a beer by the drink license has not been issued must be at least twenty-one (21) years of age.

(4) Brewer, wholesaler or distributor conducted sample tastings. A brewer, wholesaler or distributor may conduct beer sample tastings on premises licensed for the sale of beer for products produced or sold by the brewer, wholesaler or distributor. The brewer or distributor conducting the beer sample tasting shall, in addition to compliance with other requirements of this section, comply with all of the following requirements:

(a) Provide the product to be tasted and remove any remaining product at the end of the tasting.

(b) Provide or pay for a person to serve the beer. The server must be an employee or agent of the brewer or distributor and shall not be an employee or agent of a retailer. The brewer or distributor shall not compensate any employee or agent of the retail licensee to participate in the tasting.

(c) The brewer or distributor shall keep a record of each tasting it conducts, including the date and location of each event and the products served.

(5) Retailer conducted beer sample tastings. Retail beer licensees and beer by the drink licensees may conduct beer sample tastings on their licensed premises and may:

(a) Accept assistance from a brewer, wholesaler or distributor if:

(i) The only assistance provided is an employee to provide information or education relating to the product being sampled;

(ii) The retailer pays for the beer; and

(iii) The retailer is responsible for any advertising.

(b) Conduct an unlimited number of beer sample tastings on the premises if there is no brewer or distributor providing assistance for the event. The retailer may advertise such events.

(6) Notwithstanding any other provision of law, participation by a brewer, wholesaler or distributor in a beer sample tasting event, if expressly authorized by this section, shall not constitute prohibited conduct or unlawful aid to a retailer.

[23-1019, added 2014, ch. 174, sec. 1, p. 478.]

23-1020. PENALTY. Any person who violates any of the provisions of this act shall be guilty of a misdemeanor.

[23-1020, added 1935, ch. 132, sec. 10, p. 312.]

23-1022. SEPARABILITY. If any portion of this act shall be declared unconstitutional it shall not invalidate the other provisions thereof.

[23-1022, added 1935, ch. 132, sec. 13, p. 312.]

23-1023. BEER -- AUTHORIZATION TO DELIVER. The prohibition upon possession of beer by any person under twenty-one (21) years of age does not apply to possession by a person under the age of twenty-one (21) years making a delivery of beer in pursuance of the order of his parent or in pursuance of his employment, or when such person under the age of twenty-one (21) years is in a private residence accompanied by his parent or guardian and with such parent's or guardian's consent.

[23-1023, as added by 1953, ch. 72, sec. 1, p. 94; am. 1967, ch. 351, sec. 1, p. 995; am. 1972, ch. 332, sec. 6, p. 834; am. 1987, ch. 212, sec. 11, p. 452; am. 1997, ch. 68, sec. 1, p. 144; am. 1999, ch. 59, sec. 10, p. 154.]

23-1024. FALSE REPRESENTATION AS BEING TWENTY-ONE OR MORE YEARS OF AGE A MISDEMEANOR. Any person under the age of twenty-one (21) years who shall by any means represent to any person licensed to sell beer at retail or wholesale, or to any agent or employee of such retail or wholesale licensee, that he or she is twenty-one (21) or more years of age for the purpose of entering licensed premises or inducing such retail or wholesale licensee, his agent or employee, to sell, serve or dispense beer to him or her shall be guilty of a misdemeanor.

Any person who shall by any means represent to any such retail or wholesale licensee, his agent or employee, that any other person is twenty-one (21) or more years of age, when in fact such other person is under the age of twenty-one (21) years, for the purpose of entering licensed premises or inducing such retail or wholesale licensee, his agent or employee, to sell, serve or dispense beer to such other person, shall be guilty of a misdemeanor.

[I.C., sec. 23-1024, as added by 1953, ch. 72, sec. 1, p. 94; am. 1972, ch. 332, sec. 7, p. 834; am. 1987, ch. 212, sec. 12, p. 452; am. 1991, ch. 269, sec. 3, p. 661.]

23-1025. LICENSE AND TRANSFER FEES -- ALCOHOL BEVERAGE CONTROL FUND. All moneys from license and transfer fees that are collected by the director pursuant to the provisions of this chapter shall be paid over to the state treasurer for deposit in the alcohol beverage control fund created in section [23-940](#), Idaho Code. All other moneys collected by the director pursuant to the provisions of this chapter shall be paid over to the state treasurer for deposit in the general fund.

[23-1025, added 2012, ch. 160, sec. 2, p. 436.]

23-1027. CERTIFICATE OF APPROVAL REQUIRED OF MANUFACTURER. It shall be unlawful for any person licensed under the provisions of this act, to purchase, import, transport or cause to be transported into or within the state of Idaho any beer for resale therein, unless prior thereto a certificate of approval shall have been issued by the director to the manufacturer of such beer. The certificate of approval herein required shall be issued to a manufacturer of beer upon application therefor provided the manufacturer shall have first agreed in writing with the director as follows:

(a) to furnish to the director, on or before the 15th day of each month, a written report under oath on a form to be prescribed by the director showing the quantity of beer sold, delivered or shipped to each wholesaler or dealer of beer licensed in this state for resale in this state; and

(b) that such manufacturer and every person employed by it or acting as its agents (other than wholesalers and dealers licensed in this state) will faithfully comply with and observe all the provisions of the laws of the state of Idaho relating to beer and all rules and regulations adopted by the director pursuant to such laws.

If, after obtaining such certificate, any such manufacturer shall fail to submit such report, or, if it, or any such person employed by it or acting as its agent, shall violate the terms of such agreement, the director may determine to revoke or suspend such certificate by reason thereof. The procedure for giving notice of such determination and for proceedings to contest determination as provided for in sections [23-1037](#) through [23-1045](#), Idaho Code, shall govern insofar as they may be applicable. The district court of Ada County shall have jurisdiction of any such proceedings to contest the director's determination.

[I.C., sec. 23-1027, as added by 1961, ch. 299, sec. 5, p. 543; am. 1974, ch. 27, sec. 48, p. 811.]

23-1028. WAREHOUSE AND RECORDS OF WHOLESALERS AND DEALERS. Each licensed wholesaler and dealer shall sell and distribute beer in this state only from stocks of beer which have been unloaded, stored and maintained in a warehouse or warehouses owned or used by such wholesaler or dealer within the state of Idaho in the conduct of his business as such. All records which a wholesaler or dealer is by law or rule required to maintain, shall be kept at his warehouse within the state of Idaho, or, if such wholesaler or dealer shall have more than one (1) warehouse, then in the warehouse of such wholesaler or dealer which he shall designate as his principal warehouse within the state. Nothing in this section shall be deemed to affect the existing rights of any person who, on and prior to January 1, 1996, was licensed as a wholesaler by the state of Idaho.

[I.C., sec. 23-1028, as added by 1961, ch. 299, sec. 5, p. 543; am. 1996, ch. 329, sec. 1, p. 1123.]

23-1029. POSTING OF PRICES. Each licensed wholesaler, brewer and dealer engaged in selling beer for resale within this state, shall file with the director a written schedule of prices to be charged by him for beer sold within this state for resale therein, which schedule of prices shall be uniform for the same class of buyers in the same trade area within this state, and shall set forth;

- (a) all brands and types of products offered for sale;
- (b) the delivered sale price thereof in the several trade areas of the state to the various classes of buyers; and
- (c) any allowance granted for returned containers.

Such schedule of prices so filed may be changed or modified from time to time by filing with the director a new schedule of prices, not less than ten (10) days prior to the last day of the filing calendar month, becoming effective on the first day of the succeeding calendar month.

Such schedule of prices so filed shall not be withdrawn within ten (10) days of its effective date. An amendment of the prior filing shall show the posting changes of the particular brand and product affected. The amendment shall be in the form of a statement to the director detailing the reasons for the amendment. The amendment submitted to the director shall be prima facie evidence of its correctness; and failure of the director to act upon denial of the amendment within ten (10) days shall constitute its adoption. Upon becoming effective the schedule shall remain in effect as follows:

- (i) an increase in prices, for a minimum period of thirty (30) days;
- (ii) a reduction in prices, for a minimum period of six (6) months. All price schedules, so filed, shall be subject to public inspection and shall not be considered confidential. Upon the filing of the original schedule of prices, and after the effective date of any schedule of prices amendatory thereto, all prices therein stated shall be strictly adhered to, and any departure or variation therefrom shall constitute the giving of aid or assistance prohibited by the provisions of section [23-1033](#), Idaho Code.

[I.C., sec. 23-1029, as added by 1961, ch. 299, sec. 5, p. 543; am. 1969, ch. 276, sec. 1, p. 819; am. 1972, ch. 33, sec. 1, p. 51; am. 1974, ch. 27, sec. 49, p. 811; am. 1975, ch. 151, sec. 1, p. 383; am. 1979, ch. 136, sec. 1, p. 432.]

23-1030. SIZE OF CONTAINERS. No dealer or wholesaler shall purchase, receive or resell any beer except in the original container as prepared for the market by the brewer at the place of manufacture.

[I.C., sec. 23-1030, as added by 1961, ch. 299, sec. 5, p. 543; am. 1974, ch. 27, sec. 50, p. 811; am. 1994, ch. 14, sec. 1, p. 21.]

23-1031. EXTENSION OF CREDIT. (1) No sale or delivery of beer shall be made to any licensed retailer, except for cash paid at the time of or prior to delivery thereof, or except as provided by electronic funds transfer in accordance with subsection (3) of this section, and in no event shall any brewer, wholesaler or dealer licensed in the state and engaged in the sale of beer for resale extend any credit on account of such beer to a licensed retailer, nor shall any licensed retailer accept or receive delivery of such

beer except when payment therefor is made in cash at the time of or prior to delivery thereof, or by electronic funds transfer in accordance with subsection (3) of this section.

(2) The acceptance of a first party check from a licensed retailer by a brewer, wholesaler or dealer licensed in the state and engaged in the sale of beer for resale, or the use of a debit card by a licensed retailer, shall not be deemed an extension or acceptance of credit pursuant to this section.

(3) The acceptance and use of an electronic funds transfer shall not be deemed an extension or acceptance of credit pursuant to this section, provided such transfer is initiated and completed promptly and in no event completed later than five (5) business days following delivery of such beer. Any attempt by a licensed retailer to delay payment of an electronic funds transfer pursuant to this section for any period of time beyond the time set forth in this subsection, shall be deemed an acceptance of credit by the licensed retailer.

(4) Any extension or acceptance of credit in violation hereof shall constitute the giving and receiving of aid or assistance to or by a licensed retailer prohibited by the provisions of section [23-1033](#), Idaho Code.

[23-1031, added 1961, ch. 299, sec. 5, p. 543; am. 1965, ch. 176, sec. 1, p. 362; am. 1999, ch. 206, sec. 2, p. 553; am. 2011, ch. 255, sec. 1, p. 699; am. 2013, ch. 288, sec. 1, p. 760.]

23-1032. FINANCIAL INTEREST IN DEALER OR WHOLESALER PROHIBITED. (1) It shall be unlawful for any brewer, directly or indirectly, or through an affiliate, subsidiary, officer, director, agent or employee to have any financial interest in any licensed wholesaler's or dealer's business, or to own or control any real property upon which a licensed dealer or wholesaler conducts business, except:

(a) For a brewer licensed within the state of Idaho who produces fewer than thirty thousand (30,000) barrels of beer annually and is duly licensed as a wholesaler as provided in section [23-1003](#)(f), Idaho Code;

(b) If a licensed dealer or wholesaler has been granted distribution rights by a brewer for a brand in a designated territory and is unable to service the designated sales territory for reasons that are not the result of an action by the brewer, or in the event of a termination, cancellation, discontinuance or failure to renew a distribution agreement between a brewer and a licensed dealer or wholesaler for reasons set forth in section [23-1105](#), Idaho Code, such as insolvency, loss of licensure or fraud and in accordance with the provisions of [chapter 11, title 23](#), Idaho Code, a brewer shall be allowed to appoint a temporary licensed dealer or wholesaler to service the brewer's brands in the designated sales territory and, for a period not to exceed five (5) years, to have any financial interest in the temporary licensed dealer or wholesaler; or

(c) If a licensed dealer or wholesaler is voluntarily selling its distribution rights, a brewer whose brand distribution rights are being transferred may have any financial interest in the purchasing distributor for a period not to exceed five (5) years to assist in financing the purchase.

(2) It shall be unlawful for any licensed wholesaler or dealer, directly or indirectly, or through an affiliate, subsidiary, officer, director, agent or employee to have any financial interest in a licensed brewer's business, or to own or control any real property upon which a

licensed brewer conducts business. This section shall not apply to a non-controlling de minimis interest in stock held in a publicly traded company including mutual funds.

[23-1032, added 2014, ch. 244, sec. 1, p. 613.]

23-1033. FINANCIAL INTEREST IN OR AID TO RETAILERS PROHIBITED -- CERTAIN AID PERMITTED. (1) Except as provided in sections [23-1003](#)(d), and [23-1003](#)(e), Idaho Code, it shall be unlawful for any brewer, dealer, wholesaler, or the holder of any certificate of approval, directly or indirectly, or through an affiliate, subsidiary, officer, director, agent or employee:

(a) To have any financial interest in any licensed retailer's business, or to own or control any real property upon which a licensed retailer conducts his business, except such property as shall have been so owned or controlled continuously for more than one (1) year prior to July 1, 1975; provided however, that a brewer licensed pursuant to section [23-1003](#)(d) or (e), Idaho Code, may be permitted to have a financial interest in one (1) additional brewery licensed pursuant to section [23-1003](#)(d) or (e), Idaho Code; or

(b) To aid or assist any licensed retailer by giving such retailer, or any employee thereof, any discounts, premiums or rebates in connection with any sale of beer; or

(c) To aid or assist any licensed retailer by furnishing, giving, renting, lending or selling any equipment, signs, supplies, services, or other thing of value to the retailer which may be used in conducting the retailer's retail beer business, except as expressly permitted by this chapter; or

(d) To enter into any lease or other agreement with any retail licensee to control the product or products sold by such retailer; or

(e) To provide for any rental or other charge to be paid to or by the retailer for product display or advertising display space.

(2) A brewer, dealer, or wholesaler as an incident to merchandising in the ordinary course of business, and if available to all licensed retailers without discrimination, may sell to a retailer equipment, supplies, or clothing which may be used in conducting the retailer's retail business. A brewer, dealer or wholesaler may not sell such equipment or supplies at a price, or under terms, intended or designed to encourage or induce the retailer to use products of the seller to the exclusion of the products of other brewers, dealers or wholesalers. In no event shall the sales price be less than the reasonable value of such equipment or supplies.

(3) Notwithstanding the provisions of subsection (2) of this section, a brewer, dealer, or wholesaler, as an incident to merchandising in the ordinary course of business, and if available to all retailers within the brewer, dealer or wholesaler's service area, without discrimination, may lend, give, furnish or sell to a retailer, the following items:

(a) Necessary accessory equipment, such as shaft blowers, tapping devices, valves, beer hoses, washers, couplings, clamps, air hoses, vents, faucets, CO₂ gas regulators, picnic or party pumps, together with necessary nonmechanical or nonenergized equipment to enable cooling of beer, and CO₂ gas or ice when the same is furnished at the current retail price and as a bona fide sale in the regular course of business;

(b) Signs, posters, placards, designs, devices, decorations or graphic displays bearing advertising matter and for use in windows or elsewhere in the interior of a retail establishment. The brewer, dealer or whole-

saler shall not directly or indirectly pay or credit the retailer for displaying such materials or for any expense incidental to their operation;

(c) Newspaper cuts, mats or engraved blocks for use in retailer's advertisements;

(d) Items such as sports schedules, posters, calendars, informational pamphlets, decals and other similar materials for display at the point of sale which bear brand advertising for beer prominently displayed thereon, and which items are intended for use by the retailer's customers off the licensed premises and which items are made available to the retailer's customers for such purpose;

(e) Temporary signs or banners displaying a brewer's, dealer's or wholesaler's name, trademark or label, which signs may be permitted to be temporarily displayed on the exterior portion of the retailer premises in connection with a special event, in accordance with such rules relating thereto as may be established by the director.

(4) A distributor may perform services incident to or in connection with the following:

(a) The stocking, rotation and restocking of beer sold and delivered to such licensed retailer on or in such licensed retailer's storeroom, salesroom shelves or refrigerating units, including the marking or remarking of containers of such beer to indicate the selling price as established by the retailer and to the arranging, rearranging, or relocating of advertising displays referred to in this section. For the purposes of this paragraph, a wholesaler may, with the permission of the retailer, and in accordance with space allocations directed by the retailer, set, remove, replace, reset or relocate all beer upon the shelves of the retailer. Labor performed or schematics prepared by the wholesaler relating to conduct authorized pursuant to this paragraph shall not constitute prohibited conduct or unlawful aid to a retailer;

(b) (i) The inspection of a licensed retailer's draught equipment to insure sanitation and quality control;

(ii) The instruction of licensed retailers in the proper use, maintenance and care of draught equipment, glasses and products used in the sale and dispensing of beer and the preparation and distribution of written information or instructions to licensed retailers with respect thereto;

(iii) The tapping of kegs;

(iv) A wholesaler may perform such services as may be required to maintain sanitation or quality control and which are incident to the repair and cleaning of a retailer's draught beer equipment and may furnish or sell the necessary equipment and repair parts and cleaning supplies required in the performance of such services.

(5) A wholesaler may assist a retailer by temporarily providing storage of the retailer's beer for a period not in excess of seven (7) days in the event that such storage is necessary to maintain the quality of such beer during a temporary loss or failure of the retailer's refrigeration equipment.

(6) A brewery, dealer or wholesaler may furnish or give to a retailer authorized to sell beer for consumption on the licensed premises, for sampling purposes only, a container of beer containing not more than sixty-four (64) ounces, not currently being sold by the retailer, and which container is clearly marked "NOT FOR SALE -- FOR SAMPLING PURPOSES ONLY."

(7) The word "ale" or "malt liquor" may be substituted for "beer" on any sign used in connection with any advertising herein permitted, provided reference shall be to ale or malt liquor which has an alcoholic content not greater than the limitation prescribed in section [23-1002](#), Idaho Code.

(8) Every violation of the provisions of this section by a dealer, brewer or wholesaler, in which a licensed retailer shall have actively participated shall constitute a violation on the part of such licensed retailer.

[23-1033, added 1975, ch. 151, sec. 3, p. 383; am. 1976, ch. 34, sec. 1, p. 71; am. 1978, ch. 59, sec. 1, p. 115; am. 1984, ch. 232, sec. 1, p. 560; am. 1987, ch. 22, sec. 3, p. 30; am. 1991, ch. 159, sec. 1, p. 380; am. 1994, ch. 361, sec. 1, p. 1131; am. 2012, ch. 191, sec. 1, p. 515.]

23-1033A. PROHIBITION OF CERTAIN TRADE PRACTICES BETWEEN BREWERS OR DEALERS AND WHOLESALERS. (1) It shall be unlawful for any brewer or dealer, directly or indirectly, or through an affiliate, subsidiary, officer, director, agent or employee:

(a) To require that any wholesaler purchase any such beer or other distributed products from such person to the exclusion in whole or in part of beer or other products made or imported by other dealers or brewers;

(b) To discriminate in price, allowance, rebate, refund, commission, discount, or service between the wholesalers purchasing beer or other products from such brewer or dealer;

(c) To threaten any wholesaler with any discrimination prohibited under subsection (1) (b) of this section, with the purpose or effect of changing or maintaining resale prices of the wholesaler;

(d) To impose conditions or restrictions on a wholesaler not generally imposed on other wholesalers of such brewer.

(2) Nothing in this section shall be deemed to prohibit brewers or dealers from selecting their own customers in bona fide transactions not in restraint of trade, nor to prohibit a brewer, or any affiliate or subsidiary of such brewer, duly licensed as a wholesaler from selling and distributing beer or other products manufactured by such brewer at wholesale to the exclusion of beer or other products manufactured by any other brewers. The terms "wholesaler" and "wholesalers" as used in this section shall mean a wholesaler or wholesalers licensed and engaged as such in the sale and distribution of beer in the state of Idaho.

[23-1033A, added 1977, ch. 148, sec. 1, p. 326; am. 2000, ch. 428, sec. 1, p. 1383.]

23-1034. SANITATION RULES FOR RETAILERS. Licensed retailers authorized to sell beer for consumption upon such licensee's premises, shall keep their premises and all coils, cups, mugs, steins, glasses, and other utensils used in connection with the sale and dispensing of beer in a sanitary condition at all times, and shall comply with all rules issued by the department of health and welfare in the state of Idaho and applicable to the operation of the business of such licensed retailer.

[I.C., sec. 23-1034, as added by 1961, ch. 299, sec. 5, p. 543; am. 1974, ch. 117, sec. 1, p. 1288; am. 1995, ch. 172, sec. 1, p. 654.]

23-1035. RETAILER'S SIGNS. Signs indicating that beer is sold or dispensed on any particular premises shall be displayed only on the exterior portion of the building where the licensed retailer shall carry on his business of selling beer at retail or on property on which any such building is situated and which is owned or possessed by such retailer as a part of his business premises. No more than two (2) single-faced signs or one (1) double-faced sign indicating that beer is sold or dispensed on the premises shall be displayed on such building or property. No dimension of any such sign shall exceed sixty (60) inches and the area of each face of a double-faced and of each single-faced sign shall not exceed fifteen hundred (1,500) square inches measured in such manner as the director may by regulation prescribe. No such sign shall display or make reference to the name of any brewer or the trade name, trademark or label of any brand of beer.

[I.C., sec. 23-1035, as added by 1961, ch. 299, sec. 5, p. 543; am. 1974, ch. 27, sec. 51, p. 811; am. 1994, ch. 14, sec. 9, p. 28.]

23-1036. TAP MARKERS. Every faucet, spigot or other dispensing apparatus used on the premises of a licensed retailer for dispensing draught beer shall conspicuously indicate thereon the brand or trade name of the beer or the trademark of the manufacturer of the beer drawn therefrom.

[I.C., sec. 23-1036, as added by 1961, ch. 299, sec. 5, p. 543.]

23-1037. DETERMINATION TO REVOKE, SUSPEND OR REFUSE RENEWAL OF LICENSE BY DIRECTOR -- MONETARY PENALTY. (1) In the event of a conviction of any brewer manufacturing beer in this state or of any wholesaler or retailer licensed under the provisions of this chapter, of any law of the state of Idaho, or of the United States, regulating, governing or prohibiting the sale, manufacture, transportation or possession of alcoholic beverages or intoxicating liquor, or if the director shall determine that any such licensee has violated any of the provisions of this chapter or any regulation of the director promulgated under the authority of this chapter, the director may, in his discretion, and in addition to any other penalty imposed, determine to revoke the license of any such licensee, to suspend the same for a period not in excess of six (6) months, or to refuse to grant a renewal of such license after the date of its expiration.

(2) When the director determines to suspend such license, the affected licensee may petition the director prior to the effective date of the suspension requesting that a monetary payment be allowed in lieu of the license suspension. If the director determines such payment to be consistent with the purpose of the laws of the state of Idaho and is in the public interest, he shall establish a monetary payment in an amount not to exceed five thousand dollars (\$5,000). The licensee may reject the payment amount determined by the director, and instead be subject to the suspension provisions of subsection (1) of this section. Upon payment of the amount established, the director shall cancel the suspension period. The director shall cause any payment to be paid to the treasurer of the state of Idaho for credit to the state's general account in the state operating fund.

(3) The suspension of a license for the sale of liquor or wine shall automatically result in the suspension of any license for the sale of beer held by the same licensee and issued for the same premises or location. Such additional suspension shall be equal in length to and run concurrently with the period of the suspension.

(4) When a proceeding to revoke or suspend a license has been or is about to be instituted, during the time a renewal application of such license is pending before the director, the director shall renew the license notwithstanding the pending proceedings, but such renewed license may be revoked or suspended without hearing if and when the previous license is, for any reason, revoked or suspended.

[I.C., sec. 23-1037, as added by 1961, ch. 299, sec. 7, p. 543; am. 1974, ch. 27, sec. 52, p. 811; am. 1979, ch. 295, sec. 1, p. 778; am. 1981, ch. 199, sec. 2, p. 352; am. 1991, ch. 50, sec. 2, p. 92; am. 1993, ch. 347, sec. 2, p. 1291.]

23-1037A. LICENSES -- SUSPENSION OR REVOCATION FOR VIOLATION OF OBSCENITY LAWS. In the event of a conviction for a violation of [chapter 41, title 18](#), Idaho Code, relating to obscenity, by any:

- (1) licensee,
- (2) agent of licensee or
- (3) employee of licensee if such licensee knew or should have known in the exercise of reasonable diligence that said employee was violating the provisions of [chapter 41, title 18](#), Idaho Code, and if the violation committed by any of the above occurred on, or in connection with, premises licensed under this act by such licensee, the director shall suspend the license of such licensee for a period of six (6) months. If such licensee, or his agent or employee, has previously been convicted of a violation of [chapter 41, title 18](#), Idaho Code, relating to obscenity, which violation occurred on, or in connection with, the premises licensed under this act by such licensee, the director shall revoke the license of such licensee.

[I.C., sec. 23-1037A, as added by 1973, ch. 305, sec. 20, p. 655; am. 1974, ch. 27, sec. 53, p. 811.]

23-1038. SUSPENSION, REVOCATION, AND REFUSAL TO RENEW LICENSES. When the director shall make a determination to revoke, to suspend, or to refuse grant of renewal of license issued pursuant to the terms of this act for any violation of or failure to comply with the provisions of this act or rules promulgated by the director or the state tax commission pursuant to the terms and conditions of this act, procedures for the suspension, revocation or refusal to grant or renew licenses issued under this act shall be in accordance with the provisions of [chapter 52, title 67](#), Idaho Code. Any hearing alleging a violation of chapter 9 or 10, [title 23](#), Idaho Code, shall be conducted in the county where the alleged violation occurred.

[23-1038, added 1980, ch. 220, sec. 2, p. 493; am. 2001, ch. 95, sec. 1, p. 243.]

23-1042. PROCEDURE FOR OTHER LICENSING AUTHORITIES. The licensing authority of any county or incorporated municipality shall have and exercise the same powers to revoke, suspend, or to refuse grant of renewal of a retailer's license issued or issuable by it, as are granted to the director in this act. The determination of any such licensing authority to revoke, suspend, or to refuse grant of renewal of any retailer's license, shall be upon the same grounds referred to in section [23-1037](#), Idaho Code, and may also be upon the grounds that the licensee has violated an ordinance validly enacted by it and regulating, governing or prohibiting the sale, manufacture, trans-

portation or possession of alcoholic beverages or intoxicating liquor, and notice thereof shall be given, and proceedings to contest said determination allowed, as provided for in this act with respect to state licenses issued by the director. The order to show cause shall be addressed to the county commissioners of the county or to the city council of the incorporated municipality, requiring the commissioners or councilmen, or such representative as they may designate, to appear in response thereto. Service of the order to show cause and petition shall be ordered to be made upon the chairman of the board of county commissioners or mayor or city manager of the municipality, as the case may be.

[I.C., sec. 23-1042, as added by 1961, ch. 299, sec. 7, p. 543; am. 1974, ch. 27, sec. 58, p. 811.]

23-1043. NOTICE OF REVOCATION OR SUSPENSION TO OTHER LICENSING AUTHORITIES. When revocation or suspension of any licensed retailer's license shall become effective by reason of the determination made by any licensing authority as in this act provided for, or by reason of the judgment of any district court on proceedings to contest any such determination, the licensing authority which made such determination shall forthwith give notice thereof in writing to the other licensing authorities from whom license was obtained by the licensee involved.

[I.C., sec. 23-1043, as added by 1961, ch. 299, sec. 7, p. 543.]

23-1044. PROCEDURE ON REFUSAL TO GRANT LICENSE. Upon a determination by the director or by the licensing authority of any county or municipality to refuse issuance of a license to an applicant upon original application, the same procedure herein provided for in cases involving refusal to grant renewal of license for notice and for proceedings to contest determination shall govern insofar as the same are applicable, except that issuance of temporary license shall not be required pending proceedings to contest determination.

[I.C., sec. 23-1044, as added by 1961, ch. 299, sec. 7, p. 543; am. 1974, ch. 27, sec. 59, p. 811.]

23-1045. APPEALS. An appeal from the judgment of any district court on proceedings to contest a determination may be taken by either party to such proceedings to the Supreme Court of this state, in the same manner as in other civil actions. If the judgment of the district court shall affirm the determination of any licensing authority revoking or suspending license or refusing grant of renewal of license, further stay of the effective date of revocation or suspension or further continuance of temporary license pending appeal may be allowed if, in the discretion of the court and upon application therefor, order for such further stay or continuance shall be entered by the court.

[I.C., sec. 23-1045, as added by 1961, ch. 299, sec. 7, p. 543.]

23-1046. SEPARABILITY. If any portion of this act shall be declared unconstitutional, it shall not invalidate the other provisions thereof.

[I.C., sec. 23-1046, as added by 1961, ch. 299, sec. 8, p. 543.]

23-1047. PAYMENT OF TAXES ON BEER. Each person liable for payment of taxes on beer, as provided for in section [23-1048](#), Idaho Code, shall, on or before the 15th day of each month, or for such other period as the state tax commission may prescribe by rule, file a written report with the state tax commission showing all sales of beer for resale or consumption in this state made by such person during the calendar month or other period immediately preceding. Taxes payable with respect to such sales shall be paid by the person liable therefor at the time such report is filed.

[I.C., sec. 23-1047, as added by 1961, ch. 259, sec. 1, p. 430; am. 2009, ch. 4, sec. 1, p. 6.]

23-1048. LIABILITY FOR PAYMENT OF TAXES ON BEER. (1) Every sale of beer to a retailer licensed in this state or to a consumer in this state shall constitute a sale of beer for resale or consumption in this state and such wholesaler shall be liable for the payment of taxes thereon. Sales of beer by such wholesaler for the purpose of and resulting in export of such beer from this state for resale outside this state shall be exempt from the taxes on beer imposed by this state.

(2) Every sale of beer by a wholesaler licensed in this state shall constitute a sale of beer for resale or consumption in this state, whether said sale is made within or without this state, and such wholesaler shall be liable for the payment of taxes thereon, except as provided in subsection (1) hereof.

[I.C., sec. 23-1048, as added by 1961, ch. 259, sec. 1, p. 430; am. 1974, ch. 27, sec. 60, p. 811; am. 1980, ch. 239, sec. 2, p. 556.]

23-1049. SECURITY FOR TAX. The state tax commission, whenever it deems it necessary to insure compliance with this act, may require any person subject to this act to place with it such security as it may determine. The amount of the necessary security shall be fixed by the state tax commission but, except as provided hereafter, shall not be greater than three (3) times the estimated average monthly amount payable by such persons pursuant to this act. In the case of persons habitually delinquent in their obligations under this act, the amount of the security shall not be greater than five (5) times the estimated average monthly amount payable by such persons pursuant to this act. The amount of the security may be increased or decreased by the state tax commission at any time, subject to the limitations set forth herein.

The state tax commission may sell the security at public auction or, in the case of security in the form of bearer bonds issued by the United States or the state of Idaho which have a prevailing market price, at a private sale at a price not lower than the prevailing market price if it becomes necessary to make such sale in order to recover any tax, interest or penalties due on any amount required to be collected. Notice of the sale must be given to the person who deposited the security at least ten (10) days before the sale. Such notice may be given personally or by mail addressed to the person at the address furnished to the state tax commission and as it appears in the records of the state tax commission. Upon such sale, any surplus above the amounts due shall be returned to the person who placed the security.

[23-1049, added 1988, ch. 182, sec. 2, p. 319.]

23-1050A. COLLECTION AND ENFORCEMENT. The collection and enforcement procedures provided by the Idaho income tax act, sections [63-3042](#) through [63-3065A](#), inclusive, and sections [63-3068](#) and [63-3075](#), Idaho Code, shall apply and be available to the state tax commission for enforcement and collection of the tax imposed by this chapter, and said sections shall, for this purpose, be considered part of this act. Any reference to taxable year in the income tax act shall be, for the purposes of this act, considered a taxable period.

[23-1050A, added 1980, ch. 239, sec. 3, p. 557; am. 1984, ch. 104, sec. 3, p. 243; am. 2007, ch. 10, sec. 9, p. 19.]

23-1051. REGULATIONS. The state tax commission shall be, and it is hereby, authorized to adopt and promulgate such rules and regulations as may be necessary to assure payment of taxes on beer, including, but not limited to, rules and regulations; prescribing the form and content of monthly reports required; requiring the persons liable for payment of taxes on beer to show on such monthly reports information concerning their inventories, purchases, sales and shipments of beer; requiring monthly informational reports from dealers and wholesalers licensed in this state concerning their inventories, purchases, sales and shipments of beer; requiring reports from carriers, both public and private, concerning deliveries of beer made in this state by such carriers and shipments of beer made by such carriers out of this state; requiring persons liable for payment of taxes imposed on beer and dealers and wholesalers licensed in this state to maintain complete and accurate books, records and accounts on transactions involving beer; and establishing grounds upon which delay in filing reports or paying taxes imposed on beer may be considered justifiable and without fault on the part of the person liable therefor.

[I.C., sec. 23-1051, as added by 1961, ch. 259, sec. 1, p. 430.]

23-1052. LICENSE REVOCATION OR SUSPENSION FOR FAILURE TO PAY OR REPORT TAX. Failure to make any report or to pay any taxes at the times required shall be grounds for the director to suspend or revoke the license or certificate of approval held by the person so defaulting in the manner provided by law.

[I.C., sec. 23-1052, as added by 1961, ch. 259, sec. 1, p. 430; am. 1974, ch. 27, sec. 61, p. 811.]

23-1053. AUDITS OF RECORDS OF LICENSEE. For the purpose of ascertaining compliance with the provisions of section [23-1047](#) the state tax commission may, as often as it deems advisable, examine the accounts, records, documents and transactions, pertaining to or affecting the beer business of any person holding a license or certificate or [of] approval issued by this state under the provisions of this act. When examination involving any brewer or foreign distributor holding a certificate of approval issued by this state shall require an examiner to travel outside this state, the actual and necessary expenses of travel and subsistence necessarily incurred on account of the examination shall be paid by the holder of such certificate of approval upon presentation of an itemized statement certified by the examiner and approved by the state tax commission.

[I.C., sec. 23-1053, as added by 1961, ch. 259, sec. 1, p. 430.]

23-1054. REFUND OF TAXES. (1) If the tax commission determines that any amount due under this chapter has been paid more than once or has been erroneously or illegally collected or computed, the commission shall set forth that fact in its records and the excess amount paid or collected may be credited on any amount then due and payable to the commission from that person and any balance refunded to the person by whom it was paid or to his successors, administrators or executors. The tax commission is authorized and the state board of tax appeals is authorized to order the tax commission in proper cases to credit or refund such amounts whether or not such payments have been made under protest and certify such refund to the state board of examiners.

(2) No such credit or refund shall be allowed or made after three (3) years from the time the payment was made, unless before the expiration date of that period a claim therefor is filed by the taxpayer. The three (3) year periods allowed by this section for making refunds or credit claims shall not apply in cases where the tax commission asserts a deficiency of tax imposed by this chapter and taxpayers desiring to appeal or otherwise seek a refund of amounts paid in obedience to those deficiencies must do so within the time limits elsewhere prescribed by law.

[23-1054, added 1986, ch. 73, sec. 4, p. 205.]

23-1055. UNLAWFUL SALE, PURCHASES AND ACTS. It shall be unlawful: (a) for any brewer manufacturing beer outside this state or for any foreign distributor to sell beer for resale or consumption in this state except to dealers and wholesalers licensed in this state; (b) for any dealer or wholesaler licensed in this state to purchase beer manufactured outside this state except from brewers or foreign distributors holding certificates of approval issued by this state and from other dealers or wholesalers licensed in this state; (c) for any person to sell beer for resale or consumption in this state or to transfer or import beer into this state for the purpose of selling such beer for resale or consumption in this state, unless such person shall hold a license or certificate of approval issued by this state pursuant to which any such sale, transportation or importation shall be authorized; (d) for any retailer licensed in this state to purchase beer for resale except from a dealer or wholesaler licensed in this state. Any beer sold, transported or imported in violation of the provisions of this section shall be subject to seizure, forfeiture and sale in the same manner as provided for in section [23-1008](#), as amended.

[I.C., sec. 23-1055, as added by 1961, ch. 259, sec. 1, p. 430.]

23-1056. USE OF ALTERNATIVE METHOD -- TIME WHEN AUTHORIZED. Use of said alternative method of payment of taxes imposed on beer as provided for in sections [23-1047](#) through [23-1055](#), shall not be authorized until the state tax commission shall adopt and promulgate a regulation permitting use of such method. On and after the effective date of any such regulation use of such alternative method shall be exclusive, provided, however, tax stamps theretofore purchased by any person liable for payment of taxes on beer and on hand may be used by such person and a credit shall be allowed to him against taxes payable with monthly reports subsequently filed in such manner as the state tax commission may prescribe, or said stamp may be submitted

for redemption and refund thereon. Upon thirty (30) days written notice mailed to each brewer and dealer licensed in this state and to each brewer and foreign distributor holding a certificate of approval issued by this state the state tax commission may at any time rescind any such regulation and from and after the effective date of rescission only the method for payment of taxes on beer by use of tax stamps as provided for in section [23-1008](#), as amended, shall be used.

[I.C., sec. 23-1056, as added by 1961, ch. 259, sec. 1, p. 430.]

23-1057. CONTRACT BREWING. (1) A contractee brewer may enter into a contractual relationship with a contractor brewer to contractually produce beer for the contractee brewer to the extent allowed by federal law.

(2) Both the contractee brewer and the contractor brewer shall be separately licensed and separately owned. Beer brewed for a contractee brewer shall count toward the contractee brewer's annual barrels produced, and such beer shall not count toward the contractor brewer's annual barrels produced. Each brewer shall be separately and distinctly responsible for compliance with the provisions of this chapter.

[23-1057, added 2019, ch. 214, sec. 2, p. 652.]



**CITY COUNCIL
MEETING MINUTES**

**June 4, 2024
6:00 PM**

Location: City Council Chambers, 408 N. Spokane Street, Post Falls, ID 83854

WORKSHOP – 5:00 pm Basement Conference Room

a. Compensation Philosophy

**Joe Malloy, Josh Walker, Samantha Steigleder, Randy Westlund, Nathan Ziegler – Present
Kenny Shove – Excused**

Deputy City Administrator Warren Wilson presented an overview of how and why the city wants to develop a Compensation Philosophy. This will tie into the Strategic Plan and the goals related to workforce and operations. The Compensation Philosophy is a document providing direction, guidance and clarity for making compensation decisions within an organization. It ensures that we are treating staff legally and equitably. The city's current approach involves multiple Kinds and Levels charts throughout the different city departments and divisions. The city also currently does salary surveys as needed internally. With the development of the Compensation Philosophy, an outside contractor would likely perform the surveys for a more comprehensive and impartial view of compensation. Staff have a planned request for proposals to develop a Compensation Philosophy that will be sent to Council for approval likely at the next Council meeting. The hope is to create a holistic, proactive approach to improving hiring and compensation processes. Department Head contracts were also discussed as they need to be streamlined and updated as a group in the near future.

Workshop adjourned at 5:42 PM

REGULAR MEETING – 6:00 pm City Council Chambers

CALL TO ORDER BY MAYOR JACOBSON

PLEDGE OF ALLEGIANCE

ROLL CALL OF CITY COUNCIL MEMBERS

Samantha Steigleder, Josh Walker, Joe Malloy, Nathan Ziegler, Randy Westlund, Kenny Shove
Joe Malloy, Josh Walker, Samantha Steigleder, Randy Westlund, Nathan Ziegler – **Present**
Kenny Shove – **Excused**

**CEREMONIES, ANNOUNCEMENTS, APPOINTMENTS, PRESENTATION:
ACTION ITEM**

Mayor Ron Jacobson: Tonight we bid farewell to City Engineer Bill Melvin. After 29 years with the City, he is retiring. On behalf of the entire city we want to thank you for everything you have done for the city.

AMENDMENTS TO THE AGENDA

Final action cannot be taken on an item added to the agenda after the start of the meeting unless an emergency is declared that requires action at the meeting. The declaration and justification must be approved by motion of the Council.

None

DECLARATION OF CONFLICT, EX-PARTE CONTACTS AND SITE VISITS

The Mayor and members of the City Council have a duty to serve honestly and in the public interest. Where the Mayor or a member of the City Council have a conflict of interest, they may need to disclose the conflict and in certain circumstances, including land use decisions, they cannot participate in the decision-making process. Similarly, ex-parte contacts and site visits in most land use decisions must also be disclosed.

None

1. CONSENT CALENDAR

The consent calendar includes items which require formal Council action, but which are typically routine or not of great controversy. Individual Council members may ask that any specific item be removed from the consent calendar in order that it be discussed in greater detail. Explanatory information is included in the Council agenda packet regarding these items and any contingencies are part of the approval.

ACTION ITEMS:

- a. Minutes – May 21, 2024, City Council Meeting
- b. Minutes - May 22, 2024 City Council Workshop
- c. Payables May 17, 2024 - May 29, 2024
- d. Acceptance of Property - Rights-Of-Way and Easement - Prairie/Zorros Roundabout
- e. Arche Annexation Grant of Easement

Motion by City Council Malloy to accept the Consent Calendar as presented.

Second by City Council Westlund.

Ayes: City Council Walker, City Council Malloy, City Council Ziegler, City Council Steigleder, City Council Westlund

Motion Carried

2. PUBLIC HEARINGS

There are generally two types of public hearings. In a legislative hearing, such as adopting an ordinance amending the zoning code or Comprehensive Plan amendments, the Mayor and City Council may consider any input provided by the public. In quasi-judicial hearings, such as subdivisions, special use permits and zone change requests, the Mayor and City Council must follow procedures similar to those used in court to ensure the fairness of the hearing. Additionally, the Mayor and City Council can only consider testimony that relates to the adopted approval criteria for each matter. Residents or visitors wishing to testify upon an item before the Council must sign up in advance and provide enough information to allow the Clerk to properly record their testimony in the official record of the City Council. Hearing procedures call for submission of information from City staff, then presentation by the applicant (15 min.), followed by public testimony (4 min. each) and finally the applicant's rebuttal testimony (8 min.). Testimony

should be addressed to the City Council, only address the relevant approval criteria (in quasi-judicial matters) and not be unduly repetitious.

ACTION ITEMS:

None

3. UNFINISHED BUSINESS/RETURNING ORDINANCES AND RESOLUTIONS

This section of the agenda is to continue consideration of items that have been previously discussed by the City Council and to formally adopt ordinances and resolutions that were previously approved by the Council. Ordinances and resolutions are formal measures considered by the City Council to implement policy which the Council has considered. Resolutions govern internal matters to establish fees and charges pursuant to existing ordinances. Ordinances are laws which govern general public conduct. Certain procedures must be followed in the adoption of both ordinances and resolutions; state law often establishes those requirements.

ACTION ITEMS:

a. Contract Amendment for WRF Hopper Modifications Project

Craig Borrenpohl, Utility Manager Presenting: This is an additional services contract for our solids and odor control project that we are doing at the Water Reclamation Facility. Originally we were limiting the scope of this project, but after rejection of the Hopper Building bids we decided to expand the scope to include some additional work to the facility. This additional scope requires an engineering contract amendment. The additional work will include the media of the Biofilter and Odor Control System and adjusting the design to get some additional air through the bio filter. Images of the site and what will be improved were shown. In terms of the financial impact, what we've asked for here are time and material estimates. It should be a quick retrofit, but we wanted to have some buffer in case we get into something unexpected. Within this amendment there are three separate portions; the initial design, bidding, and then a resident project representative. The maximum spent would be \$52,790. This would come out of the Odors Solids Dewatering Facility budget.

Steigleder: You are asking us to approve the \$11,000, you are just not planning on using it unless its necessary?

Borrenpohl: Correct.

Motion by City Council Malloy to Approve the Contract Amendment for WRF Hopper Modifications Project.

Second by City Council Ziegler.

Ayes: City Council Walker, City Council Malloy, City Council Ziegler, City Council Steigleder, City Council Westlund

Motion Carried

b. City Hall Remodel Project – Recommendation of Award

John Beacham, Public Works Director Presenting: Here we are talking about awarding a bid for the City Hall Remodel Project. We started this project in 2021 with the Facilities Master Planning. We have been doing the design work since 2023, and now we are moving into the bidding and, hopefully, construction. The project includes office space work in Admin and Legal, adding a conference room in what is now the Finance lobby, sound deadening and other improvements to the Rotunda to be able to better use that space. The total cost is estimated at \$1.2 million. That is an estimate at this point as we don't have all the projects bid out. Bids were published in April, and opened in May. Four bids were received, and Dardan Enterprises was the apparent low bid. After legal review and architect review, we do recommend moving forward with awarding the bid

to Darden. The bid was for \$689,417. We are requesting a contingency of 10%. The bids were all below the engineer's estimates for construction costs.

Jacobson: You said \$1.2 million?

Beacham: I believe the total cost of the project will be \$1.2 million.

Jacobson: Right now, if council approves it, would it only be for Darden's bid plus the contingency?

Beacham: Correct. The other things that would be in the \$1.2 million are the furnishings' vendor, audiovisual vendor, security vendor, and some ancillary costs.

Steigleder: What fund is this coming out of?

Beacham: This comes out of money that is set aside for facilities projects. As part of the 2021 Facilities Master Plan, there's a financial plan outlining all the projects that need to take place. We have been setting aside money to fund those projects. This money would come out of that fund.

Steigleder: One of the other projects in that is still the Public Works building?

Beacham: Correct.

Steigleder: Is there money to fund that?

Beacham: In the shorter term, 10 year time frame, our Facilities Plan has funding, so the Public Works Operations Center would be able to move forward with a phase one project. After about 2033, we need to find additional funding for some of the projects. Under current assumptions.

Steigleder: I appreciate what we are doing in this building, but it seems largely functional. What has been presented with the Public Works Department and the things they struggle with, I'm concerned that we could use some of this money to help them faster.

Beacham: I appreciate that concern. We are moving forward with the Public Works operations center and we approved the preliminary design work. I don't think the City Hall remodel impacts our choices in terms of what we have funding for the Public Works Operations Center. I will also say, the Public Works Operations Center was forecast to be something we did maybe 10–15 years out when we did the Facilities Plan, so moving it up at all is an improvement.

Beacham: The next steps step is the bid award. Then the additional components will be the furniture contract, A/V contract etc. that may come to you if they are over the \$50,000 limit. Construction will last until about winter this year.

**Motion by City Council Malloy to Approve the City Hall Remodel Project –
Recommendation of Award.**

Second by City Council Ziegler.

Ayes: City Council Walker, City Council Malloy, City Council Ziegler, City Council Steigleder, City Council Westlund

Motion Carried

c. Ordinance Relating to City Council Meetings

Chris Gabbert, Deputy City Attorney: This is a follow-up to some discussions you had about amending the start times currently codified in the city code. What's proposed before you is a draft ordinance that changes by removing the set start time from our city code. The direction from Council was to bring back a draft ordinance and policy for review and comment. It doesn't change the mechanics of how you do things, it just gives you more flexibility. There was some discussion about the start time and moving from the workshop into the regular meeting. Currently, it is noticed as a single meeting, so this would give you flexibility that if you got done early enough you could take a vote and move straight from your workshop into some of the regular council meeting items.

Jacobson: One of the concerns expressed was public hearings and I noticed in the draft ordinance that public hearings would not start prior to the 6:00pm start time we currently have.

Gabber: Correct. The ordinance just deals with a couple of mechanics and the policy gets into the details on how and when you would move into a regular council but not impairing the public's ability to participate in those public hearings. It is brought before you tonight for discussion purposes. You can review it and comment on it. It could be passed tonight if there were no changes. The ordinance itself has minimal changes.

Ziegler: I like the stipulation of types of gatherings. Like if we have an executive session prior to the public meeting, it makes sense if we have a gap in time. I like having it specified that public hearings would not start prior to six because that was one of the concerns that we had. I think the draft is addressing everything that we discussed.

Gabbert: In theory, you normally have the ability to move your agenda around anyway.

Westlund: What's the purpose of taking the start time out of City ordinance and then into a policy, versus putting that into the ordinance?

Gabbert: The codification of the 6pm start time is not necessary under Idaho Law anyway, because we publish the agendas publicly. Because its currently codified it makes it more difficult to change if you need to shift it or start at 5pm. By moving that start time out, then the public will always be directed back to the city website to look at the agenda to see when the start time is.

Westlund: Just because policies are easier to change than ordinances, that's the reason to have the policy govern it instead?

Gabbert: There's no reason to codify it to the code itself. It gives you more flexibility.

Steigleder: My recollection of the conversation we had about this was that we weren't going to remove the 6pm start time, but put additional provisions in the ordinance that just said for what reasons and how we could move the start time if we wanted to. I was surprised to see it removed entirely.

Gabbert: I wasn't there during those discussions. Having the flexibility to start earlier probably conflicts with publishing a set start time for the 6pm regular agenda if you want to move things to an earlier agenda.

Steigleder: After our original conversation, I did some random spot checking with the public and they liked the set start time. As far as flexibility, I think it's my responsibility to make it easier for the citizens that come. Flexibility is not the priority in this position. I would not be in favor of taking it out.

Malloy: I can add some to that because I was part of this discussion. The executive session is part of the regular session. The public is not privy to it in any case, so whether it is before six or after six makes no difference whatsoever as far as the public is concerned. If the code states we can't start a regular session until six, that also means the executive session. Take that out of the code, and put it in the policy that we also have to follow, we can do the executive session prior to six, but everything else has to be after. It still achieves the same effect.

Steigleder: So we would still have to come, sit down, and start the meeting, say the pledge, and then exit to executive session, maybe come back at 6:05 or 6:03. I don't think it's the most correct way to do the situation.

Walker: I like it. I think it gives us flexibility. There's nothing else that the public's privy to starting until six anyways.

Jacobson: If we opted to start it early, we wanted to enter into executive session prior to the 6pm start time, it would take a vote by council anyway. Would it not?

Gabbert: The way the policy is drafted, yes.

Westlund: Clarification on that. Would we be able to take a vote out of session?

Gabbert: The workshop is noticed as part of your normal meeting, so your meeting is technically

starting at 5pm. You're rearranging the agenda to put things forward earlier than have normally been agendized.

Westlund: That would be a motion we would do in the basement conference room?

Gabbert: Yes, the minutes would reflect that.

Westlund: I'm still opposed to this. I appreciate the intentions behind it, but it doesn't put citizens first. It's not good governance. Having the executive session at the end of the meeting makes sense to me. I would not support moving this forward.

Warren Wilson, Deputy City Administrator: Typically, ordinances are intended to regulate the outside world, the citizens at large. Policy is what we do to regulate our own behavior, what the city does. It's out of place to have the start time in the ordinance because it regulates how we do business rather than regulating the city at large. What really drives the start time for our City Council meetings is state law that requires that we publish notice once a year that says this is the time our regular meetings are going to start. That's the date, that's the time that matters. It's odd to have it baked into your ordinance. We are trying to address some of the technical defects. Actually it's one meeting that starts at 5pm. This is typically policy territory.

Ziegler: Are we noticing our meeting as starting at five now?

Wilson: I don't know the answer to that, I'm guessing six, and we probably need to fix that.

Ziegler: So we aren't noticing our workshop as part of the regular meeting?

Wilson: Yes, we need to fix that and make sure that's some that we've got right.

Westlund: I believe all the public notices say it starts at six but at the top of the agenda it says workshop at five.

Steigleder: So a workshop is considered a regular meeting?

Wilson: There really is no such thing as a workshop under state law. You have regular meetings and special call meetings. Anytime you get together on a regular basis, it's a regular meeting. If we have a special call meeting saying we need to get together to deal with an emergent situation, it's a special meeting.

Jacobson: So the workshop is more of an agenda item?

Wilson: Correct.

Ziegler: So if we notice a normal meeting as starting at five, what would we do if we didn't have a workshop?

Wilson: We would list it as the normal start time of 5:00pm, and if we don't have one, the agenda we're publishing would essentially say we are starting at six today.

Steigleder: If we are making the workshop a part of the regular meeting, it is not conducive to the public coming. There are limited seats, it's in a different area than up here. That seems like a larger conversation than just changing the ordinance.

Wilson: That's part of the reason we're looking at having another conference room upstairs. It's more cohesive and set up for more public participation than being in the basement. How it is on the agenda doesn't change the function of that portion of the meeting.

Gabbert: Generally, the people who are in attendance at the meetings are going to look for the start time published on the agenda, not go to the city code and dive through the ordinance to find out what the start time of the meeting is.

Westlund: I understand there's no legal difference between the workshops and the council meeting, there's very much a difference in terms of the structure and the feel of the meeting. At the workshops, we're down in the basement, we're not passing motions, we're not doing formal business. It's a more informal environment and I really like that. It makes a lot of sense to me to keep them separate. At least by policy, if not by state code. If this was just to take the six start time out of the ordinance to put it in a policy, I would be ok with that. The flexible start time for this part of the meeting is the part I would object to.

Wilson: I don't think any of us have any strong feeling one way or the other. It was an attempt to

fix a technical issue that we have. However the council wants to move on this, we are completely happy with whatever the outcome is.

Malloy: For me, it's not that big of a deal either way. It seems strange to me that if we can get business that's inherently non-public out-of-the-way so we don't have to keep the whole room full of people here any longer than we have to, then why not?

Ziegler: I would agree with you on that. I think increasing efficiency is also a responsibility that we have to the public.

Jacobson: We can either make a motion now, or bring back a modified draft.

Malloy: I'm not sure what else would need to be clarified or can be clarified.

Westlund: I would like to see this come back and have the flexible start time removed from the policy. Move the 6pm start time from ordinance to policy but keep the same structure we have now.

Jacobson: So you eliminate the opportunity to move executive session up if time allowed.

Westlund: Yes, because we don't know how long that's going to last.

Jacobson: Actually, typically they do, to last no longer than.

Westlund: We can give an estimate, but discussions happen in session they can go long.

Council Malloy moved to place the Ordinance Relating to City Council Meetings on its first and only reading by title only while under suspension of the rules.

Second by Council Ziegler.

Ayes: Council Ziegler, Council Walker, Council Malloy

Nayes: Council Westlund, Council Steigleder

Motion Carried

Jacobson: I would assume that if we do this, and we recognize an issue, we can address it, correct?

Gabbert: We can change it.

AN ORDINANCE OF THE CITY OF POST FALLS, KOOTENAI COUNTY, A MUNICIPAL CORPORATION OF THE STATE OF IDAHO, PROVIDING FOR REPEAL AND REPLACEMENT OF POST FALLS MUNICIPAL CODE 2.04.060 CITY COUNCIL MEETINGS; PROVIDING THAT REMAINING SECTIONS OF POST FALLS CITY CODE SHALL REMAIN IN EFFECT; PROVIDING FOR SEVERABILITY; PROVIDING FOR THIS ORDINANCE TO BE IN FULL FORCE AND EFFECT FROM AND AFTER ITS PASSAGE, APPROVAL, AND PUBLICATION ACCORDING TO LAW

Council Malloy moved to approve the Ordinance Relating to City Council Meetings and to direct the clerk to assign the appropriate number and that it be published by summary only.

Second by Council Ziegler.

Ayes: Council Ziegler, Council Walker, Council Malloy

Nayes: Council Westlund, Council Steigleder

Motion Carried

d. Arche Annexation and Zone Classification Ordinance

Chris Gabbert, Deputy City Attorney: This is a follow up to the zone classification and annexation for the Arche Annexation that was approved at the last Council meeting. There is an amendment. It looks like Exhibit A was not uploaded as the legal description for the annexation. I will pass

them out.

Jacobson: This is an ordinance we are being asked to approve tonight?

Gabbert: Yes.

Jacobson: It's published by summary only, so this will not affect what would be published in the newspaper, correct?

Gabbert: We have a summary for publication that already contains that.

Motion by Council Malloy to place the Ordinance for Arche Annexation and Zone Classification on its first and only reading by title only while under suspension of the rules.

Second by Council Ziegler.

Ayes: Council Westlund, Council Steigleder, Council Walker, Council Malloy, Council Ziegler

Motion carried.

A PARCEL OF LAND BEING TAX NUMBERS 20105 AND 12011 LYING WITHIN THE SOUTHEAST QUARTER OF SECTION 6, TOWNSHIP 50 NORTH, RANGE 4 WEST, BOISE MERIDIAN, KOOTENAI COUNTY, IDAHO; PROVIDING FOR AMENDMENT OF THE OFFICIAL ZONING MAP; AND PROVIDING FOR AN EFFECTIVE DATE HEREOF:

Motion by Council Malloy to approve the Ordinance for Arche Annexation and Zone Classification and to direct the clerk to assign the appropriate number and that it be published by summary only.

Second by Council Ziegler.

Ayes: Council Westlund, Council Steigleder, Council Walker, Council Malloy, Council Ziegler

Motion carried.

4. NEW BUSINESS

This portion of the agenda is for City Council consideration of items that have not been previously discussed by the Council. Ordinances and Resolutions are generally added to a subsequent agenda for adoption under Unfinished Business, however, the Council may consider adoption of an ordinance or resolution under New Business if timely approval is necessary.

ACTION ITEMS:

a. 2024 Asphalt Chip Seal and Fog Seal Contract

Ross Junkin, Public Works Maintenance Manager Presenting: Tonight I bring to you a contract that we put out to bid and the recommendation to award it. We did a pre-qualification process and there were two qualified contractors that submitted, but we only received one bid of those two. Poe Asphalt was the only and apparent low bid for \$615,000. For this year's budget we have \$400,000 dedicated just for chip seal. We plan to use those funds as well as street reconstruction funds to make up the difference. The past chip seal numbers since 2021 were reviewed. The best practice is to chip seal every 7–10 years. Using current pricing, it would be about \$3.3 million per year to achieve that goal. We did a pavement condition survey. They were surprised at the good condition of our roads in comparison to the surrounding cities that they've done. They suspect that's because we have been doing the chip seal. Chip Seal is the most cost-effective way to maintain our streets for a long time. We expect the costs for chip sealing to continue

increasing going forward. We plan to use the budget process to bridge that gap in the future. We will do assessments of our streets roughly every five years. The total amount of the contract is \$645,806, which includes a 5% contingency. Historically, we haven't needed to use that contingency, but it's good to have that anyway.

Jacobson: We've been using Poe for several years, have we not?

Junkin: We have bounced back and forth between Poe Asphalt and Road Products Incorporated for the past few years. Last year was RPI.

Jacobson: Several years ago we had an issue where the job that was done was extremely poor. Staff addressed it and to my knowledge, we have not received any complaints since then. Poe has been around for a very long time.

Junkin: Since I've been here we have not had any issues with Poe, the project management, or the product.

Jacobson: The other issue is the cost. How do you control it?

Junkin: They tell me that most of the cost is in the oil that they place down for the rock to be pushed in, and that's gone up.

Ziegler: What is the expected life span of a typical residential asphalt city street that is in that recommended 7-10 year chip seal treatment?

Junkin: Asphalt on a residential road has less abuse versus something like Seltice. On average, it's 20 years. Chip seal prolongs that. Especially here with frost thaw cycles. Aligatored is when water gets into those cracks and freezes and breaks it apart. We also have other ways to fix that with crack seal, and dirt patching for small areas.

Ziegler: We are using money from street reconstruction to bridge the gap. From an allocation standpoint, would it make more sense to reallocate some of the money to reconstruction costs if it extends the life of the road significantly?

Junkin: We do use that money. We have an in-house asphalt program. We repave sections of roads, about a mile and half per year. Those funds go towards that and fixing our sidewalks and ADA ramps, which are requirements whenever we do road work in intersections. Last year we scaled back on how many miles to chip seal to drop the cost by about 25%.

Ziegler: I'm trying to get the best out of our streets. There's plenty of roadway to reconstruct.

Junkin: Chip seal is a high priority for us. We also have to repave those roads that are past a bandaid.

Westlund: So we should be spending \$3.3 million a year on chip seal if we're to do each section of roadway every seven years like we should be.

Junkin: That's a broad number. I didn't dive deep into it.

Westlund: We have \$400,000 allocated now. That's a pretty substantial shortfall.

Junkin: We do the best we can with what we have.

Motion by City Council Malloy to Approve the 2024 Asphalt Chip Seal and Fog Seal Contract.

Second by City Council Westlund.

Ayes: Council Steigleder, Council Walker, Council Malloy, Council Ziegler, Council Westlund

Motion carried.

b. Acceptance of the Annual Comprehensive Financial Report for FY 2023

Jason Faulkner, Finance Director Presenting: We had Alpine Summit CPAs perform the City's audit. They look at cash control, invoice payments, year end cutoff, payroll, and fixed assets. We had no issues with the audit. There were no misstatements, no disagreements, no audit findings,

no adjustments that needed to be made after the statements were done. We've had to add any city leases and subscription based IT agreements to the governmental activities sheet. Deferred inflows is the PERSI pension liability if it was to default as of today, and subscription liability as well. The Popular Annual Financial Report was briefly reviewed. This report is available to the public and is abbreviated for reader friendliness. This is our 26th year of receiving the annual report with GFA for the financial statements.

Jacobson: I would like to congratulate you on a clean audit report. The city's been doing an excellent job in that regard since Shelly was the financial officer and you've continued it. I congratulate you and your staff.

Motion by City Council Malloy to Approve the Acceptance of the Annual Comprehensive Financial Report for FY 2023.

Second by City Council Westlund.

Ayes: City Council Walker, City Council Malloy, City Council Ziegler, City Council Steigleder, City Council Westlund

Motion Carried

5. CITIZEN ISSUES

This section of the agenda is reserved for citizens wishing to address the Council regarding City-related issues that are not on the agenda. Persons wishing to speak will have 5 minutes. Comments related to pending public hearings, including decisions that may be appealed to the City Council, are out of order and should be held for the public hearing. Repeated comments regarding the same or similar topics previously addressed are out of order and will not be allowed. Comments regarding performance by city employees are inappropriate at this time and should be directed to the Mayor, either by subsequent appointment or after tonight's meeting, if time permits. In order to ensure adequate public notice, Idaho Law provides that any item, other than emergencies, requiring Council action must be placed on the agenda of an upcoming Council meeting. As such, the City Council can't take action on items raised during citizens issues at the same meeting but may request additional information or that the item be placed on a future agenda.

None

6. ADMINISTRATIVE / STAFF REPORTS

This portion of the agenda is for City staff members to provide reports and updates to the Mayor and City Council regarding City business as well as responses to public comments. These items are for information only and no final action will be taken.

None

7. MAYOR AND COUNCIL COMMENTS

This section of the agenda is provided to allow the Mayor and City Councilors to make announcements and general comments relevant to City business and to request that items be added to future agendas for discussion. No final action or in-depth discussion of issues will occur.

Steigleder: Can we advertise for the Parks day on Saturday to come out and volunteer at the Community Forest at 9:00am?

Malloy: Where do you meet, at the trail head on Riverdale?

Dave Fair, Parks and Recreation Director: I believe that they meet at Q'emiln Park.

8. EXECUTIVE SESSION

Certain City-related matters may need to be discussed confidentially subject to applicable legal requirements; the Council may enter executive session to discuss such matters. The motion to enter into executive session must

reference the specific statutory section that authorizes the executive session. No final decision or action may be taken in executive session.

ACTION ITEMS:

None

RETURN TO REGULAR SESSION

ADJOURNMENT

Ajourned at 6:58pm.

Ronald G. Jacobson, Mayor

Shannon Howard, City Clerk

Questions concerning items appearing on this Agenda or requests for accommodation of special needs to participate in the meeting should be addressed to the Office of the City Clerk, 408 Spokane Street or call 208-773-3511. City Council and City commission meetings are broadcast live on Post Falls City Cable on cable channel 1300 (formerly 97.103) as well as the City's YouTube Channel (<https://www.youtube.com/c/CityofPostFallsIdaho>).

Mayor Ronald G. Jacobson
Councilors: Samantha Steigleder, Josh Walker, Joe Malloy, Nathan Ziegler, Randy Westlund , Kenny Shove

Mission
Building Community.

**CITY OF POST FALLS
AGENDA REPORT
CONSENT CALENDAR
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: Nancy Wolf, CSR/AP
SUBJECT: Payables 05/30/24 - 06/11/2024

ITEM AND RECOMMENDED ACTION:

Payables

DISCUSSION:

Accounts Payable Check run 06/19/24/Hand Checks

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

APPROVED OR DIRECTION GIVEN:

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

\$674,768.77

BUDGET CODE:

Various

ATTACHMENTS:

1. Check Run 06.19.24
2. Hand Check list for Check run 06.19.24

Post Falls Check Approval



City of Post Falls

Packet: APPKT13089 - Check Run 06.11.24
Vendor Set: 01 - Vendor Set 01

Check Date: 6/11/2024

Vendor Number	Vendor Name	Bank Code	Payment Type	Invoice #	Invoice Description	Account Number	Distribution Amount
Fund: 001 - GENERAL FUND							
Balance Sheet Accounts							
VEN06558	ARCHITERRA HOMES						
APMWB	Check			BOND RELEASE -	BOND RELEASE - 3594 N. CYPRUS FOX	001-22115	2,000.00
VEN14958	Classical Christian Academy						
APMWB	Check			05/29/24	Damage Deposit Refund	001-22080	250.00
VEN14395	Douglass Properties LLC						
APMWB	Check			BOND RELEASE -	BOND RELEASE - BLUEGRASS APARTME	001-22115	39,450.00
VEN14962	Wildflower Properties, LLC						
APMWB	Check			BOND RELEASE -	BOND RELEASE - BLUE SPRUCE MEADO	001-22115	149,268.75
Balance Sheet Accounts Total:							190,968.75
Dept: 411 Mayor & Council							
VEN14744	Veritas Advisors, LLP						
APMWB	Check			5792	Veritas Advisors May 2024 Lobbying	001-411.0000.62040	2,916.66
Dept 411 Total:							2,916.66
Dept: 414 Finance							
B091	BDS						
APMWB	Check			94603	Delinquency notices	001-414.1445.62170	302.49
						001-414.1445.62190	167.67
VEN14806	Debtbook						
APMWB	Electronic Funds Transf			D2005206	Lease and SBIT Management: 6/29/24 to 6/	001-414.0000.62040	6,000.00
V040	ODP Business Solutions						
APMWB	Check			367365249001	Office Supplies-Finance	001-414.0000.63060	59.77
VEN02035	Staples, Inc						
APMWB	Check			6003501166	Office Supplies-Finance	001-414.0000.63060	44.55
Dept 414 Total:							6,574.48
Dept: 421 Police							
B0690	Batteries Plus						
APMWB	Check			P73305638	Radar Box Batteries	001-421.0000.63130	68.90
C210	City of Post Falls						
APMWB	Check			INV0148158	City Utilities 05.24	001-421.0000.65004	291.96
C220	Coleman Oil Co						
APMWB	Check			CP-0135339	PD Gasoline	001-421.0000.64030	5,158.41
VEN14867	CW Signs						
APMWB	Check			1903	Business Cards - Close, Roach, Speer	001-421.0000.63210	179.97
VEN14574	Debbz Upholstery LLC						
APMWB	Check			260731	PFPD91 Upholstery Repair	001-421.0000.67170	165.00
				260732	PFPD100 Upholstery Repair	001-421.0000.67170	195.00
VEN14874	Debra J Salish						
APMWB	Check			24-60	Tailor - Morris	001-421.4000.72000	20.00
VEN08808	FBI- LEEDA						
APMWB	Check			200102290	Training Registration - Johnson	001-421.0000.64020	795.00
G020	Galls, LLC						
APMWB	Electronic Funds Transf			028007653	New Hire Uniform - Tourniquet, Zentgraf	001-421.4000.72000	35.88
				028019693	New Hire Uniform - Mag Holder, Essaulov	001-421.4000.72000	38.64
				028019694	New Hire Uniform - Mag Holder, Morgan	001-421.4000.72000	38.64
				028007660	SRT Pants, Harrison	001-421.4000.72000	75.44
K080	Knudtsen Chevrolet and GMAC						
APMWB	Check			5004924	PFPD Stock - SL-N-Cap	001-421.0000.67100	34.17
				5004913	PFPD91 SL-N-Sensors	001-421.0000.67100	149.04
VEN14015	Midway Hyundai						

Vendor Number	Vendor Name	Bank Code	Payment Type	Invoice #	Invoice Description	Account Number	Distribution Amount
APMWB	Check			178119	PFPD148 - Tires Mount & Balance	001-421.0000.67170	208.95
				178154	PFPD149 - Tires Mount & Balance	001-421.0000.67170	208.95
				178188	PFPD115 - Tires Mount & Balance	001-421.0000.67170	219.40
VEN12699	Mike White Ford of Coeur d'Alene						
APMWB	Check			167153	PFPD135 Front Motor Mounts	001-421.0000.67170	2,254.31
VEN08971	Mister Green						
APMWB	Check			29293	PD Spring Lawn Maintenance	001-421.0000.68010	200.00
VEN14732	MP Antenna LTD, LLC						
APMWB	Check			PS-INV103691	PD New Car Antennas & Retro	001-421.0000.90020	1,461.02
N001	Napa Auto Parts						
APMWB	Check			289939	PD Stock - Glass Cleaner	001-421.0000.63060	79.56
				289431	PD Warranty & Core Deposit	001-421.0000.67100	-143.37
				3688-296620	PFPD Stock - Hub Bearing Assembly, Terry	001-421.0000.67100	219.21
				3688-294662	PFPD148 - Battery & Core Deposit	001-421.0000.67100	208.97
				289038	PFPD 115 - Brakes & Rotors	001-421.0000.67100	195.34
				3688-293711	PFPD Stock - Etc. Shop Supplies	001-421.0000.67100	144.30
				3688-294663	PFPD148 - Battery & Core Deposit	001-421.0000.67100	140.86
				3688-295800	PFPD Stock - Air Filters & Windshield Wash	001-421.0000.67100	113.20
				277257	PFPD79 Motor Mount	001-421.0000.67100	71.82
				289316	PD Brake Pad & Rotors Return	001-421.0000.67100	-195.34
				3688-293373	Core Deposit from 3688-293226	001-421.0000.67100	-18.00
				3688-293035	PFPD1 - Steering Tie Rod	001-421.0000.67100	160.10
				3688-294233	PFPD Stock - Oil Filter	001-421.0000.67100	27.51
				3688-296691	PFPD114 - Sway Bar Bushing	001-421.0000.67100	12.96
P4384	Proforce Law Enforcement						
APMWB	Check			549627	Patrol Body Armor	001-421.4000.72010	5,663.88
VEN04236	Ramey's Yard Care						
APMWB	Check			731561	PD Quarterly Pest Control	001-421.0000.68010	115.00
VEN09093	Shireen Inc						
APMWB	Check			51263	Wireless Amps for new build patrol cars	001-421.0000.90020	1,744.00
VEN14751	Tetiri, LLC						
APMWB	Check			45	Substation June Rent	001-421.0000.62040	1,480.50
VEN14902	The Bunker Tri-Cities LLC						
APMWB	Check			INV-5803	New Hire Uniform - Gochenour	001-421.4000.72000	1,251.25
VEN03255	Ziply Fiber						
APMWB	Check			208-710-0197-1010	Substation Space Rent	001-421.0000.65030	163.50
Dept 421 Total:							23,233.93
Dept: 424 Legal							
C220	Coleman Oil Co						
APMWB	Check			CP-0132687	Fuel usage - May 2024	001-424.0000.64030	94.14
VEN14577	Karpel Solutions						
APMWB	Check			Invoice #65654	PBK Maintenance	001-424.0000.66014	5,725.00
VEN14845	Smith & Malek, PLLC						
APMWB	Check			49941	CDA/PF v KC Treasury	001-424.0000.62040	7,449.03
Dept 424 Total:							13,268.17
Dept: 427 Animal Control							
C220	Coleman Oil Co						
APMWB	Check			CP-0135339	PD Gasoline	001-427.0000.64030	164.10
Dept 427 Total:							164.10
Dept: 431 Streets							
A365	American On-Site Services						
APMWB	Check			126283	Streets Portajohn cleeaning	001-431.0000.68130	135.57
A497	Arrow Construction Supply, Inc						
APMWB	Check			400254	Crafco service & inspect	001-431.0000.68090	238.06
				400505	Throttle Cable Assembly	001-431.0000.68130	95.58
VEN05261	CDA PAVING						
APMWB	Check			95627	Dumping - asphalt & concrete	001-431.0000.68130	25.00
				95507	3/4" Minus Base	001-431.0000.68130	199.14

Vendor Number	Vendor Name	Invoice #	Invoice Description	Account Number	Distribution Amount
Bank Code	Payment Type				
APMWB	Check	95729	Dumping Clean concrete	001-431.0000.68130	37.80
		95543	Dumping - Asphalt/gravel mix	001-431.0000.68130	25.00
		95417	3/4" minus crushed base	001-431.0000.68130	80.00
		94646	Dumping clean concrete	001-431.0000.68130	25.80
		94567		001-431.0000.68130	664.20
		95417	3/4" minus crushed base	001-431.0000.68130	93.08
		95627	Dumping - asphalt & concrete	001-431.0000.68130	97.80
		94567	Dumping clean concrete	001-431.0000.68130	25.00
VEN13187	Checkr Inc				
APMWB	Electronic Funds Transf	1268195	May 2024 Background Checks	001-431.0000.62080	76.99
C210	City of Post Falls				
APMWB	Check	INV0148158	City Utilities 05.24	001-431.0000.65004	157.61
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-431.0000.64030	5,080.62
G098	Grainger				
APMWB	Check	9143011899	Bungee Cords	001-431.0000.67090	55.42
VEN01373	Intermountain Sign & Safety				
APMWB	Check	18868	Telspar post	001-431.0000.63260	98.00
		18879	Chip Seal Markers	001-431.0000.68100	680.00
		18819	RRFB Beacon precast bases/anchors	001-431.0000.68140	1,060.00
I340	Interstate Concrete & Asphalt				
APMWB	Check	969889	5/8" Top Course - Potlatch Rd	001-431.0000.68130	76.72
K100	Kootenai County Solid Waste				
APMWB	Check	10-32216/09-91569	General Refuse	001-431.0000.68150	5.85
		10-32216.00/0422	Credit Balance	001-431.0000.68150	-2.10
L071	Local Highway Technical Assistance Council- LHTAC				
APMWB	Electronic Funds Transf	T2052124LCR-17	Training - Webinar	001-431.0000.64020	40.00
		T2051424EBMP-4	Staff Development	001-431.0000.64020	320.00
N001	Napa Auto Parts				
APMWB	Check	3688-296413	Citrol Cleaner	001-431.0000.63000	52.86
VEN05363	North 40 Outfitters				
APMWB	Check	046959/E	Fitting 3/4 x 3/8 2pk	001-431.0000.68090	6.99
P325	Poe Asphalt Paving, Inc.				
APMWB	Check	9179	Hot Mix Asphalt	001-431.0000.68130	1,641.50
VEN02884	Rodda Paint				
APMWB	Check	45245036	2024 Paint & Beads	001-431.0000.68100	7,200.00
		45246191		001-431.0000.68100	25,200.00
		45245036		001-431.0000.68100	3,600.00
R251	Serights Ace Hardware				
APMWB	Check	355792/1	21" Hedge Shears	001-431.0000.67090	23.39
		355809/1	Trailer Jack	001-431.0000.68130	67.49
		355779/1	Orange wipes	001-431.0000.68130	16.57
		355668/1	Rake handle & buckets	001-431.0000.68130	34.14
		355623/1	pvc couplings	001-431.0000.68140	3.30
		355586/1	Conduit	001-431.0000.68140	169.20
		355703/1	Pushbroom & wastebasket	001-431.0000.68150	35.08
VEN02288	Superior Fluid Power Inc				
APMWB	Check	20362	Two custom cylinders for ice breaker	001-431.0000.68080	5,500.00
VEN14310	US Fleet Tracking LLC				
APMWB	Check	471813	Monthly vehicle tracking	001-431.0000.66016	569.05
Z026	Ziegler Lumber Co #017				
APMWB	Check	61893	reversal from inv# 697490	001-431.0000.68130	-21.00
		61889	reversal of inv 697490	001-431.0000.68130	-7.96
		697763	Stripping	001-431.0000.68130	33.60
		702464	Treated lumber for trailer floor	001-431.0000.68130	62.95
		697490	Joint filler & Stripping	001-431.0000.68130	68.76
		698657	PVC pipe for beacon install - Idaho/Penrose	001-431.0000.68140	5.99
Dept 431 Total:					53,653.05

Dept: 432 Public Works Administration
[C220](#) Coleman Oil Co

Vendor Number	Vendor Name	Invoice #	Invoice Description	Account Number	Distribution Amount
Bank Code	Payment Type				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-432.0000.64030	85.07
Dept 432 Total:					85.07
Dept: 433 Facility Maintenance					
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-433.0000.64030	203.92
Dept 433 Total:					203.92
Dept: 434 Fleet Maintenance					
A1395	Advanced Compressor & Hose Inc				
APMWB	Check	95964	Camlock Bushings	001-434.0000.63011	52.70
		96157	Schaeffers compressor oil - S234	001-434.0000.63011	304.56
		96178	Chain	001-434.0000.67090	262.12
VEN14736	Cintas Corporation No. 3				
APMWB	Check	4193928548	Fleet Laundry & rug service	001-434.0000.63160	80.43
		4194513765	Fleet Laundry & Rug Service	001-434.0000.63160	75.68
C130	Coeur d'Alene Tractor				
APMWB	Check	CDA-1078892	Hazard Light lens - P304	001-434.0000.63012	38.34
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-434.0000.64030	333.03
VEN01683	Goodyear Tire & Rubber Company				
APMWB	Check	197-1154618	GY 235/85R16 Endurance ST 10	001-434.0000.67190	754.10
N001	Napa Auto Parts				
APMWB	Check	7439-011171	Wire Stop	001-434.0000.63011	5.16
		3688-294636	Air Filter	001-434.0000.63011	12.11
		3688-294639	Air Filter - stock	001-434.0000.63011	24.22
		3688-296520	Air Filter - S234	001-434.0000.63011	30.25
		3688-295308	Filter stock	001-434.0000.63011	39.36
		3688-294160	Fuel Cap - S127	001-434.0000.63011	33.67
		3688-295308	Filter stock	001-434.0000.63012	35.11
		3688-294182	Fuel Cap - Stock	001-434.0000.63012	75.64
		3688-294235	Solenoid - P475	001-434.0000.63012	12.70
		3688-294273		001-434.0000.63012	14.83
		3688-296437	Spark plug - P472	001-434.0000.63012	12.32
		3688-294132	Oil Filter - Stock	001-434.0000.63013	4.44
		3688-295308	Filter stock	001-434.0000.63013	31.92
		3688-296656	Milwaukee Impact Wrench	001-434.0000.67090	249.77
VEN08121	PacWest Machinery LLC				
APMWB	Check	30421188	Hopper Transition Seal - S555	001-434.0000.63011	146.93
P180	Perfection Tire				
APMWB	Check	1074854	A/C system serviced - R208	001-434.0000.67170	191.45
R251	Serights Ace Hardware				
APMWB	Check	355778/1	Angled Measuring cup	001-434.0000.67090	14.39
VEN02035	Staples, Inc				
APMWB	Check	6003501165	Office Supplies-Fleet	001-434.0000.63060	69.25
T106	Titan Truck Equipment				
APMWB	Check	1370057	Plntle Hook mount receiver - F101	001-434.0000.63011	153.24
Dept 434 Total:					3,057.72
Dept: 441 Urban Forestry					
VEN14377	Affordable Stump Grinding				
APMWB	Check	1483	Stump Grinding Services	001-441.0000.62040	820.00
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-441.0000.64030	358.07
C410	Country Lock & Key, Inc.				
APMWB	Electronic Funds Transf	13545	Key Copies	001-441.0000.67090	20.50
		13482	Padlocks for Job Boxes	001-441.0000.67090	68.85
VEN14867	CW Signs				
APMWB	Check	1902	Restoration Area Signs	001-441.0000.62040	437.50
R251	Serights Ace Hardware				
APMWB	Check	355674/1	Mounting Tape for Trail Kiosk	001-441.0000.67090	13.49

Vendor Number	Vendor Name	Invoice #	Invoice Description	Account Number	Distribution Amount
Bank Code	Payment Type				
VEN14849	StateFire DC Specialties, LLC				
APMWB	Check	12563980	Knox Boxes for Post Falls Community Forest	001-441.0000.62040	2,007.00
Dept 441 Total:					3,725.41
Dept: 442 Cemetery					
A5189	Aspen Nursery				
APMWB	Check	79672	pink tree	001-442.0000.68190	230.45
C210	City of Post Falls				
APMWB	Check	INV0148158	City Utilities 05.24	001-442.0000.65004	413.43
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-442.0000.64030	565.13
R251	Serights Ace Hardware				
APMWB	Check	355630/1	tie downs and tools	001-442.0000.67090	164.66
Dept 442 Total:					1,373.67
Dept: 443 Parks					
A228	A-L Compressed Gases, Inc.				
APMWB	Check	0003035065	Acetylene for welder	001-443.0000.64030	9.08
A365	American On-Site Services				
APMWB	Check	127756	Warren Portable Restroom	001-443.0000.65050	105.00
		127755	Singing Hills Portable Restroom	001-443.0000.65050	265.00
		127754	Woodbridge portable restroom	001-443.0000.65050	183.00
		126278	Corbin Portable Restroom	001-443.0000.65050	183.00
		128399	Q'emiln Park Portable Restrooms	001-443.0000.65050	169.37
		128287	Community Garden portable restroom	001-443.0000.65050	105.00
		128842	Poleline Tennis Courts portable restroom	001-443.0000.65050	105.00
		127753	Upper Corbin Portable Restroom	001-443.0000.65050	105.00
		127752	Hilde Kellogg Portable Restroom	001-443.0000.65050	105.00
		126284	Skate Park Portable	001-443.0000.65050	105.00
		126276	4Th Street Trailhead Portable	001-443.0000.65050	105.00
		126277	Black Bay Portable Restroom	001-443.0000.65050	78.00
		127757	The Landings Portable Restroom	001-443.0000.65050	105.00
A4900	Architectural Hardware, Inc.				
APMWB	Check	28324	Restroom door & frame	001-443.0000.94180	1,108.00
A5189	Aspen Nursery				
APMWB	Check	80051	Hanging Baskets for Spokane St.	001-443.0000.68210	5,544.00
C180	Central Pre Mix Concrete				
APMWB	Check	3761397	Rebar for Woodbridge Project	001-443.0000.94180	322.15
VEN13187	Checkr Inc				
APMWB	Electronic Funds Transf	1268195	May 2024 Background Checks	001-443.0000.62080	163.71
C210	City of Post Falls				
APMWB	Check	INV0148158	City Utilities 05.24	001-443.0000.65004	2,735.29
				001-443.0000.68230	75.90
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-443.0000.64030	4,756.93
C410	Country Lock & Key, Inc.				
APMWB	Electronic Funds Transf	13523	Re-key Falls Pipe Chase	001-443.0000.62180	95.00
F020	Fastenal Company				
APMWB	Check	IDCOE200758	Hardware for stock	001-443.0000.67030	43.97
H003	H.D. Fowler Company				
APMWB	Check	16705874	Clamps & pipe for North Arboretum	001-443.0000.68230	50.66
		C611606	Part return	001-443.0000.68230	-229.00
		16704906	Solvent for Woodbridge	001-443.0000.94180	213.00
		16705096	Solvent for Woodbridge Project	001-443.0000.94180	74.80
H1957	Horizon				
APMWB	Electronic Funds Transf	7F014541	Faceplate for Baseline System at the Quarry	001-443.0000.68230	1,559.82
		7F014875	Irrigation for Woodbridge	001-443.0000.94180	328.72
VEN14105	Knox Company				
APMWB	Check	1054936	Knox Box for Community Forest	001-443.0000.80150	550.22
VEN14065	North Idaho Pest				
APMWB	Check	2024-02	Pest Control for All Parks for May	001-443.0000.68215	2,234.10

Vendor Number Bank Code	Vendor Name Payment Type	Invoice #	Invoice Description	Account Number	Distribution Amount
VEN14579	Planet Turf				
APMWB	Check	3007912	Sport Plus Grass Seed	001-443.0000.68180	370.00
P310	Platt Electric Supply				
APMWB	Check	5F22874	Irrigation Parts for Black Bay	001-443.0000.68230	773.24
VEN01361	Safety-Kleen				
APMWB	Check	94531184	Pump oil/water seperator Parks Shop	001-443.0000.65050	624.73
S050	Saturday Night Inc.				
APMWB	Electronic Funds Transf	106043	Shirts, hats Sweatshirts	001-443.4000.72000	1,044.05
R251	Serights Ace Hardware				
APMWB	Check	355480/1	Hardware for South Parks	001-443.0000.67030	17.08
		355709/1	Box for South Parks	001-443.0000.68230	11.24
		355522/1	Irrigation parts for City Hall	001-443.0000.68230	24.34
		355753/1	Rainsuit	001-443.4000.72000	20.69
A565	SiteOne Landscape Supply, LLC				
APMWB	Check	142071473-001	Irrigation Parts for Syringa	001-443.0000.68230	105.10
Z026	Ziegler Lumber Co #017				
APMWB	Check	697513	Tool for Construction	001-443.0000.67090	206.91
		701379	Lumber for Benches	001-443.0000.68160	280.05
Dept 443 Total:					24,832.15
Dept: 445 Recreation					
VEN13187	Checkr Inc				
APMWB	Electronic Funds Transf	1268195	May 2024 Background Checks	001-445.0000.62080	500.38
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-445.0000.64030	84.85
P4835	ProPrint				
APMWB	Check	65402	Business Cards	001-445.0000.62080	31.00
S050	Saturday Night Inc.				
APMWB	Electronic Funds Transf	105978	PF Festival Shirts	001-445.0000.63430	324.20
Dept 445 Total:					940.43
Dept: 451 Planning & Zoning					
H001	H & H Business Systems, Inc.				
APMWB	Electronic Funds Transf	AR328185	Monthly Contract charges for G7369M66093	001-451.1901.66140	29.28
		AR328184	Monthly Contract Charges V9735700465	001-451.1901.66140	13.70
VEN02035	Staples, Inc				
APMWB	Check	6003501164	Office Supplies-Planning	001-451.0000.63060	72.05
Dept 451 Total:					115.03
Dept: 452 Building Inspector					
VEN07316	BC Engineers Inc				
APMWB	Check	10156	Post Falls Hyatt structural review	001-452.0000.62040	3,025.00
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-452.0000.64030	525.56
H001	H & H Business Systems, Inc.				
APMWB	Electronic Funds Transf	AR328184	Monthly Contract Charges V9735700465	001-452.1901.66140	13.70
		AR328185	Monthly Contract charges for G7369M66093	001-452.1901.66140	29.27
Dept 452 Total:					3,593.53
Dept: 453 Engineering					
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	001-453.0000.64030	187.03
H001	H & H Business Systems, Inc.				
APMWB	Electronic Funds Transf	AR328184	Monthly Contract Charges V9735700465	001-453.1901.66140	13.70
		AR328185	Monthly Contract charges for G7369M66093	001-453.1901.66140	29.26
P4835	ProPrint				
APMWB	Check	65523	Business Cards - Rob Palus	001-453.0000.63060	31.00
VEN02035	Staples, Inc				
APMWB	Check	6003501163	Office Supplies- Engineering	001-453.0000.63060	54.27
Dept 453 Total:					315.26

Vendor Number	Vendor Name	Bank Code	Payment Type	Invoice #	Invoice Description	Account Number	Distribution Amount
Dept: 481 Capital Improvements/Contracts							
C210	City of Post Falls						
APMWB	Check		INV0148158	City Utilities 05.24	001-481.0000.68390		245.11
I340	Interstate Concrete & Asphalt						
APMWB	Check		Pay App #3 - Water	Pay App #3 - Water Tower Parking Lo	001-481.0000.95015		9,356.77
Dept 481 Total:							9,601.88
Fund 001 Total:							338,623.21
Fund: 003 - PERSONNEL BENEFIT POOL							
Dept: 482 Personnel Pool							
VEN14039	OneBridge						
APMWB	Check		INV-2871	June 2024 Admin Fees - employee HSA	003-482.4155.71210		150.00
A6000	Rehn & Associates, Inc.						
APMWB	Check		INV-00202659	May 2024 COBRA notification letters	003-482.0000.62160		112.00
Dept 482 Total:							262.00
Fund 003 Total:							262.00
Fund: 007 - DRUG SEIZURE PROGRAM							
Dept: 425 Drug Seizure Program							
VEN14881	LeadsOnline Parent LLC						
APMWB	Check		411629	Leads Online renewal	007-425.0000.62040		6,264.00
Dept 425 Total:							6,264.00
Fund 007 Total:							6,264.00
Fund: 037 - STREETS IMPACT FEES							
Dept: 431 Streets							
J105	J-U-B Engineers, Inc.						
APMWB	Electronic Funds Transf		0170280	0170280	037-431.0000.80290		23,370.00
Dept 431 Total:							23,370.00
Fund 037 Total:							23,370.00
Fund: 650 - RECLAIMED WATER OPERATING							
Dept: 463 Wastewater Operating							
A090	Accurate Testing Labs LLC						
APMWB	Check		136319	Biosolids Grab 1 & 2	650-463.0000.68360		240.00
			138427	Treatment Testing	650-463.0000.68360		700.00
A1395	Advanced Compressor & Hose Inc						
APMWB	Check		95967	50' Garden Hose	650-463.0000.68025		300.00
A228	A-L Compressed Gases, Inc.						
APMWB	Check		0003035138	High Pressure	650-463.0000.68025		9.08
			002168416	Service Charges	650-463.0000.68025		2.00
A0001	Alsco						
APMWB	Check		LSPO2745266	New Lab Towles	650-463.0000.63400		130.00
A424	Anatek Labs, Inc.						
APMWB	Check		2412770	Surface Water Anylisis	650-463.0000.68360		160.00
			2412240	Surface Water 5/8/24	650-463.0000.68360		455.00
			2412681		650-463.0000.68360		565.00
VEN13187	Checkr Inc						
APMWB	Electronic Funds Transf		1268195	May 2024 Background Checks	650-463.0000.62080		41.24
VEN14736	Cintas Corporation No. 3						
APMWB	Check		4193928657	WW Uniforms	650-463.4000.72000		165.00
			4194514192	WW Uniforms	650-463.4000.72000		165.00
C210	City of Post Falls						
APMWB	Check		INV0148158	City Utilities 05.24	650-463.0000.65080		136.92
C220	Coleman Oil Co						
APMWB	Check		CP-0132687	Fuel usage - May 2024	650-463.0000.65005		593.90
G098	Grainger						

Vendor Number	Vendor Name	Invoice #	Invoice Description	Account Number	Distribution Amount
Bank Code	Payment Type				
APMWB	Check	9138615951	TEE KEY	650-463.0000.68025	5.39
		9141909375	Spring Snap Steel	650-463.0000.68025	45.48
		9140075939	TEE KEY	650-463.0000.68025	16.17
		9134184929	Fire Hose Adapter & Bushing	650-463.0000.68025	27.45
		9119649615	PLEATED AIR FILTER	650-463.0000.68025	58.44
		9135863133	Fire Hose & Bushing	650-463.0000.68025	164.70
VEN10274	Jordan Sales & Service Inc				
APMWB	Check	01-30715	Fuel, Oil & Air Filter	650-463.0000.67170	97.85
N040	NCL of Wisconsin, Inc.				
APMWB	Check	504108	Lab Supplies	650-463.0000.63400	1,131.98
VEN04172	Northwest Scientific, Inc.				
APMWB	Electronic Funds Transf	5179945	Weighing Dish Aluminum Disposable	650-463.0000.63400	108.48
		5180266	Buchner Funnel, PP, 5.5cm	650-463.0000.63400	19.03
		5179968	Electrode Storage Solution	650-463.0000.63400	111.48
		5179955	Extran® MN 01 Powdered Detergent,	650-463.0000.63400	101.88
		5179891	Glass Microfiber Filters	650-463.0000.63400	127.58
		5180162	Thermometer, 0-200° C	650-463.0000.63400	555.54
N500	NSI Solutions, Inc				
APMWB	Electronic Funds Transf	435215	Lab Testing Supplies	650-463.0000.63400	1,276.00
V040	ODP Business Solutions				
APMWB	Check	369000601001	Office Supplies-Wastewater	650-463.0000.63060	4.73
		368999233001		650-463.0000.63060	59.22
		369000600001		650-463.0000.63060	12.67
		368999233001		650-463.0000.63060	4.15
		369000602001		650-463.0000.63060	5.82
		368999233001		650-463.0000.63060	51.64
VEN14559	One Call Concepts, Inc				
APMWB	Check	4055025	WW & Water Locate Service	650-463.0000.62320	412.42
R251	Serights Ace Hardware				
APMWB	Check	355554/1	SUPERSPRAY	650-463.0000.68025	17.09
		355475/1	Duct Tape & Super Glue	650-463.0000.68025	28.41
		355589/1	ELBOW 45 2"GALV & NIPPLE	650-463.0000.68025	24.82
		355802/1	CULTIVATOR WOOD ACE 4T, SPRING LIN	650-463.0000.68025	98.65
		355691/1	WWTP Supplies	650-463.0000.68025	32.10
VEN11958	Ultra-Lawn, LLC				
APMWB	Electronic Funds Transf	101510	Inverness & Chisholm Lawn Care	650-463.0000.62180	229.50
		101571	WRF Lawn Care 2024	650-463.0000.62180	4,186.00
Dept 463 Total:					12,677.81
Dept: 466 Wastewater - Collections					
A1395	Advanced Compressor & Hose Inc				
APMWB	Check	96205	Scrub Towels, Cable Tie, 16" Straps	650-466.0000.63330	223.43
A570	AVISTA Utilities				
APMWB	Check	9862-5.2024	Shoreline LS 5/2024	650-466.0000.65010	18.46
VEN14736	Cintas Corporation No. 3				
APMWB	Check	4194514192	WW Uniforms	650-466.4000.72000	165.01
		4193928657	WW Uniforms	650-466.4000.72000	165.01
C210	City of Post Falls				
APMWB	Check	INV0148158	City Utilities 05.24	650-466.0000.65080	23.50
				650-466.0000.65081	492.73
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	650-466.0000.65005	2,181.35
N001	Napa Auto Parts				
APMWB	Check	3688-296909	Tub Towles	650-466.0000.63330	28.66
		3688-294386	Towles & Molding Tape	650-466.0000.63330	21.26
B100	Owen Equipment Company				
APMWB	Check	00130199	Vactor heat exchange	650-466.0000.67170	3,634.37
P180	Perfection Tire				
APMWB	Check	1074516	Oil Change T113	650-466.0000.67170	83.69
R251	Serights Ace Hardware				
APMWB	Check	355194/1	WWTP Shop Supplies	650-466.0000.63006	43.11

Vendor Number	Vendor Name	Invoice #	Invoice Description	Account Number	Distribution Amount
Bank Code	Payment Type				
APMWB	Check	355886/1	WWTP Shop Supplies	650-466.0000.63330	102.94
		355885/1	Black Marker, Bolts	650-466.0000.63330	13.32
Dept 466 Total:					7,196.84
Dept: 468 Wastewater - Surface Water					
C210	City of Post Falls				
APMWB	Check	INV0148158	City Utilities 05.24	650-468.0000.65080	27.68
				650-468.0000.65081	1,078.31
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	650-468.0000.65005	776.94
R251	Serights Ace Hardware				
APMWB	Check	355487/1	WWTP Plant Supplies	650-468.0000.68380	62.21
		355755/1	Storm Water Supplies	650-468.0000.68380	66.54
Dept 468 Total:					2,011.68
Fund 650 Total:					21,886.33
Fund: 651 - RECLAIMED WATER CAPITAL - WWTP					
Dept: 463 Wastewater Operating					
A293	Allwest Testing & Engin., LLC				
APMWB	Check	236086	Tertiary Upgrade Allwest Invoice May 2024	651-463.3213.90015	325.00
P050	Panhandle Area Council				
APMWB	Check	49-PFLM	Tertiary PAC Invoice May 2024	651-463.3213.90015	2,152.00
Dept 463 Total:					2,477.00
Fund 651 Total:					2,477.00
Fund: 652 - RECLAIMED WATER CAPITAL - COLLECTOR					
Dept: 463 Wastewater Operating					
VEN07815	LaRiviere, Inc				
APMWB	Electronic Funds Transf	Corbin Pay App #5	Corbin LS La Riviere Pay App #7 May 2024	652-463.3234.95520	72,060.86
VEN14614	Strider Construction Co, Inc				
APMWB	Electronic Funds Transf	Bentley Pay App #7	Bentley LS Strider Pay App #7 April 2024	652-463.3230.95520	59,728.80
Dept 463 Total:					131,789.66
Fund 652 Total:					131,789.66
Fund: 700 - SANITATION					
Dept: 461 Sanitation					
K100	Kootenai County Solid Waste				
APMWB	Check	10-30289/09-99733	General Refuse	700-461.0000.65050	2.60
Dept 461 Total:					2.60
Fund 700 Total:					2.60
Fund: 750 - WATER OPERATING					
Dept: 462 Water Operating					
A090	Accurate Testing Labs LLC				
APMWB	Check	138572	Coliform Presence/ Absence	750-462.0000.68360	150.00
		138606	Nitrate	750-462.0000.68360	60.00
VEN14124	Badger Meter, Inc.				
APMWB	Check	80160376	BEACON MBL HOSTING SERV UNIT	750-462.0000.66012	64.74
C1161	CDA Garbage				
APMWB	Electronic Funds Transf	2451024	Water Recycle Bin	750-462.0000.65050	30.50
VEN05261	CDA PAVING				
APMWB	Check	95508	3/4" Minus Crushed Base Rock	750-462.0000.63280	112.88
C210	City of Post Falls				
APMWB	Check	INV0148158	City Utilities 05.24	750-462.0000.65004	30.92
C220	Coleman Oil Co				
APMWB	Check	CP-0132687	Fuel usage - May 2024	750-462.0000.64030	1,783.58
VEN14305	General Pacific, Inc				

Vendor Number	Vendor Name	Invoice #	Invoice Description	Account Number	Distribution Amount
Bank Code	Payment Type				
APMWB	Electronic Funds Transfr	1493880	Red Raised Dust Cap	750-462.0000.63280	56.00
		1493774	M55 Housing Bottom Cast Iron	750-462.0000.63280	840.00
		1494068	M25-M55 Housing Bolt	750-462.0000.63280	900.00
G098	Grainger				
APMWB	Check	9136592723	STRIPING WAND,3 FT.,PLASTIC	750-462.0000.62320	-321.09
		9137017852	MARKING WAND,34" L	750-462.0000.62320	247.74
		9120236642	STRIPING WAND,3 FT.,PLASTIC	750-462.0000.63280	428.12
H003	H.D. Fowler Company				
APMWB	Check	I6712850	IRON PIPE PACK JOINT	750-462.0000.63280	229.00
		I6712985	2" 702 GALV COMPRESSION COUPLING	750-462.0000.63280	149.46
N001	Napa Auto Parts				
APMWB	Check	7439-010198	Tools for Justins Truck W115	750-462.0000.67090	674.61
VEN14559	One Call Concepts, Inc				
APMWB	Check	4055025	WW & Water Locate Service	750-462.0000.62320	412.43
R251	Serights Ace Hardware				
APMWB	Check	355820/1	Screws	750-462.0000.63280	17.99
		355618/1	M18 FUEL CIRCSAW 7-1/4TO	750-462.0000.63280	236.55
		355807/1	Tools for Justins work truck	750-462.0000.63280	93.83
		355617/1	HOOK KNIFE & BAR PRY	750-462.0000.67090	64.47
Dept 462 Total:					6,261.73
Fund 750 Total:					6,261.73
Report Total:					530,936.53



Fund	Account	Amount
001 - GENERAL FUND		
	001-22080	250.00
	001-22115	190,718.75
	001-411.0000.62040	2,916.66
	001-414.0000.62040	6,000.00
	001-414.0000.63060	104.32
	001-414.1445.62170	302.49
	001-414.1445.62190	167.67
	001-421.0000.62040	1,480.50
	001-421.0000.63060	79.56
	001-421.0000.63130	68.90
	001-421.0000.63210	179.97
	001-421.0000.64020	795.00
	001-421.0000.64030	5,158.41
	001-421.0000.65004	291.96
	001-421.0000.65030	163.50
	001-421.0000.67100	1,120.77
	001-421.0000.67170	3,251.61
	001-421.0000.68010	315.00
	001-421.0000.90020	3,205.02
	001-421.4000.72000	1,459.85
	001-421.4000.72010	5,663.88
	001-424.0000.62040	7,449.03
	001-424.0000.64030	94.14
	001-424.0000.66014	5,725.00
	001-427.0000.64030	164.10
	001-431.0000.62080	76.99
	001-431.0000.63000	52.86
	001-431.0000.63260	98.00
	001-431.0000.64020	360.00
	001-431.0000.64030	5,080.62
	001-431.0000.65004	157.61
	001-431.0000.66016	569.05
	001-431.0000.67090	78.81
	001-431.0000.68080	5,500.00
	001-431.0000.68090	245.05
	001-431.0000.68100	36,680.00
	001-431.0000.68130	3,476.74
	001-431.0000.68140	1,238.49
	001-431.0000.68150	38.83
	001-432.0000.64030	85.07
	001-433.0000.64030	203.92
	001-434.0000.63011	802.20
	001-434.0000.63012	188.94
	001-434.0000.63013	36.36
	001-434.0000.63060	69.25
	001-434.0000.63160	156.11
	001-434.0000.64030	333.03
	001-434.0000.67090	526.28
	001-434.0000.67170	191.45
	001-434.0000.67190	754.10
	001-441.0000.62040	3,264.50
	001-441.0000.64030	358.07
	001-441.0000.67090	102.84
	001-442.0000.64030	565.13
	001-442.0000.65004	413.43
	001-442.0000.67090	164.66

001-442.0000.68190	230.45	
001-443.0000.62080	163.71	
001-443.0000.62180	95.00	
001-443.0000.64030	4,766.01	
001-443.0000.65004	2,735.29	
001-443.0000.65050	2,343.10	
001-443.0000.67030	61.05	
001-443.0000.67090	206.91	
001-443.0000.68160	280.05	
001-443.0000.68180	370.00	
001-443.0000.68210	5,544.00	
001-443.0000.68215	2,234.10	
001-443.0000.68230	2,371.30	
001-443.0000.80150	550.22	
001-443.0000.94180	2,046.67	
001-443.4000.72000	1,064.74	
001-445.0000.62080	531.38	
001-445.0000.63430	324.20	
001-445.0000.64030	84.85	
001-451.0000.63060	72.05	
001-451.1901.66140	42.98	
001-452.0000.62040	3,025.00	
001-452.0000.64030	525.56	
001-452.1901.66140	42.97	
001-453.0000.63060	85.27	
001-453.0000.64030	187.03	
001-453.1901.66140	42.96	
001-481.0000.68390	245.11	
001-481.0000.95015	9,356.77	
	Fund 001 Total:	338,623.21
003 - PERSONNEL BENEFIT POOL		
003-482.0000.62160	112.00	
003-482.4155.71210	150.00	
	Fund 003 Total:	262.00
007 - DRUG SEIZURE PROGRAM		
007-425.0000.62040	6,264.00	
	Fund 007 Total:	6,264.00
037 - STREETS IMPACT FEES		
037-431.0000.80290	23,370.00	
	Fund 037 Total:	23,370.00
650 - RECLAIMED WATER OPERATING		
650-463.0000.62080	41.24	
650-463.0000.62180	4,415.50	
650-463.0000.62320	412.42	
650-463.0000.63060	138.23	
650-463.0000.63400	3,561.97	
650-463.0000.65005	593.90	
650-463.0000.65080	136.92	
650-463.0000.67170	97.85	
650-463.0000.68025	829.78	
650-463.0000.68360	2,120.00	
650-463.4000.72000	330.00	
650-466.0000.63006	43.11	
650-466.0000.63330	389.61	
650-466.0000.65005	2,181.35	
650-466.0000.65010	18.46	
650-466.0000.65080	23.50	
650-466.0000.65081	492.73	
650-466.0000.67170	3,718.06	
650-466.4000.72000	330.02	
650-468.0000.65005	776.94	
650-468.0000.65080	27.68	
650-468.0000.65081	1,078.31	
650-468.0000.68380	128.75	
	Fund 650 Total:	21,886.33
651 - RECLAIMED WATER CAPITAL - WWTP		

651-463.3213.90015	2,477.00
Fund 651 Total:	2,477.00
652 - RECLAIMED WATER CAPITAL - COLLECTOR	
652-463.3230.95520	59,728.80
652-463.3234.95520	72,060.86
Fund 652 Total:	131,789.66
700 - SANITATION	
700-461.0000.65050	2.60
Fund 700 Total:	2.60
750 - WATER OPERATING	
750-462.0000.62320	339.08
750-462.0000.63280	3,063.83
750-462.0000.64030	1,783.58
750-462.0000.65004	30.92
750-462.0000.65050	30.50
750-462.0000.66012	64.74
750-462.0000.67090	739.08
750-462.0000.68360	210.00
Fund 750 Total:	6,261.73
Report Total:	530,936.53

ACCOUNTS PAYABLE HANDCHECK ACCOUNTABILITY

5/31/2024	\$112.66	96720 AVISTA Utilities
5/31/2024	\$501.32	96721 Ricoh USA Inc.
5/31/2024	\$49.99	96722 TDS
5/31/2024	\$71.67	96723 Zply Fiber
6/4/2024	\$19,714.25	96724 AVISTA Utilities
6/7/2024	\$159.98	96728 Charter Communications
6/7/2024	\$383.19	96729 Kootenai Electric
6/7/2024	\$1,689.91	96730 T-Mobile
6/7/2024	\$4,600.00	96731 Wilson & Company Inc, Engineers & Architects
6/7/2024	\$50.04	96732 Zply Fiber
6/7/2024	\$293.93	96733 Zply Fiber
6/7/2024	\$90.24	96802 AT&T Mobility
6/7/2024	\$578.52	96803 AT&T Mobility
6/7/2024	\$655.11	96804 AT&T Mobility
6/7/2024	\$12.34	96805 AT&T Mobility
6/7/2024	\$43,570.27	96806 AVISTA Utilities
6/7/2024	\$169.98	96807 Charter Communications
6/7/2024	\$139.98	96808 Charter Communications
6/7/2024	\$165.00	96809 DeVries Info Management
6/7/2024	\$28,508.19	96810 Idaho State Tax Commission
6/7/2024	\$39,999.65	96811 Kootenai Electric
6/7/2024	\$439.70	96813 Post Falls Food Bank
6/7/2024	\$520.75	96814 Ross Point Water
6/7/2024	\$440.11	96815 Verizon Wireless
6/7/2024	\$120.03	96816 Verizon Wireless
6/7/2024	\$80.02	96817 Verizon Wireless
6/7/2024	\$350.19	96818 Verizon Wireless
6/7/2024	\$185.22	96819 Verizon Wireless
6/7/2024	\$120.03	96820 Verizon Wireless
6/7/2024	\$59.97	96821 Zply Fiber
	\$143,832.24	

FOR CHECK RUN 06.19.24

Pay Before Due Date	Various
Pay Before Due Date	Various
Pay Before Due Date	001-443.0000.65030
Pay Before Due Date	650-463.0000.65030
Pedestal Install /Black Bay	038-443.0000.94070
Pay Before Due Date	001-421.0000.65030
Pay Before Due Date	001-421.0000.65021
Pay Before Due Date	001-421.0000.65030
BSNF Inspection Service	001-431.1811.95040
Pay Before Due Date	001-421.0000.65030
Pay Before Due Date	001-421.0000.65030
Pay Before Due Date	001-424.0000.65030
Pay Before Due Date	650-463.0000.65030
Pay Before Due Date	650-466.0000.65030
Pay Before Due Date	750-462.0000.65030
Pay Before Due Date	Various
Pay Before Due Date	001-443.0000.65030
Pay Before Due Date	001-443.0000.65030
Pay Before Due Date	001-424.0000.63060
Pay Before Due Date	Various
Pay Before Due Date	Various
Pay Before Due Date	001-22110
Pay Before Due Date	Various
Pay Before Due Date	Various
Pay Before Due Date	001-453.0000.65030
Pay Before Due Date	001-452.0000.65030
Pay Before Due Date	Various
Pay Before Due Date	001-443.0000.65030
Pay Before Due Date	001-424.0000.65030
Pay Before Due Date	001-481.0000.68390

**CITY OF POST FALLS
AGENDA REPORT
CONSENT CALENDAR
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Ross Junkin, Maintenance Manager

SUBJECT: Fleet Division Request to Surplus Vehicles

ITEM AND RECOMMENDED ACTION:

The City Fleet Division has identified 3 vehicles that are beyond their useful life and have been replaced. Fleet recommends City Council declare the vehicles surplus and direct staff to sell the vehicles at auction.

DISCUSSION:

The City manages our fleet of vehicles using a system of planned replacement. Planning for this is conducted based on expected years of service but specific replacements are prioritized based on the condition of the vehicles, actual usage, and their maintenance history. To dispose of an asset, council must declare it surplus, no longer needed by the city. Surplus assets may be auctioned or donated to non-profits or other divisions of state and local government.

Vehicle #T104 is a 2003 Chevrolet 2500 4x4 with serial number 1GCHK24U33E306087. Asset Tag number 3899 was purchased by the Wastewater Department in 2003 for \$26,588.16 and has over 120k miles. A replacement vehicle was approved in 2022 for the 2023 budget cycle and was purchased in November 2023.

Upon approval, this vehicle will be sent to auction - proceeds will go back to the Fleet Replacement General Fund.

Vehicle #PFPD 98 is a 2010 Chevrolet Impala, S/N 2B3AA4CV6AH304223. Post Falls Police Department purchased this vehicle in 2010 for \$37,946.46 and it has 149,900 miles. The transmission is stuck in high gear and with the age of the vehicle and cost of repairs, decommission was recommended.

Upon approval, this vehicle will be sent to auction - proceeds will go back to the Fleet Replacement General Fund. This patrol vehicle was replaced by the Police Department with a new patrol car.

Vehicle #PFPD 106 is a 2010 Dodge Charger, S/N 2GWD5EM3A1205799. Post Falls Police Department purchased this vehicle in 2011 for \$32,015.30 and it has 118,288 miles. The engine shows low compression in the cylinders and with the age of the vehicle and cost of repairs, decommission was recommended.

Upon approval, this vehicle will be sent to auction - proceeds will go back to the Fleet Replacement General Fund. This patrol vehicle was replaced by the Police Department with a new patrol car.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

APPROVED OR DIRECTION GIVEN:

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

Replacements were approved for the 2023 budget cycle.

BUDGET CODE:

ATTACHMENTS:

None

**CITY OF POST FALLS
AGENDA REPORT
CONSENT CALENDAR
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM:

SUBJECT: Ashlar Ranch Subdivision Plat Application

ITEM AND RECOMMENDED ACTION:

With approval of the Consent Agenda, City Council authorizes the Mayor's signature of the final plat for the Ashlar Ranch Subdivision.

DISCUSSION:

The Developer has provided surety for the remaining improvements.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

N/A

APPROVED OR DIRECTION GIVEN:

Under the Subdivision Ordinance the plat application is returned to Council, for authorization of the Mayor's signature. Certification is required from the Engineering Division that infrastructure improvements have been completed, or that surety has been provided to guarantee the completion of the improvements.

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

N/A

BUDGET CODE:

N/A

ATTACHMENTS:

None

**CITY OF POST FALLS
AGENDA REPORT
CONSENT CALENDAR
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Robert Palus, Deputy City Engineer

SUBJECT: Montrose 17th Addition Construction Improvement Agreement

ITEM AND RECOMMENDED ACTION:

With approval of the Consent Agenda, City Council authorizes the Mayor to sign the Construction Improvement Agreement for the subject subdivision.

DISCUSSION:

This Agreement reflects the construction phase of the Montrose 17th Addition Subdivision. The Agreement sets forth the typical expectations of the Developer of the subdivision, and sets forth the responsibilities of the Developer and the City of Post Falls. This is a 45-lot subdivision, with the application for plat submitted by Greenstone-Kootenai II.

*Draft attached. Original to clerk prior to meeting,

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

N/A

APPROVED OR DIRECTION GIVEN:

N/A

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

N/A

BUDGET CODE:

N/A

ATTACHMENTS:

1. CIA - FOR SIGNATURE

CITY OF POST FALLS
408 SPOKANE STREET
POST FALLS, IDAHO 83854

CONSTRUCTION IMPROVEMENT AGREEMENT

THE CITY OF POST FALLS (hereinafter the "City"), 408 Spokane Street, Post Falls, Idaho 83854 and **Greenstone-Kootenai II** (hereinafter the "Developer"), enter into this Agreement effective the ____ day of _____ 20____, respecting the development of **Montrose 17th Addition**, the "Project", affecting the public rights of way or other public systems, equipment or property within the City of Post Falls. This Agreement provides for construction of subdivision improvements intended for ownership or maintenance by the City of Post Falls and other purveyors to support the development in accordance with the Subdivision Ordinance of the City of Post Falls.

I, **Kevin Schneidmiller**, execute this Agreement as the Developer with full responsibility for the proper development of the Project in accordance with provisions of the law and the specific terms and conditions made applicable to the Project in the course of project review by the City of Post Falls, as applicable. It is understood that the person(s) who execute this Agreement on behalf of the Developer does so in the capacity of Owner, and that they represent that they have full legal authority to do so. The parties to this Agreement shall accept notices at the following respective addresses and telephone numbers:

DEVELOPER

Kevin Schneidmiller
Greenstone-Kootenai II
N. 1421 Meadowwood Ln. #200
Liberty Lake, WA 99019

CITY

Ronald Jacobson, Mayor
City of Post Falls
408 Spokane Street
Post Falls, Idaho 83854
(208) 773-3511

WHEREAS, no construction of public improvements shall be allowed until plans are approved by the City Engineer as authorized by the City Council, as appropriate, until Engineering inspection and other fees indicated herein are pre-paid in full, until this Construction Improvement Agreement has been approved by City Council, Mayor or City Engineer, as appropriate, and until this Agreement has been signed, and necessary proof of insurance or surety has been provided; and

WHEREAS, Title 17, Subdivisions, of the Post Falls City Code requires certain common improvements to be provided by the Owner prior to occupancy of structures built within a development project or acceptance of public improvements for maintenance; and

WHEREAS, subdivisions and their inclusive lots must be provided with survey monuments, street surfacing, curbs and gutters, drainage systems, sidewalks, street name signs, street lighting, public water supply, fire hydrants and sanitary sewer system, among others; and

WHEREAS, no building permit may be issued for construction or repair of a dwelling unit in a subdivision for which a plat has not been approved and recorded or adequate surety provided; and no Certificates of Occupancy will be issued until the plat has been recorded and all improvements necessary for public health and safety are constructed and

substantially complete. Said requirement shall not prohibit construction of a pre-approved model home or other demonstration project provided that it is not intended for sale or occupancy before all subdivision improvements are substantially complete and adequate life safety measures are addressed; and

WHEREAS, the Owner is deemed to have satisfied the requirements for the plat to be recorded when all improvements required have been constructed pursuant to an approved Construction Improvement Agreement, or a bond furnished in an amount equaling 150% of the cost of constructing such improvements pursuant to an approved Construction Improvement Agreement; and

WHEREAS, the City of Post Falls has adopted site development standards which require work in the public rights of way in order to complete site development work on projects to comply with the City's Subdivision Ordinance; and

NOW, THEREFORE, in consideration of mutual promises and covenants contained herein, and upon representations made in application documents and presentations before the City's deliberative bodies, the parties agree as follows:

The real property which is the subject of this Agreement (hereinafter the "Property") is located in the City of Post Falls and is described as set forth on Attachment A which is incorporated herein by reference: (Legal Description of External Boundaries of Lands Subject to Development Agreement).

The Developer seeks the City's agreement to enter into a Contract to construct and install the improvements listed in Attachment B in accordance with all terms, covenants and conditions of this Agreement and the Developer's approved construction plans and specifications which are incorporated herein by reference. Any unique terms or conditions of improvement status, including any accelerated or delayed improvement obligations shall be set forth in the Attachments.

The estimated total costs of the improvements to be owned, operated and maintained by the City of Post Falls: utilities to be owned, operated and maintained by a utility other than the City of Post Falls; and other improvements for which surety is required as submitted by the Developer and approved by the City Engineer are depicted on Attachment C for purposes of calculation of surety requirements in accordance with the requirements of ordinances of the City of Post Falls. Evidence any required surety at the time of execution of this Agreement shall be attached hereto and be labeled Attachment D.

ARTICLE I

GENERAL PROVISIONS

1.01 APPLICATION OF ARTICLE

Unless this Agreement expressly provides otherwise, all provisions of this Article applies to every part of this Agreement.

1.02 PERMITS, LAWS, AND FEES

The Developer shall acquire and maintain in good standing all permits, licenses, platting approvals and other requirements necessary to its performance under this Agreement. All actions taken by the Developer under this Agreement shall comply with all applicable statutes, ordinances, rules, and regulations. The Developer shall pay all fees pertaining to its performance under this Agreement in accordance with this Agreement or with laws applicable to actions contemplated. Applicable fees shall be required by Post Falls Municipal Code and resolutions adopted by the City Council implementing Code requirements.

1.03 RELATIONSHIP OF PARTIES

Neither by entering into this Agreement, nor by doing any act hereunder, may the Developer, or any contractor or subcontractor of the Developer, be deemed an agent, employee, or partner of the City, nor otherwise associated with the City other than, in the case of Developer, as an independent contractor. The Developer and its contractors and subcontractors shall not represent themselves to be agents, employees or partners of the City, or otherwise associated with the City other than, in the case of the Developer, as an independent contractor. The Developer shall notify all its contractors and subcontractors of the provision of this section.

1.04 ENGINEER'S RELATION TO THE CITY

Notwithstanding any other agreement, an engineer retained by the Developer to perform work under this Agreement shall not be deemed an agent, employee, partner, or contractor of the City, or otherwise associated with the City. The parties agree that the engineer retained by the Developer to supervise the construction and inspection of the Project is doing so for the benefit of the Developer and City. Engineer's duties include responsible and in-charge, fair, honest, and competent inspection of the work undertaken pursuant to this Agreement in accordance with standards of practice in the engineering profession.

1.05 DEVELOPER'S RESPONSIBILITY

The Developer shall be ultimately responsible for the faithful performance of all terms, covenants and conditions of this Agreement, notwithstanding the Developer's delegation to another of the actual performance of any term, covenant or conditions hereof. The Developer shall notify all contractors, subcontractors, or agents providing professional services of conditions and requirements of this agreement.

1.06 ALLOCATION OF LIABILITY

The Developer shall indemnify and hold the City harmless from any claim, action, or demand arising from any act or omission related to Developer's performance of duties pursuant to this Agreement. The liability assumed by the Developer pursuant to this section includes, but is not limited to, claims for labor and materials furnished for the construction of the improvements. Developer acknowledges that the work on the Project will take place on lands, which may be owned or otherwise subject to

control by the City. Developer shall provide insurance in amounts sufficient to satisfy the obligations of the City pursuant to the Idaho Tort Claims Act, but in no case less than one million dollars (\$1,000,000) per occurrence. City shall be named as an additional insured respecting the premises and conduct of the work on the project including coverage for comprehensive general liability, premises liability and automobile liability. The required evidence of insurance shall be attached hereto as Attachment E.

1.07 DISCLAIMER OF WARRANTY

Notwithstanding this Agreement or any action taken by any person hereunder, neither the City nor any City officer, agent or employee warrants or represents the fitness, suitability or merchantability of a property, plan, design, material, workmanship or structure for any purpose.

1.08 NON-DISCRIMINATION

- A. In performing its obligations under this Agreement, the Developer shall not discriminate against any person on the basis of disability, race, creed, color, national origin, sex, marital status, or age.
- B. In selling property or improvements in the subdivision, the Developer shall not discriminate against any person on the basis of disability, race, creed, color, national origin, sex, marital status, or age.

1.09 COST OF DOCUMENTS

All plans, reports, drawings, or other documents that this Agreement requires to be provided to the City by the Developer shall be furnished at the Developer's expense, free of copyright.

1.10 PUBLIC UTILITIES

- A. Any public utility service contemplated by this Agreement shall be provided only to areas where the service is allowed by applicable law. All utility service shall conform to the rules, regulations, and tariffs of the State of Idaho to the extent they may apply.
- B. If the State of Idaho or other agency having authority disallows any utility service to be provided by the city or any utility following execution of this Agreement, requirements of this Agreement relating to the disallowed service shall be deleted from the requirements of the Developer under this Agreement. The disallowance shall not be grounds for any claim, action, or demand against the City.
- C. The Developer shall bear all cost associated with the installation of all Public Utilities, including street lights. These installation costs shall not be passed on to the City unless provided for otherwise within an appendix to this agreement.
- D. The Developer shall be responsible to either pay the sewer and water cap fees and hookup fees or confirm that those fees have been paid by any property

owner which the developer connects to the City sewer or water system as part of the installation of the public improvement.

- E. The Developer shall be responsible to pay the cost of operation of the street lights within the development for a period of one year. The Developer shall pay to the City, at the time of execution of this Agreement the anticipated cost of the operation of the street lights within the development for one year, as determined by the City.

1.11 TIME IS OF THE ESSENCE

Unless otherwise expressly provided herein, time is of the essence of each and every term, covenant, and condition of this Agreement.

1.12 ASSIGNMENTS

- A. Except insofar as Subsection B of this section specifically permits assignments, any assignment by the Developer of its interest in any part of this Agreement or any delegation of duties under this Agreement shall be void and any attempt by the Developer to assign any part of its interest or delegate any duty under this Agreement shall constitute a default entitling the City to invoke any remedy available to it under Section 1.13.
- B. The Developer may assign its interest or delegate its duties under this Agreement:
 - 1. To the extent that applicable codes require that assignments of contract rights be allowed;
 - 2. To contractors and subcontractors, or to partnerships, limited liability companies or corporations in which the Developer may have a substantial interest, subject to Section 1.05, provided that performance guaranties can be provided or maintained;
 - 3. As expressly permitted in writing by the City. The City will not unreasonably deny assignment if security of performance is maintained on a comparable basis.

1.13 DEFAULT – CITY’S REMEDIES

- A. The City may declare the Developer to be in default:
 - 1. If the Developer is adjudged bankrupt, makes a general assignment for the benefit of creditors, suffers a receiver to be appointed on account of insolvency, takes advantage of any law for the benefit of insolvent debtors; or
 - 2. Except as provided in subsections 3 and 4 below, if the Developer has failed in any measurable way to perform its obligations under this Agreement, except if delayed by an act or omission of the City, acts of God or the public enemy, fires, floods, epidemics, quarantine restrictions, strikes, labor disputes, shortage of materials, sabotage or

freight embargoes, provided the City gives the Developer notice of the failure to perform and the Developer fails to correct the failure within twenty-eight (28) days of receiving the notice; or if the failure requires more than twenty-eight (28) days to cure, the Developer fails within twenty-eight (28) days of receiving the notice to commence and proceed with diligence to prosecute the cure. All such notices to the Developer shall be in writing by certified mail, return receipt requested.

3. If the Developer fails to continue with sustained effort in accordance with the approved Construction Schedule, while working in the existing public traveled or developed rights of way, and the City provides twenty-four (24) hours' notice of this default and the Developer fails to correct the failure within that time period.
4. If the actions of the Developer have created a public hazard or conditions deemed an emergency by the City, the City may declare the Developer in default without providing prior notice and opportunity to cure.

B. Upon a declaration of default, and failure to cure under Section 1.13, the City may do any one or more of the following:

1. Perform any act required of the Developer under this Agreement, including drawing surety and construction of all or any part of the improvements after giving formal notice in writing to the Developer. The Developer shall be liable to the City for any costs thus incurred. The City may deduct any costs incurred from the surety or any payments then or thereafter due the Developer from the City whether under this Agreement or otherwise. No advance notice shall be required by the City to the Developer to correct actions to remedy any items that fall under Section 1.13,A.4.
2. Exercise its rights under any provision of this Agreement, or any performance or warranty guaranty securing the Developer's obligations under this Agreement.
3. Pursue any appropriate judicial remedy including, but not limited to, an action for specific performance, injunction, and civil penalties. City shall be entitled to its attorney's fees in any enforcement action necessary to enforce the terms of this Agreement.

1.14 NON-WAIVER

The failure of the City at any time to enforce a provision of this Agreement shall in no way constitute a waiver of the provision, nor in any way affect the validity of this Agreement or any part hereof, or the right of the City thereafter to enforce each and every provision hereof.

1.15 INTERPRETATION

A. Each document incorporated by reference herein is an essential part of this Agreement, and any requirement, duty or obligation stated in one document is as

binding as if stated in all. All documents shall be construed to operate in a complementary manner and to provide for a complete project. Unless stated otherwise in express terms, the duties to complete the Project in compliance with the approved plans, such that part or all of it can be accepted for public maintenance, is the sole responsibility of the Developer.

B. If the terms of any of the documents and amendments thereto comprising this Agreement conflict, the conflict shall be resolved by giving the conflicting documents and amendments thereto the following order of preference:

1. Documents, appendixes, or sections titled "Special Provisions".
2. Article II of this Agreement, titled "IMPROVEMENT CONSTRUCTION STANDARDS AND PROCEDURES" and Article III of this Agreement titled "FINAL ACCEPTANCE OF IMPROVEMENTS".
3. Article I of this Agreement titled "GENERAL PROVISIONS".
4. Any other documents incorporated by reference herein.

1.16 EFFECT OF STANDARD SPECIFICATIONS

The Design Standards of the City of Post Falls, Idaho, Standards for Public Works Construction and any standards required by Federal or State regulatory agencies are incorporated by reference herein as minimum construction standards for performance under this Agreement, except where this Agreement specifically provides otherwise.

1.17 AMENDMENT

The parties may amend this Agreement only by written agreement, which shall be attached as an appendix hereto.

1.18 JURISDICTION – CHOICE OF LAW

Any civil action arising from this Agreement shall be brought in the District Court of the First Judicial District; venue shall be in Kootenai County. The law of the State of Idaho shall govern the rights and duties of the parties under this Agreement.

1.19 SEVERABILITY

Any provision of this Agreement that may be declared invalid or otherwise unenforceable by a Court of competent jurisdiction shall not affect the validity or enforceability of any other part of this Agreement, so long as the remainder of the Agreement is reasonably capable of completion.

1.20 INTEGRATION

This instrument, including Appendixes and any writings incorporated by reference herein, embody the entire Agreement of the parties. This Agreement shall supersede all previous communications, representations or agreements, whether written or oral, between the parties hereto.

1.21 DEFINITIONS

Unless this Agreement expressly provides otherwise, the following definitions shall apply herein:

- A. "Improvements" mean all work, which the Developer is required to perform by this Agreement.
- B. "City Improvements" means improvements which are to be dedicated to the City, or which are to be operated and controlled by a City-owned utility.
- C. "Private Utility Improvement" means improvements owned, maintained, and operated by a private utility or by a private owner or homeowner's association.
- D. "City", for the purpose of administering this Agreement, means the City of Post Falls, or its chief executive or his/her administrative designee.
- E. "Acceptance", by the City means a determination that an improvement meets City construction standards and does not refer to the City accepting a dedication of the improvement by the Developer.
- F. "Final Acceptance" by the City means that the City is satisfied that all improvements required by this Agreement and Titles 17 and 18 of the Post Falls Municipal Code, or as a result of the procedures required thereby, have been constructed in a satisfactory manner to comply with the specifications.

1.22 APPROVALS AND CONSENTS

Wherever in the Agreement consents or approvals of either party are required, they shall not be unreasonably withheld. Nothing in this provision shall compromise the general police power authority in the City in matters governmental in nature.

1.23 ATTORNEY FEES – MEET AND CONFER

Should either party need to resort to Court proceedings to interpret or enforce provisions of this Agreement, the prevailing party in any such action shall be entitled to recovery of its reasonable attorney fees. No legal action shall begin, nor shall any attorney fees be recoverable, unless the parties have first met and conferred regarding the contested issues. Any party, which refuses to meet and confer in good faith, shall not be entitled to recovery of its attorney fees.

ARTICLE II

IMPROVEMENT CONSTRUCTION STANDARDS AND PROCEDURES

2.01 RECORDING OF FINAL PLAT

Developer shall be solely responsible for all platting of the property.

2.02 PERFORMANCE GUARANTY

- A. The Developer shall guarantee, for the sole benefit of the City that the Developer will perform all of its obligations not yet completed under this Agreement. The guaranty shall be in one of the forms specified by Post Falls Municipal Code as described in paragraphs 2.02.D.1, 2.02.D.2, or 2.02.D.3. During the term of this Agreement, the Developer may, with the written consent of the City; substitute for a performance guaranty submitted under this section another guaranty in the required amount and in one of the forms specified herein. The City may choose to not release surety less than 25% of the surety amount until all final project items are complete – including final as-builts and certification.
- B. The City Engineer may require a guaranty be established prior to any work within the existing rights of way commencing and prior to the Developer providing a guaranty for the purposes of recording the plat. The purpose of this guaranty is to allow the City remedy under Section 1.13.
- C. Amount of Guaranty: The guaranty shall be in an amount equal to 150% (one hundred fifty percent) of the estimated cost of all improvements, not including those to be constructed by private utilities. The estimated cost shall be determined as follows. The Developer shall submit for the City Engineer's approval a cost estimate for each improvement required by this Agreement. Before submitting the cost estimates, the Developer's engineer shall have prepared, documented and certified each cost estimate. The estimated cost of all improvements shall be the sum of the estimated cost as approved by the City Engineer.
- D. All guarantees shall include the City's standard "Evergreen Clause" or automatic renewal language, as follows:

"This type of surety is for an initial term that expires on _____. This type of surety shall automatically be extended without amendment for one year from the present or any future expiration date unless the company issuing the surety notifies the beneficiary in writing sent certified mail, return receipt requested, or by personal service, at least sixty (60) days prior to any expiration date that this surety will not be renewed.

- 1. PERFORMANCE BOND - The Developer may provide a performance bond from a company qualified by law to act as a surety in the State of Idaho. The bond shall be in a form approved by the City. The bond shall name the City as the sole obligee and the Developer as the principal.
- 2. ESCROW - The Developer may deposit funds in an escrow account with a bank or financial institution qualified by law to do business in the State of Idaho. The disbursement of the escrowed funds shall be governed by an escrow agreement in a form approved by the City.

3. LETTER OF CREDIT - The Developer may cause a bank or financial institution qualified by law to do business in the State of Idaho to issue an irrevocable letter of credit in a form approved by the City.

E. If the Developer is not in default under this Agreement, the City may allow a proportionate reduction in amount of the performance guaranty in increments not less than 25% of the surety amount, or the amount secured and the current estimated cost of the work remaining to be performed under this Agreement; provided, however, that the amount of the performance guaranty, or the amount secured thereby always shall be greater than or equal to the amount of the warranty guaranty required by Section 3.09.

F. As soon as one of the following occurs, the City shall release any performance guaranty which has not been used or encumbered under Section 1.13 as long as the warranty guaranty provides sufficient coverage as required by this Agreement or by law:

1. The final acceptance of all improvements and the posting of warranty guaranty as provided in Section 3.09.

2. The expiration of the warranty period as provided in Section 3.08.

2.03 PREREQUISITES TO CONSTRUCTION

The Developer shall not obtain permits for the construction of improvements or commence the construction of improvements until approval by all other agencies as required to construct the required improvements have been obtained and this Agreement has been completed and signed by the Developer and the City and all Engineering Inspection Fees have been paid as required by City ordinance or resolution. Appendix III to this Agreement is the Engineering Inspection Fee Summary.

2.04 ENGINEER

A. The Developer shall retain an Engineer of Record, licensed as a professional engineer under the laws of the State of Idaho, to design and administer the construction of the improvements, including preparing plans and specifications, inspecting and controlling the quality of work and preparing the as-built data. The Engineer shall perform the work described herein in accordance with the City's required procedures for consulting engineers.

B. The Developer shall inform the City of the name and mailing address of the Engineer of Record it has retained to perform the duties described in Subsection A of this section. Developer agrees that notice to the Developer and engineer at the addresses so specified regarding the performance of such duties shall constitute notice to the Developer. The Developer shall promptly inform the City of any change in the information required under this subsection.

2.05 PLANS AND SPECIFICATIONS

A. The Developer shall submit to the City, in such form as the City may specify all plans and specifications pertaining to the construction of the improvements.

- B. If the City requires soil tests, traffic studies or other tests and studies pertaining to the design of improvements, the Developer shall submit reports of the test results with the plans and specifications.
- C. The City may approve the plans and specifications as submitted, or indicate to the Developer deficiencies to be corrected to secure approval, within a reasonable time from the submission of all plans and specifications for the improvements. The City's approval of the plans and specifications is for general conformance with City Standards. The City will endeavor to provide a complete and thorough review of all plans and specifications; however, ultimate design and function remains the responsibility of the Developer. It shall be the responsibility of the Developer to correct errors and omissions found prior to final acceptance as provided in Section 3.01 of this Agreement.

2.06 QUALITY CONTROL PROGRAM

The Developer's Engineer of Record shall follow the City's project certification and quality control program when performing their duties to provide for certification of the construction work. The Engineer of Record shall be responsible, in charge of the quality control / inspection activities.

2.07 WORK SCHEDULE

- A. The Developer shall submit to the City, in such form as the City may specify, a work schedule, which shall be Appendix II to this Agreement.
- B. The construction schedule shall indicate the approximate percentage of work scheduled for completion at any given time. The schedule shall indicate starting and completion dates for each improvement, including City and private utility improvements.
- C. The City Engineer may require detailed and specific schedule for portions of the work deemed critical for continuation of City services.
- D. Contractor's offsite work schedule and efforts shall be to expedite the work, to minimize the inconvenience to the public.

2.08 MATERIALS

- A. The Developer shall submit, in such form as the City may specify, detailed information concerning all materials and equipment it proposes to incorporate into an improvement. All materials shall comply with the Post Falls Standards for Public Works Construction.
- B. Upon the City's request, the Developer shall submit samples of materials or equipment it proposes to incorporate into an improvement.
- C. The City may approve the materials and equipment, or indicate to the Developer unacceptable material and equipment within a reasonable time after submittal. The City's approval of material and equipment is for general conformance with City standards, alternate design and function remain the

responsibility of the Developer. It shall be the responsibility of the Developer to correct errors and omissions found subsequent to City approval. Substitutions may be considered subject to review and approval of the City Engineer.

2.09 GENERAL STANDARDS OF WORKMANSHIP

- A. The Developer shall construct all improvements in accordance with plans and specifications approved by the City, and with the terms, covenants, and conditions of this Agreement, including installation of street trees unless the developer elects to exercise the option to pay for the trees in accordance with Post Falls City Code 17.28.091 instead of installing them. The Developer shall not incorporate any material or equipment into an improvement unless the City has approved its use. Unless the City specifically agrees otherwise in writing, all materials, supplies, and equipment incorporated into an improvement shall be new.
- B. If, in the course of construction, conditions appear, which, in the exercise of reasonable engineering judgment, require a modification of, or substitution for, approved materials, equipment, plans, specifications or contracts to meet an acceptable standard of performance, the Developer shall make the modification or substitution. The City shall reasonably approve all such substitution.
- C. The Developer shall construct all facilities in the subdivision not otherwise subject to this Agreement in accordance with applicable statutes, ordinances and specifications.

2.10 PLACEMENT OF UTILITIES

The Developer shall place all utilities underground, except where this requirement is specifically waived under this Agreement. The City Engineer shall approve the alignment of City and private utilities.

2.11 WORK IN RIGHTS-OF-WAY

The Developer shall comply with all ordinances and secure all necessary permits and authorizations pertaining to work in public rights-of-way. The Developer shall co-ordinate and supervise the installation and construction of all utility improvements, including those not otherwise covered by this Agreement, in a manner that will prevent delays in City construction or other damage to the City and that will permit the City to properly schedule work that it will perform. The Contractor's offsite work schedule and efforts shall be to expedite the work, to minimize the inconvenience towards the public.

2.12 SURVEYOR

A person licensed as a professional land surveyor under the laws of the State of Idaho shall make all land surveys required for the completion of improvements under this Agreement.

2.13 REQUIRED REPORTING

- A. Quality Control

The Developer shall submit to the City regularly and promptly written reports certified by the Engineer describing the results of all tests and inspections required by the quality control program and all other test and inspection which the Developer may make.

- B. Construction Progress
If actual progress indicates that the Developer will not perform the work as scheduled, the Developer shall prepare and submit a revised schedule for the City's reasonable approval.
- C. Surveys
The Developer shall furnish promptly to the City copies of all final surveys required for the completion of the improvements.
- D. Well Logs/Test Hole Logs
The Developer shall furnish the City copies of all well and test hole logs required for any purpose during the Project.
- E. Express or implied approval by the City of any report or inspection shall not authorize any deviation from approved plans and specifications or from the terms of this Agreement unless such express approval notes such deviation.
- F. At the completion of construction prior to acceptance by the City, the Engineer of Record shall submit to the City a report certifying that the improvements were constructed in accordance with plans and specifications and that they meet standards established by the City. This certification shall include a cover letter with the engineer's professional stamp, followed by copies of all inspection records, test results, and construction quality control data as indicated within the City's Engineering Project Certification and Quality Control provision.

2.14 PROGRESS PAYMENTS

The Developer shall hold the City harmless against any claims made by Developer's contractors.

2.15 OBSERVANCE

- A. The Engineer of Record or their representatives shall attend regularly scheduled jobsite meetings with a City Representative, to review construction progress and inspection activities.
- B. The City may monitor the progress of the work and the Developer's compliance with this Agreement and perform any inspection or test, which it deems necessary to determine whether the work conforms to this Agreement. Such inspections or tests do not relieve the Developer from performing tests and inspections required by 2.13A.
- C. If the Developer fails to notify the City of inspections, tests and construction progress as required by Section 2.13, the City may require, at the Developer's expense, retesting, exposure of previous stages of construction, or any other steps

which the City deems necessary to determine whether the work conforms to this Agreement.

- D. Any monitoring, tests or inspections that the City orders or performs pursuant to this section are solely for the benefit of the City. The City does not undertake to test or inspect the work for the benefit of the Developer or any other person.

2.16 STOP WORK ORDERS

- A. If the City determines there is a substantial likelihood, based upon reasonable and substantial information, that the Developer will fail to comply, or if the Developer does fail to comply with this Agreement or the Developer and/or his contractors fail to comply with provisions of occupational health and safety standards promulgated by the State and Federal agencies or his actions present a threat to the public health and safety or the Engineer of Record fails to perform their inspection and quality control duties, the City may stop all further construction of improvements by issuing a stop work order regarding the nonconforming construction and notifying the Developer and its Engineer of the order.
- B. A stop work order shall remain in effect until the City approves:
 - 1. Arrangements made by the Developer to remedy the nonconformity; and
 - 2. Assurances by the Developer that future nonconformity's will not occur.
- C. The issuance of a stop work order under this section is solely for the benefit of the City. The City does not undertake to supervise the work for the benefit of the Developer or any other person. No suspension of work under this section shall be grounds for any action or claim against the City or for an extension of time to perform the work.
- D. The Developer shall include in all contracts for work to be performed, or materials to be used under this Agreement, the following provision:

The City of Post Falls, pursuant to a Construction Improvement Agreement on file with the City Clerk and incorporated by reference herein, has the authority to inspect all work or materials under this contract and to stop work in the event that the work performed under this Agreement fails to comply with any provision of the Construction Improvement Agreement. In the event that the City issues a stop work order, the contractor shall immediately cease all work and await further instructions from the Developer and City.

2.17 ACCESS

The City shall have access to all parts of the subdivision necessary or convenient for monitoring the Developer's performance, inspecting, surveying, testing or performing any other work.

2.18 MAINTENANCE

- A. Until the City accepts the improvements, the Developer shall maintain at his expense all road improvements within the Project that are necessary for access or service to property not owned by the Developer. For the purposes of this subsection, existing roads are roads that physically exist, as distinguished from mere rights-of-way dedicated for road purposes. The maintenance required by this subsection includes cleaning, effective dust control measures, snow removal and similar activities, but does not include repair, replacement or reconstruction, except if the need to repair, replace or reconstruct is caused by the Developer's activities or is required as a condition of this Agreement. If the Developer fails to maintain the road improvements, the City may either contract for the maintenance to be completed, or complete the maintenance by City forces and charge the Developer for all associated costs, including administration fees.
- B. The Developer shall repair or pay the cost of repairing damage to any improvement that occurs prior to the City's acceptance of the improvements, except for damage caused solely by the City, its agents, employees, or contractors. The Developer shall give reasonable notice to the City before undertaking the repair of any damaged improvement.

2.19 OPERATION OF IMPROVEMENTS PRIOR TO FINAL ACCEPTANCE

- A. Before final acceptance, the City may enter upon, inspect, control, and operate any improvement if the City determines that such action is necessary to protect the public's health, safety, and welfare.
- B. The action described in subsection A of this section shall not constitute the final acceptance of any improvement by the City, nor shall the action affect in any way the Developer's warranty under this Agreement.
- C. The Developer or his agents may not connect to or operate any City utilities without written consent from the City. No structure shall be occupied, nor shall any land use be established which requires a building or construction permit, until the improvements required by this Agreement or by applicable provisions of law have been accepted by the City or other responsible public agency or have been completed as required by this Agreement.

2.20 TIME

The Developer shall start work and complete construction of improvements required under this Agreement in accordance with the Developer's work schedule as approved by the City and attached as an Appendix to this Agreement.

ARTICLE III

FINAL ACCEPTANCE OF IMPROVEMENTS

3.01 PREREQUISITES TO ACCEPTANCE

The City shall not accept the improvements until all the requirements of Section 3.02 through 3.05 have been met.

3.02 SURVEY MONUMENTS AND AS-BUILT DRAWINGS

- A. Upon completing the improvements, the Developer shall replace lost lot corners and survey monuments per Idaho Code.
- B. No later than sixty (60) days after the final inspection and prior to final acceptance and certification under Section 3.06F, the Developer shall provide to the City as-built drawings in accordance with current City Engineer's Drawing Submittal Standards. The as-built drawings shall be certified by a professional engineer licensed under the laws of the State of Idaho to represent accurately the improvements as actually constructed.

3.03 CERTIFICATE OF COMPLIANCE

The Developer shall furnish the City with a certificate of compliance for the work performed under this Agreement, in the form prescribed in Paragraph 2.13F. Developer shall also certify that all private utility installation has been completed according to plan.

3.04 CERTIFICATE OF PAYMENT OF CONTRACTORS AND VENDORS

Prior to final acceptance, the Developer shall certify that all contractors and vendors have been paid and no liens or other claims have been recorded, and that he knows of no intent to file a claim or lien against the property, the improvement, the City or private utility improvements.

3.05 CONVEYANCE OF EASEMENTS AND RIGHTS-OF-WAY TO CITY

The Developer shall convey to the City any easement, rights-of-way, or other property interest necessary to allow access to the City improvements to operate, maintain, or repair the City improvements. The Developer may condition the conveyance upon the City's acceptance of the improvements.

3.06 INSPECTION

- A. Upon receiving notice that the Developer has completed the improvements, the City shall schedule inspections of the improvements. The City may inspect all improvements and any other work in dedicated easements or rights-of-way.
- B. A privately owned utility may inspect any phase of work on an improvement of which it is to assume control.
- C. The City or appropriate privately owned utility shall inform the Developer in writing of any deficiencies in the work found in the course of the inspection.

- D. The Developer shall, at its own expense, correct all deficiencies found by inspections under Subsection A or B of this section. Upon receiving notice that the deficiencies have been corrected, the City, or appropriate privately owned utility shall re-inspect the improvements.
- E. The City or appropriate privately owned utility may continue to re-inspect an improvement until the Developer has corrected all deficiencies in the improvement.
- F. After final inspection has revealed that all improvements and other work in dedicated easements and rights-of-way meet City standards and the Developer has furnished the as-built drawings required in Section 3.02B, and project certification required by Section 3.03, and upon written request by the Developer, the City Engineer shall submit to the Post Falls City Council a recommendation for final acceptance of the improvements.

3.07 CONSEQUENCES OF ACCEPTANCE OF IMPROVEMENTS

- A. The City's final acceptance of the City improvements constitutes a grant to the City of all the Developer's right, title, and interest in and to the City improvements.
- B. Upon final acceptance of the improvements, the City will maintain said improvements, except regarding the Developer's obligations covered by warranty in Section 3.08.

3.08 DEVELOPER'S WARRANTY

- A. The Developer shall warrant the design, construction materials and workmanship of the improvements against any failure or defect in design, construction, material or workmanship which is discovered for one (1) year, except for sewer systems which shall be warranted until such time as the number of active users on the system reaches twenty percent (20%) of the approved user design capacity, but not less than one (1) year or longer than three (3) years. This warranty shall cover all direct or indirect costs of repair or replacement, and damage to the property, improvements or facilities of the City or any other person, caused by such failure or defect or in the course of repairs thereof, and any increase in cost to the City of operating and maintaining a City improvement resulting from such failures, defects or damages. The warranty period for the project shall begin upon the satisfaction and final acceptance of all improvements.
- B. The Developer's warranty shall not extend to any failure or defect caused solely by changes in design, construction or materials required by the City.
- C. Except as provided in Subsection B of this section, the fact that the City takes any action, or omits to take any action authorized in this Agreement including, but not limited to, operation or routine maintenance of the improvements prior to acceptance or surveillance, inspections, review or approval of plans, tests or reports shall in no way limit the scope of the Developer's warranty.

3.09 WARRANTY GUARANTY

To secure the Developer's performance of the warranty under Section 3.08, the performance guaranty provided by the Developer under Section 2.02 shall remain in effect until the end of the warranty period, or the Developer shall provide a warranty guaranty by one or more of the methods described in Section 2.02, determined by the following table:

<u>Actual Cost of All Improvements</u>	<u>Percent to Secure Warranty</u>
Less than \$500,000.00	10.0%
\$500,000.00 - \$1,000,000.00	7.5%
Over \$1,000,000.00	5.0%

3.10 CITY'S REMEDIES UNDER WARRANTY

- A. The City shall notify the Developer in writing upon its discovery of any failure or defect covered by the warranty in Section 3.08. The City shall notify the Developer before conducting any test or inspections to determine the cause of failure or defect to the extent the circumstances will allow and shall notify the Developer of the results of all such tests and inspection.
- B. The Developer shall correct or make a diligent effort to correct any failure or defect covered by the warranty within thirty (30) days of receiving notice of the failure or defect from the City. The Developer shall correct the failure or defect at its own expense and to the satisfaction of the City.
- C. If the Developer fails to correct the failure or defects within the time allowed by Subsection B of this section, the City may correct the failure or defect at the Developer's expense. If the Developer fails to pay the City for the corrective work within thirty (30) days of receiving the City's bill, the City may pursue any remedy provided by law or this Agreement to recover the cost of the corrective work, including calling upon the Developer's security. The City's attorney's fees in pursuit of such remedy shall be an allowed cost.
- D. In case of an emergency affecting public health and safety, the City may make immediate required repairs and shall notify the Developer and contractor as quickly as possible.

3.11 CONDITIONS OF REIMBURSEMENT

- A. If this Agreement requires the City to reimburse the Developer for all or part of the cost of an improvement, the reimbursement shall be conditioned upon the Developer's performance of all its obligations under this Agreement. Reimbursement shall be limited to that work described herein.
- B. Any reimbursement shall be subject to the approval of bonds and/or the appropriation of funds as required by law. If funds are not available at the time any reimbursement is due under this Agreement, the City shall reimburse the Developer when funds become available. The City shall not be liable for any delay in reimbursing the Developer due to the unavailability of funds, nor shall such delay constitute a breach of this Agreement.

IN WITNESS WHEREOF, the parties hereto have set their hands on the date first set forth above.

CITY OF POST FALLS

DEVELOPER

BY: _____
Ronald Jacobson, Mayor

BY: _____

ATTEST:

WITNESS:

Shannon Howard - City Clerk

Print Name:

ATTACHMENT A:	PROPERTY DESCRIPTION
ATTACHMENT B:	DESCRIPTION OF IMPROVEMENTS
ATTACHMENT C:	COST ESTIMATES
ATTACHMENT C-1:	DETAILED COST ESTIMATES
ATTACHMENT D:	EVIDENCE OF SURETY
APPENDIX I:	CONSTRUCTION PLANS AND SPECIFICATIONS
APPENDIX II:	CONSTRUCTION SCHEDULE
APPENDIX III:	PUBLIC WORKS INSPECTION SUMMARY
APPENDIX IV:	STREET LIGHT DESCRIPTION
APPENDIX V:	CALCULATION OF UTILITY FEES PRE-EXISTING RESIDENCE(S)
APPENDIX VI:	CITY WATER CAP & METER FEES
APPENDIX VII:	ENGINEER OF RECORD DECLARATION
APPENDIX VIII:	ENGINEERING CERTIFICATE OF COMPLIANCE
APPENDIX IX:	CERTIFICATION OF PAYMENT OF CONTRACTORS AND VENDORS
APPENDIX X:	CASH IN LIEU OF PLANTING TREES

STATE OF IDAHO)
)
) :SS
County of Kootenai)

Notary Public for the State of Idaho
Residing at: _____
Commission Expires: _____

STATE OF IDAHO)
) ss
County of Kootenai)

Notary Public for the state of Idaho
Residing at: _____
Commission Expires: _____

ATTACHMENT "A"
PROPERTY DESCRIPTION
FOR

Montrose 17th Addition

Developer to submit legal property description and reduced copy of plat.

ATTACHMENT "A"

Legal Description
For
Montrose Seventeenth Addition
(Revised 2-19-24)
(Revised 3-18-24)

Portions of the Northeast, Southeast and Southwest Quarters of the Northwest Quarter of Section 33, Township 51 North, Range 5 West, Boise Meridian, in the City of Post Falls, Kootenai County, Idaho, more particularly described as follows:

BEGINNING at the Northeast corner of Tract B of Montrose Fourteenth Addition, Recorded in Book L of Plats, Pages 657 thru 657C, said point is the beginning of a non-tangent curve concave to the South and having a radius of 1441.00 feet and a chord bearing and distance of S79°06'46"E, 67.62 feet; thence Easterly along said curve through a central angle of 02°41'21" an arc distance of 67.63 feet; thence S77°46'06"E a distance of 40.99 feet to the beginning of a tangent curve concave to the North and having a radius of 559.00 feet and a chord bearing and distance of S83°36'15"E, 113.67 feet; thence Southeasterly along said curve through a central angle of 11°40'17" an arc distance of 113.87 feet; thence S89°27'05"E a distance of 386.21 feet; thence S86°27'28"E a distance of 57.00 feet; thence S03°32'32"W a distance of 16.04 feet; thence S86°27'28"E a distance of 123.77 feet to the beginning of a non-tangent curve concave to the Southeast and having a radius of 851.38 feet and a chord bearing and distance of N13°40'47"E, 163.59 feet; thence Northerly along said curve through a central angle of 11°01'34" an arc distance of 163.84 feet; thence N52°27'21"W a distance of 88.43 feet to the beginning of a tangent curve concave to the Northeast and having a radius of 1147.00 feet and a chord bearing and distance of N47°12'43"W, 209.66 feet; thence Northwesterly along said curve through a central angle of 10°29'16" an arc distance of 209.95 feet; thence N60°05'40"E a distance of 121.50 feet to the beginning of a non-tangent curve concave to the Northeast and having a radius of 1028.50 feet and a chord bearing and distance of N42°58'33"W, 14.62 feet; thence Northwesterly along said curve through a central angle of 00°48'51" an arc distance of 14.62 feet; thence N42°34'07"W a distance of 46.25 feet; thence N47°25'53"E a distance of 57.00 feet; thence S42°34'07"E a distance of 46.25 feet to the beginning of a tangent curve concave to the Northeast and having a radius of 971.50 feet and a chord bearing and distance of S43°22'45"E, 27.49 feet; thence Southeasterly along said curve through a central angle of 01°37'17" an arc distance of 27.49 feet; thence N60°05'40"E a distance of 142.91 feet; thence S45°43'55"E a distance of 250.75 feet; thence S50°47'28"E a distance of 57.00 feet; thence S49°10'29"E a distance of 119.06 feet to the Easterly Line of Parcel "P" of the Record of Survey Boundary Line Adjustment Instrument Number 2362650000, Recorded in Book 27 of Surveys, Pages 308 thru 308B, said point is the beginning of a non-tangent curve concave to East and having a radius of 554.50 feet and a chord bearing and distance of S18°54'33"W, 378.44 feet; thence Southeasterly along said curve and said Easterly Line of parcel "P" through a central angle of 39°54'19" an arc distance of 386.20 feet to the Northeast corner of Montrose Thirteenth Addition, Recorded in Book L of Plats, pages 524 thru 524C; thence along the North and West Boundary Lines of said Montrose Thirteenth Addition the following (4) four courses:

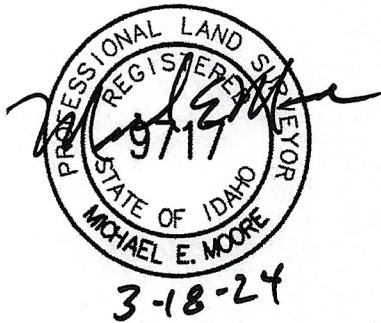
- 1) S88°57'24"W a distance of 120.00 feet;
- 2) S87°24'50"W a distance of 55.02 feet;
- 3) S88°50'25"W a distance of 119.54 feet to the beginning of a non-tangent curve concave to the East and having a radius of 851.38 feet and a chord bearing and distance of S04°16'42"E, 93.69 feet;
- 4) Thence Southerly along said curve through a central angle of 06°18'29" an arc distance of 93.73 feet to the Northeast corner of Montrose Eleventh Addition, recorded in Book L

of plats, Pages 361 thru 361B; thence along the Northerly Boundary line of said Montrose Eleventh Addition the following (5) five courses;

- 1) S82°30'54"W a distance of 176.39 feet;
- 2) S07°50'57"E a distance of 13.04 feet;
- 3) N89°26'24"W a distance of 393.63 feet to the beginning of a tangent curve concave to the North and having a radius of 853.00 feet and a chord bearing and distance of N82°59'44"W, 191.48 feet;
- 4) Thence Westerly along said curve through a central angle of 12°53'20" an arc distance of 191.88 feet;
- 5) Thence N76°33'04"W a distance of 32.58 feet to the Southeast corner of said Montrose Fourteenth Addition; thence along the Easterly Boundary Line of said Montrose Fourteenth Addition the following (4) four courses;
- 1) N07°27'08"E a distance of 119.32 feet to the beginning of a non-tangent curve concave to the Southwest and having a radius of 1267.00 feet and a chord bearing and distance of N79°28'10"W, 36.52 feet;
- 2) Thence Westerly along said curve through a central angle of 01°39'05" an arc distance of 36.52 feet;
- 3) N10°05'27"E a distance of 54.03 feet to the beginning of a non-tangent curve concave to the West and having a radius of 547.00 feet and a chord bearing and distance of N07°35'06"E, 120.05 feet;
- 4) Thence Northerly along said curve through a central angle of 12°35'59" an arc distance of 120.29 feet to the POINT OF BEGINNING.

Subject to all easements of record

Containing 10.051 Acres more or less



MONTROSE 17TH ADDITION

LOCATED IN A PORTION OF SECTION 33,
T.51 N., R.5 W., BOISE MERIDIAN
POST FALLS, IDAHO

VICINITY MAP

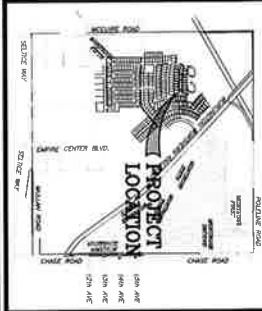
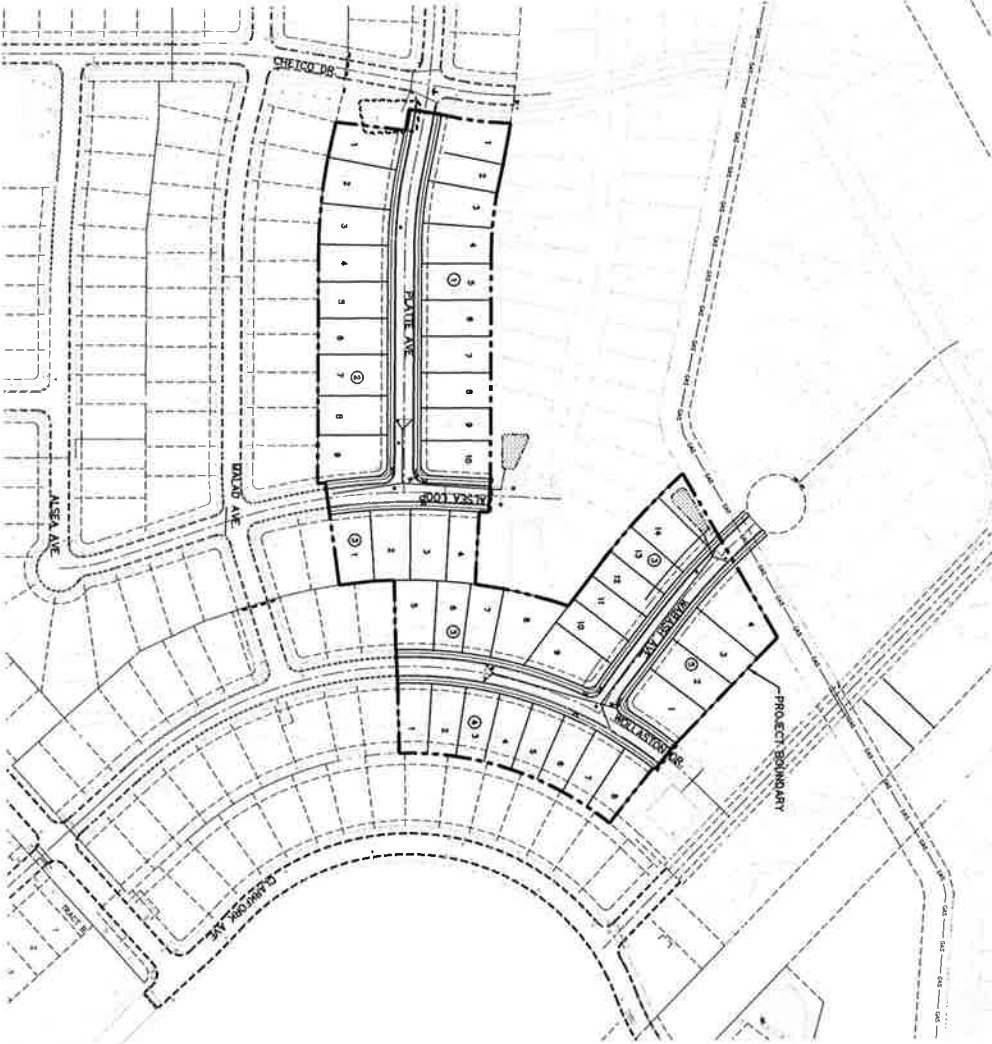


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LEGEND

WATER SYMBOLS	SURFACE FEATURES
(proposed) (existing)	(proposed) (existing)
1. 1" WIDE	1. 1" WIDE
2. 2" WIDE	2. 2" WIDE
3. 3" WIDE	3. 3" WIDE
4. 4" WIDE	4. 4" WIDE
5. 5" WIDE	5. 5" WIDE
6. 6" WIDE	6. 6" WIDE
7. 7" WIDE	7. 7" WIDE
8. 8" WIDE	8. 8" WIDE
9. 9" WIDE	9. 9" WIDE
10. 10" WIDE	10. 10" WIDE
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99. 99" WIDE	99. 99" WIDE
100. 100" WIDE	100. 100" WIDE

PROJECT DATUM (NAVD88)
BRASS DISK LOCATED ON THE WEST SIDE
RR TRACKS ON W. POLELINE AVE AND
W. SANITON AVE. NAVD88 ELEVATION 419.19

CALL BEFORE YOU DIG 1-800-428-4950

CITY OF POST FALLS APPROVAL	
BY: CITY ENGINEER	DATE:

MONTROSE 17TH ADDITION
COVER SHEET

Greenstone
HOMES & NEIGHBORHOODS
1401 W. HARRISON AVE. SUITE 100
POST FALLS, IDAHO 83250
(208) 765-4500

SCALE:
HORIZONTAL
1"=100'
VERTICAL
N/A

DATE: 03/17/24
DRAWN BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]



NO.	DATE	BY	REVISIONS

ATTACHMENT "B"
DESCRIPTION OF IMPROVEMENTS
TO BE CONSTRUCTED AND INSTALLED BY

Greenstone-Kootenai II

FOR

Montrose 17th Addition

<u> X </u>	Street surfacing or infill paving
<u> X </u>	Monumentation
<u> X </u>	Electric
<u> X </u>	Curbs and gutters
<u> X </u>	Street lighting
<u> X </u>	Gas
<u> X </u>	Sidewalks
<u> X </u>	Telephone
<u> X </u>	Drainage
<u> X </u>	Street Signs (Replacement)
<u> X </u>	Cable TV
<u> X </u>	Water
<u> X </u>	Landscaping (Swales)
<u> X </u>	Sanitary Sewer
<u> X </u>	Improvements shown on construction plans attached as Appendix I to this Agreement
<u> </u>	Other – as follows:

ATTACHMENT "B"

ATTACHMENT "C"
COST ESTIMATES
FOR

Montrose 17th Addition

The estimated total cost of the improvements submitted by the Developer and approved by the City Engineer are as follows:

1. Public improvements to be owned operated and maintained by the City of Post Falls:
\$ 934,758.00
2. Public utilities to be owned, operated and maintained by a utility other than the City of Post Falls: **\$ 341,300.00**
3. Other improvements for which bonding is required: **\$ -0-**
4. Street trees within public right-of-way: **\$ 52,800.00**
5. Total cost of improvements: **\$ 1,328,858.00**
6. Warranty amount: **\$ 66,442.90**

ATTACHMENT "C"

ATTACHMENT "C-1"
DETAILED COST ESTIMATES
FOR

Montrose 17th Addition

Developer to submit detailed cost estimates.

ATTACHMENT "C-1"

ATTACHMENT "D"
EVIDENCE OF SURETY
FOR

Montrose 17th Addition

The Developer will be performing the majority of required improvements prior to filing the plats. A surety company will post surety acceptable to the City for the remaining improvements per Section 2.02.

ATTACHMENT "D"

APPENDIX I
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

Montrose 17th Addition

CONSTRUCTION DRAWINGS

Plans Titled: **Montrose 17th Addition**

Dated: **6/6/2024**

By: **Doug Desmond**

Sheets 1 through 13

APPENDIX II
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

Montrose 17th Addition

CONSTRUCTION SCHEDULE

Developer to submit a construction schedule.

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	Montrose 17th Addition	53 days	Mon 6/17/24	Wed 8/28/24		
2	Preconstruction meeting	1 day?	Wed 6/12/24	Wed 6/12/24		
3	Utility Plan	0 days	Mon 6/17/24	Mon 6/17/24		
4	Remove topsoil	4 days	Mon 6/17/24	Thu 6/20/24		
5	Sewer stakinng	1 day?	Fri 6/21/24	Fri 6/21/24	4	
6	Sewer Installation	12 days	Mon 6/24/24	Tue 7/9/24	5	
7	order signs	0 days	Tue 7/9/24	Tue 7/9/24	6	
8	Water Staking	1 day	Wed 7/10/24	Wed 7/10/24	7	
9	Water Installation	6 days	Thu 7/11/24	Thu 7/18/24	8	
10	Storm Water	10 days	Fri 7/19/24	Thu 8/1/24	9	
11	Dry Utility Crossings	2 days	Fri 8/2/24	Mon 8/5/24	10	
12	Curb and Road grade	4 days	Tue 8/6/24	Fri 8/9/24	11	
13	Curb	2 days	Mon 8/12/24	Tue 8/13/24	12	
14	Base Rock	3 days	Wed 8/14/24	Fri 8/16/24	13	
15	Asphalt	2 days	Mon 8/19/24	Tue 8/20/24	14	
16	sidewalk	5 days	Wed 8/21/24	Tue 8/27/24	15	
17	Signage	1 day	Wed 8/28/24	Wed 8/28/24	16	

Project: R.D. 3rd phase 2 edited by DB Date: Mon 3/18/24	Task		Inactive Summary	
	Split		Manual Task	
	Milestone		Duration-only	
	Summary		Manual Summary Rollup	
	Project Summary		Manual Summary	
	External Tasks		Start-only	
	External Milestone		Finish-only	
	Inactive Task		Progress	
	Inactive Milestone		Deadline	

APPENDIX III
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

Montrose 17th Addition

ENGINEERING SERVICES FEE SUMMARY

To be determined by the City of Post Falls, Engineering Division, based on quantity of improvements and current fee schedule.

45 Lots X \$350.00 = **\$ 15,750.00**

APPENDIX IV
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

STREET LIGHT CHARGES

Per Section 1.10 E of the Agreement, the Developer reimburses the City for street light charges for a period of 12 months. The street light charges are determined as follows:

Street light utility provider: **Avista Utilities**

Street light type: **110 watt Town & Country**

 2 lights X 12 months X \$ 13.18 per month = \$ 316.32

Street light type: _____

_____ lights X 12 months X \$ _____ per month = \$ _____

TOTAL = \$ 316.32

APPENDIX V
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

Montrose 17th Addition

 X This project does not have any existing structures connecting to the City of Post Falls Sanitary Sewer System.

Sanitary sewer cap fee of \$_____ to connect **existing structures** to City sanitary sewer.

_____ (# of SF homes) x \$7,843.00 = \$_____

_____ (# of Commercial service units) x \$7,843.00 = \$_____

_____ (# of structures connecting) x (Utility Deposit = \$60.00) = \$_____

SEWER CAP FEES

1 Wastewater Flow (5,000 Gallons)	\$7,843.00
-----------------------------------	------------

APPENDIX VI
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

Montrose 17th Addition

 X This project does not have any existing structures or proposed common area irrigation systems connecting to the City of Post Falls Water System.

Total water cap & meter fees \$_____ for existing structures or irrigation service to common areas.

Fees to be determined based upon service size & meter size.

Water Cap Fees

_____ x	3/4" – 1"	= \$3,397.00 Residential	=	\$ _____
_____ x	1"	= \$5,662.00 Commercial	=	\$ _____
_____ x	1-1/2"	= \$11,323.00	=	\$ _____
_____ x	2"	= \$18,116.00	=	\$ _____

Meter Fees

_____ x	3/4"	= \$ 254.00	=	\$ _____
_____ x	1"	= \$ 325.00	=	\$ _____
_____ x	1-1/2"	= \$ 691.00	=	\$ _____
_____ x	2"	= \$ 920.00 (flow meter for irrigation only)	=	\$ _____
_____ x	2"	= \$ 1,864.00 (compound meter)	=	\$ _____

ACCOUNT FEES

_____ (# of irrigation service connections) x Utility Deposit \$10 = \$ _____

APPENDIX VII
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

Montrose 17th Addition

ENGINEER OF RECORD DECLARATION:

The Engineer of Record for the project is established as:

ENGINEER NAME: Doug Desmond

ENGINEERING FIRM:

ADDRESS: N. 1421 Meadowwood Lane #200

CITY: Liberty Lake STATE: WA ZIP: 99019

PHONE NO.: 509-458-5860

E-MAIL ADDRESS: ddesmond@greenstonehomes.com

APPENDIX VIII
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

Montrose 17th Addition

ENGINEERING OF RECORD CERTIFICATION:

Certification Statement

I _____ certify that construction observation and quality control for (project, plans with approval date) was performed under my responsible charge. It is my professional opinion that the project was constructed in accordance with the intent of the plans and specifications. The submittal of as-built drawings and the attached documentation within the certification packet provide evidence to support a recommendation of acceptance of the public infrastructure associated with the referenced project plans and specifications.

(Provide Engineer's seal, signature and date.)

APPENDIX IX
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Greenstone-Kootenai II

FOR

Montrose 17th Addition

CERTIFICATE OF PAYMENT OF CONTRACTORS AND VENDORS:

State of Idaho)
)SS
County of Kootenai)

I, _____, hereby certify under oath that all contractors, subcontractors and vendors that have performed work and provided supplies for the construction of the subdivisions public improvements relating to _____, including individuals or firms providing design services or legal services, have been paid in full and that no liens or other claims have been recorded against the real property of the Subdivision for those services.

I further certify that I know of no intent to file a claim or lien against the public improvements or any private utility improvements.

Signature

Print Name

SUBSCRIBED AND SWORN TO before me this ____ day of _____,
20____.

Notary for the state of Idaho _____
Residing at: _____
Commission Expires: _____

APPENDIX X
TO THE CONSTRUCTION IMPROVEMENT AGREEMENT
BETWEEN THE CITY OF POST FALLS AND

Montrose 17th Addition

FOR

CASH IN LIEU OF PLANTING STREET TREES

 X The Developer agrees to plant street trees approved in the Landscaping Plan and will not utilize the Cash In Lieu of Planting Street Trees option.

 The Developer agrees to cash out the obligated street trees approved in the Landscaping Plan, in lieu of planting the street trees for the project. Cashout shall be paid to the City of Post Falls in the amount of \$, and is based upon trees x \$600.00/each, as outlined per Section 2.12 A of the Agreement and City Ordinance No. 1217.

**CITY OF POST FALLS
AGENDA REPORT
CONSENT CALENDAR
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: Robert Palus, Deputy City Engineer
SUBJECT: Hydrilla Estates Subdivision Plat Application

ITEM AND RECOMMENDED ACTION:

With approval of the Consent Agenda, City Council authorizes the Mayor's signature of the final plat for the Hydrilla Estates Subdivision.

DISCUSSION:

The Developer has provided surety for the remaining improvements.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

N/A

APPROVED OR DIRECTION GIVEN:

Under the Subdivision Ordinance the plat application is returned to Council, for authorization of the Mayor's signature. Certification is required from the Engineering Division that infrastructure improvements have been completed, or that surety has been provided to guarantee the completion of the improvements.

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

N/A

BUDGET CODE:

N/A

ATTACHMENTS:

None

**CITY OF POST FALLS
AGENDA REPORT
CONSENT CALENDAR
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Warren Wilson, Deputy City Administrator

SUBJECT: Request for Proposals for Human Resources Consultant to Perform Salary Survey and Compensation Philosophy Review

ITEM AND RECOMMENDED ACTION:

Staff recommends that the City Council approve the attached Request for Proposals seeking a human resources consultant to perform salary surveys and a compensation philosophy review.

DISCUSSION:

City staff are working to implement a goal of developing a city-wide recruitment and retention plan as part of the City's strategic planning efforts. Competitive wages are a significant issue for the City as area wages have increased rapidly along with the area's cost of living. This has created major recruitment and retention challenges for the City.

One element of the recruitment and retention plan is to ensure that the City's salaries are competitive with other similar employers in the region. The City has not had a complete salary survey completed in many years. Staff have been trying to maintain competitive wages by comparing City wages with wages paid by other similar employers based on publicly available information. This information, while helpful, is not always accurate, either because it is out of date or because the positions being compared do not have similar job functions. This has, at times, resulted in significant issues for the City, such as needing to increase wages outside the budget cycle because the wage comparisons the City relied on were outdated. Additionally, while the City's human resources staff do their best to remain neutral, there can be a perceived lack of neutrality and transparency by having staff provide such salary information. Staff recommends hiring a professional human resources consultant to provide salary survey services for the City with the goal of providing a complete and up-to-date salary comparison with other similar employers in the region. Depending on the quality of the initial work, the consultant may also be tasked with performing ongoing salary surveys to ensure that City salaries remain competitive over time. This will allow the City to make proactive, rather than reactive, salary decisions.

In addition to performing salary surveys, City staff also want the consultant to perform a complete review of the City's other compensation tools, such as shift differentials and incentive pay structures, to ensure that the City's full compensation philosophy is competitive and meets the City's strategic objectives and policy directions. Human resources and legal staff members are working on revising the City's personnel rules. Completing this review at this time will allow the updated personnel policy to incorporate any recommended changes to the City's compensation philosophy and, in conjunction with the salary survey, will allow for a complete review of the City's compensation practices.

If approved, staff will send the Request for Proposals to interested human resource consulting firms and evaluate the submitted responses before negotiating a contract with the most qualified consultant. That contract will be presented to the City Council for approval before the consultant begins work. This process will likely take a couple of months to complete.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

This item was reviewed by the City Council at a workshop on June 4, 2024.

APPROVED OR DIRECTION GIVEN:

No direction was given by the City Council at the workshop.

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

Staff will negotiate costs with the most qualified candidate and provide a recommendation to the City Council about awarding a contract. If a contract is recommended, it would be funded out of the human resources contracts and professional services budget.

BUDGET CODE:

001-418.0000.62060

ATTACHMENTS:

1. 2024.03.28 Compensation Services RFP



REQUEST FOR PROPOSALS
EMPLOYEE COMPENSATION PHILOSOPHY
AND SALARY SURVEYS

1. Overview

The City of Post Falls is seeking a qualified Human Resources consultant to review the City's current compensation strategies and salaries and to make recommendations on a compensation philosophy and tools to ensure that the City's pay structure is competitive, aligns with market trends, and our strategic goals. The work would include a comprehensive salary survey, evaluating position descriptions, pay grades, and other salary tools, such as special duty pay, to ensure that they are accurate, competitive, and fair. Other services could include ongoing salary surveys to ensure the City's compensation remains competitive.

The City invites interested Human Resources firms and individuals with knowledge of governmental salary practices to send a brief written proposal to supply services to the City.

2. Objectives

- To gather and analyze salary data for positions comparable to those at the City of Post Falls within the relevant industry sectors and geographical areas.
- To review and evaluate our current compensation philosophy to ensure it aligns with industry best practices and supports our strategic objectives.
- To provide detailed recommendations on updating our salary structures, compensation packages, and benefits schemes.
- To assess compensation trends and forecast future trends impacting the City and other local government employers.

3. Scope of Work

The successful proposer will work collaboratively with the City's management team to revise and update the City's current employee compensation philosophy and strategies to ensure that the City's salaries are competitive, internally consistent, comprehensive, and legally compliant. The compensation philosophy must reflect the City's values and culture. Specifically, the scope of work will include:

- **Data Collection:** Collect and analyze salary data for comparable organizations and positions within the inland northwest region.
- **Compensation Philosophy Review:** Evaluate the current compensation philosophy of the City, assessing its effectiveness, alignment with industry standards, and its effectiveness in achieving strategic and policy objectives.
- **Identification:** Identify areas of the City's current compensation strategies and policies that require updating or revision to ensure compliance with current laws and regulations.
- **Analysis:** Provide a detailed analysis of the collected data focusing on industry benchmarks, geographical differences, cost of living factors, and job role specifics.
- **Reporting:** Deliver a comprehensive report that includes data visualizations, a summary of findings, actionable recommendations, and suggestions for philosophy adjustments.
- **Presentation:** Present findings and recommendations to the City's senior management team for feedback and approval.
- **Finalization:** Finalize salary survey documents and revised compensation policy documents based on feedback from the management team.

4. Proposal Requirements

Proposals submitted should include the following:

- **Company Background:** Information about your firm, including years in business, core competencies, and previous experience with similar projects.
- **Approach and Methodology:** Detailed description of the methodology and techniques to be used for the salary survey and compensation philosophy review, including communication strategies to ensure timely and effective communication between the City and your project team.
- **Project Timeline:** Estimated timeline from initiation to completion of the project. Identify other pending projects that may impact the timeline.
- **Team Qualifications:** Information on the project team and lead, including bios and relevant experience for the project team.
- **References:** Contact information for at least three references from past clients who have undertaken similar projects.
- **Conflicts of Interest:** Identify any foreseeable or potential conflicts of interest resulting from such representation and how you would propose to resolve such conflicts.
- **Cost Proposal:** Detailed pricing structure, including all expected costs and payment terms. Please attach a rate sheet valid for one year including the rates for the project team.

5. Evaluation Criteria and Selection Process

The City will evaluate Proposals based on the following criteria:

- **Relevance of Proposed Methodology:** Suitability of the approach to the objectives and scope of this project, particularly the integration of compensation philosophy review.
- **Experience and Expertise:** Proven track record in conducting comprehensive salary surveys and compensation strategy reviews, especially within our industry.
- **Project Cost:** Reasonableness of the proposed budget in relation to the scope and depth of services offered.
- **Timeliness:** Ability to complete the project within a reasonable timeframe.

The City will review all submissions beginning on _____. The City will then conduct interviews of top candidate(s) the week of _____ and make the final selection. Interviews may be conducted by telephone, in person, or by teleconference. The Administration and Human Resources Departments will evaluate the offers and make a recommendation to the City Council for formal approval of the representation.

6. Submission Guidelines and Contact Information

The City requests the proposer to send a concise proposal addressing the requirements outlined in this RFP. The proposal should supply specific and succinct answers to all questions and requests for information.

Proposals must be submitted electronically or by mail and are due to the Deputy City Clerk no later than 5 p.m. on _____.

<u>Mail</u>	<u>Electronically</u>
Rhiannon O'Neill 408 N Spokane Street Post Falls, ID 83854	Rhiannon O'Neill roneill@postfalls.gov

Any questions about this RFP should be directed to Janet Best, Human Resources Director, at janetb@postfalls.gov or 208-457-3309.

The City reserves the right, without qualification, to select any proposal based on written or oral communication with any or all of the firms or individuals when such action is considered to be in the best interest of the City; reject all proposals; exercise discretion and apply its judgment with respect to any proposals submitted; all proposals will be considered confidential until the final selection of a consultant and will be retained by the City of Post Falls.

**CITY OF POST FALLS
AGENDA REPORT
PUBLIC HEARINGS
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Ethan Porter, Associate Planner

SUBJECT: Tiny Home Code TA-23-2

ITEM AND RECOMMENDED ACTION:

Review and approve ordinance to amend Title 18 to include a new Post Falls Municipal Code (PFMC) Section 18.24.034: Tiny Home Residential Performance Standards.

DISCUSSION:

Staff is bringing forth this Text Amendment as a follow-up from the Cottage Home Performance Standards that were adopted on February 7th, 2023. Additionally, there have been a number of workshops regarding this proposed Tiny Home Standards. Housing prices and availability have been a discussion over the past few years and staff has put together Tiny Home Performance Standards to help provide an option for diverse housing within the City.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

February of 2023, the Planning Department drafted an Ordinance for Tiny Home Performance Standards. Following the draft Ordinance, staff presented the standards at a joint workshop in April 2023. Staff was directed to look nationally at how tiny homes are being utilized and what regulations the nation has used. Once the research was complete staff presented an updated tiny home workshop to City Council, concluding nationally how tiny homes are viewed and used. To get further guidance in finalizing the performance standards staff presented the findings to Planning and Zoning Commission in September 2023. April 2024, City Council heard from staff on the finalized ordinance before starting the public hearing process.

APPROVED OR DIRECTION GIVEN:

Planning and Zoning Commission recommended approval for the proposed Tiny Home Performance Standards. The Commission's motion added language to restrict Tiny Home developments to have a maximum size of five (5) contiguous acres. This has been updated within the Ordinance under Limitations subsection six (6) of the General Development Standards.

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

N/A

BUDGET CODE:

N/A

ATTACHMENTS:

1. Tiny Home Ordinance

ORDINANCE NO. [Category]

AN ORDINANCE OF THE CITY OF POST FALLS, KOOTENAI COUNTY, A MUNICIPAL CORPORATION OF THE STATE OF IDAHO, PROVIDING FOR AMENDMENT TO MUNICIPAL CODE SECTION 18.12.010 DEFINITIONS; PROVIDING FOR A NEW CODE SECTION 18.24.034 TITLED TINY HOME RESIDENTIAL PERFORMANCE STANDARDS; PROVIDING THAT REMAINING SECTIONS OF POST FALLS CITY CODE SHALL REMAIN IN EFFECT; PROVIDING FOR SEVERABILITY; PROVIDING FOR THIS ORDINANCE TO BE IN FULL FORCE AND EFFECT FROM AND AFTER ITS PASSAGE, APPROVAL, AND PUBLICATION ACCORDING TO LAW

WHEREAS, *after public hearing on the hereinafter provided, and after recommendation by the Planning and Zoning Commission*, it is deemed by the Mayor and City Council to be in the best interests of the citizens of the City of Post Falls that the following be adopted.

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Council of the City of Post Falls as follows:

SECTION 1. That Post Falls Municipal Code Section 18.12.010 is amended to add the following definitions in appropriate alphabetical order:

Green Roof: A green roof is a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems.

Tiny Home: Any detached residential structure (pre-manufactured or stick built) with a total living area, excluding any attached garage, of less than eight hundred (800) square feet.

SECTION 2. That a new Section 18.24.034, entitled TINY HOME RESIDENTIAL PERFORMANCE STANDARDS is added to the Post Falls Municipal Code as follows:

18.24.034: TINY HOME RESIDENTIAL PERFORMANCE STANDARDS:

A. Purpose: The purpose of this section is to: to provide housing types that are responsive to changing household demographics (e.g., retirees, small families, and young professionals); to expand opportunities for home ownership; to encourage creation of functional usable *Green Space*

in residential communities; to promote neighborhood interaction and safety through design; to encourage opportunities for infill development; and ensure that residents of such housing enjoy a high-quality environment, with permanence, stability, and access to *Green Space*.

B. Applicability: *Tiny Home* residential development is permitted in the R-2, R-3, LC and RM zoning districts. *Tiny Home* residential development is also allowed in those areas in the CCM zoning district where the approved development agreement for the property authorizes multi-family residential uses. *Tiny Homes* may also be approved with a Special Use Permit in the CCS and R-1 zoning districts.

C. General Development Standards:

1. Attached Garages:

- a. Garages on *Front Loaded Tiny Homes* and *Side Loaded Tiny Homes* cannot exceed three hundred and sixty (336) square feet in size.
- b. Garages on *Rear Loaded Tiny Homes* cannot exceed five hundred (500) square feet in size.

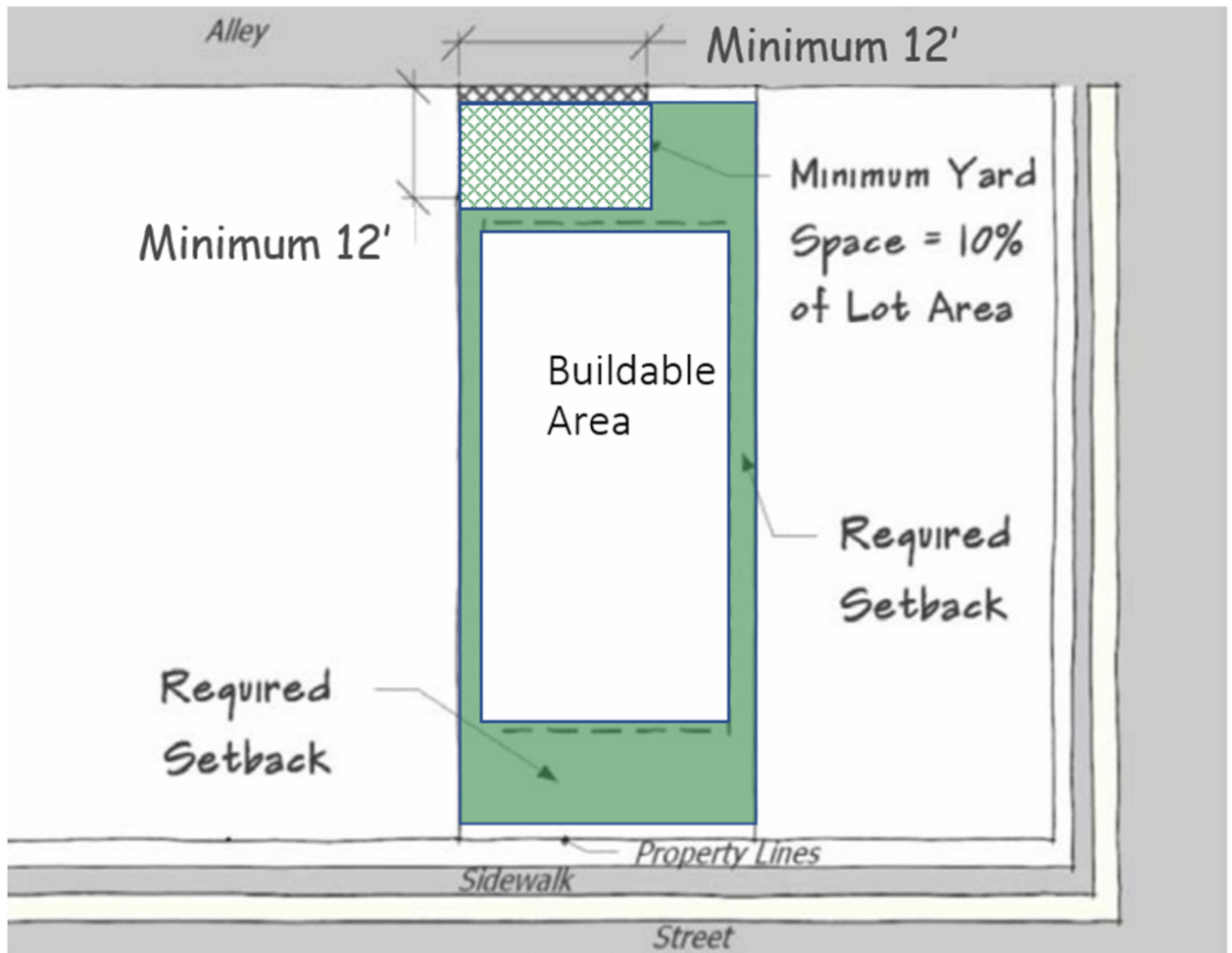
2. Architectural Design:

- a. Each *Tiny Home* must have a front porch with a minimum depth of six (6) feet. The porch must also meet the following requirements:
 - i. *Front Loaded Tiny Homes* must have a porch no less than fifty square feet (50) square feet in size.
 - ii. *Side Loaded* and *Rear Loaded Tiny Homes* must have a porch no less than eighty (80) square feet in size.
- b. Attached garages for *Front Loaded Tiny Homes* cannot exceed sixty-six (66%) of the width of the structure.
- c. *Accessory Structures* must match the architectural style of the *Tiny Home* and meet separation requirements contained in the adopted building code.
- d. Each *Tiny Home* must have a minimum of two (2) of the following building elements, features, or treatments incorporated into the front façade and street facing façade.
 - i. Windows with visible trim and mullions or recessed windows;
 - ii. Dormers/false dormers;

- iii. Bay windows;
 - iv. Gables detailing;
 - v. Architectural detailing on pillars, posts, or railings;
 - vi. Stonework or masonry;
 - vii. Minimum sixteen inch (16”) offset in building face or roof;
 - viii. Detailed door (multi-panel or glass insert) or window adjacent to front door (sidelite);
 - ix. Variation in roof or building colors and materials, on *Tiny Homes*, including but not limited to, brick, stone, or other masonry accents;
 - x. Any other building elements, treatments, features approved by the *Zoning Administrator* that provide for variety and visual interest.
- e. *Tiny Homes* containing vinyl siding cannot be within 10 feet of another structure with vinyl siding.

3. Green Space:

- a. Green Space: *Tiny Home* developments must provide five-hundred and fifty square feet (550) square feet of common *Green Space* for each *Tiny Home*. For *Tiny Homes* placed on individual *Lots*, the amount of common *Green Space* may be reduced to three-hundred and twenty-five (325) square feet. Each common *Green Space* must provide at least one pet waste clean-up station.
- b. When *Tiny Homes* are placed on individual *Lots*, each lot must provide a contiguous and usable *Yard*. This area cannot include structures, driveways, parking, or be included within common *Green Space*. Additionally, the *Yard* must:
 - i. Be located in the rear or side yard and not be within the required front yard setback;
 - ii. Be equal to at least 10% of the parcel area; and
 - iii. Have no dimension less than 12 feet or less than 10 feet for parcels smaller than 2,400 sq ft.



- c. Within common *Green Spaces* one (1) class II or III *Tree*, as outlined in the “Post Falls Tree Standards Manual,” for each seven thousand five hundred (7,500) square feet of *Green Space* is required. The species must be approved by the *Urban Forester*.
- d. Structures providing indoor recreational space (excluding office/managerial areas), with a minimum area of at least 350 square feet, with no dimension being less than 17 feet and having a floor to ceiling height of at least ten (10) feet, may be included as part of the common *Green Space* if they provide the residents any of the following activities:
 - i. Game equipment
 - ii. Work-out equipment
 - iii. Sport court facilities
 - iv. Swimming Pools

- v. Greenhouses
 - vi. Wood shop
 - vii. Or other designated project or game equipment approved by the Zoning Administrator
4. Fences: Fences are not allowed within common *Green Space* areas, unless approved by the *Zoning Administrator* to secure or enclose an amenity within the *Green Space* that creates a safety, security, or usability concern. Examples of where exemptions may be considered include; dog parks, tennis/pickleball courts, community gardens, *Swimming Pools*, etc.
5. Parking:
- a. Each *Tiny Home Dwelling Unit* must provide at least two (2) parking spaces for each *Tiny Home Unit* that meets the requirements of Section 18.24.020. For *Tiny Home* development projects up to 50% of the required parking spaces may consist of on-street parking. On-street parking spaces on a public street are community spaces and may not be assigned to a designated *Tiny Home*.
 - b. An additional .25 parking spaces must be provided in a *Parking Cluster* for each *Tiny Home* within a development of eight (8) or more units.
6. Limitations:
- a. *Tiny Home* developments can be no larger than five (5) acres of contiguous *Tiny Home* use.
- D. Tiny Home Single-Family Performance Standards: Single-Family *Tiny Home* development must also meet the following standards:
- 1. Minimum *Lot* area: two thousand (2,000) square feet. Corner lots shall not be narrower than twenty-five (25') feet.
 - 2. Site Design and Orientation:
 - a. Up to 50% of the vehicular access to *Tiny Homes* in a development can be *Front Loaded*. *Tiny Homes* with a detached garage placed behind the home are not considered *Front Loaded* for the purposes of this section.

- b. *Tiny Homes* are encouraged to front *Green Space*.
- c. Each *Tiny Home* must have a pedestrian path constructed of concrete or asphalt between the sidewalk and the building entry. When no sidewalk is present, then a connection must be made to the edge of private street or public right-of-way.
- d. *Tiny Home* developments with eight (8) or more *Tiny Homes* must have fifty percent (50%) of the common *Green Space* centrally located. Common *Green Space* must front a public or private street and have twenty percent (20%) of the perimeter of the *Green Space* fronting the public or private street.
 - i. Common *Green Space* must be in a separate tract or tracts and be owned and maintained by a homeowner's association (HOA). The homeowner's association's covenants must include the perpetual maintenance of all common areas, including common *Green Space* and preclude the conversion of such common areas to any other *Use*. Alternatively, the *Zoning Administrator* may approve an alternative guarantee of maintenance and limitation to *Green Space* use upon a determination that the alternative provides an equivalent guarantee that the *Green Space* will be adequately maintained.

3. Setbacks and Height Limitations:

- a. Front: Sixteen feet (16') to the *Principal Plane* and garages must comply with the Official Bulk and Placement Regulations Table in section 18.20.040 of this ordinance.
 - i. If no easement exists along the front property line, then the front setback may be reduced up to five feet (5').
 - ii. For *Front Loaded Tiny Homes*, garages must not project beyond the front porch. Additionally, the front entryway must be visible and generally parallel to the public or private street.
- b. Side: Each side yard must have a setback of at least three (3') feet and both side yards must total at least ten (10') feet.
- c. Rear:
 - i. *Front Loaded Tiny Homes*: Twelve (12') feet.
 - ii. *Rear Loaded Tiny Homes*: Twenty (20') feet.
- d. Flanking Street: Ten (10') feet; and

- e. Height: Twenty-Five (25') feet.
4. Accessory Structures: *Accessory Structures* cannot exceed the height of the primary structure and not exceed one story. Additionally. The sum of all permitted *Accessory Structures* cannot exceed seven-hundred and twenty (720) square feet with no single accessory structure greater than five hundred (500) square feet.
 5. Green Infrastructure Design Standards:
 - a. Where a minimum of twenty-five percent (25%) of the *Lots* contain green infrastructure amenities contained in this section, common *Green Space* requirements may be reduced by fifty (50) square feet for each *Dwelling Unit*.
 - i. Solar collection system used to capture solar energy, convert it to electrical or thermal power and supply electrical or thermal power primarily for on-site use via roof mounted solar arrays or modules, or solar related equipment which is intended to primarily reduce on-site consumption of utility power or fuels.
 - ii. Water harvesting barrels or downspouts.
 - iii. *Green roofs*.
 - iv. EV Charging Stations.
 - b. When at least 75% of the common *Green Space* utilizes *Xeriscaping* meeting the requirements of Section 18.24.080(E) the common *Green Space* requirements may be reduced by fifty (50) square feet for each *Dwelling Unit*.
 6. Fences: Fences on individual *Lots* must comply with 18.24.020 (K).
- E. Tiny Home Multi-Family Performance Standards: Multi-family development of three (3) or more *Tiny Homes* on a single *Lot* must utilize the site plan review process in Section 18.20.130 of this Title, and must also conform to the following standards:
1. Separation: All *Tiny Homes* must meet the separation requirements in the adopted building code without the use of additional fire rated materials.
 2. Site Size, Design and Orientation:
 - a. Vehicular access to the *Tiny Home* must be from the rear or side, unless approved through a Special Use Permit.

- b. *Tiny Homes* are encouraged to front *Green Space*.
 - c. Each *Tiny Home* must have a pedestrian path constructed of concrete or asphalt between the sidewalk and the building entry. If no sidewalk is present, then a connection must be made to the edge of private street or public right-of-way.
3. Setbacks and Height Limitations: The following setbacks from exterior property lines of the multi-family development are as follows:
- a. Front: Twenty feet (20');
 - b. Side: Ten feet (10');
 - c. Rear: Ten feet (10');
 - d. Flanking Street: Twenty feet (20'); and
 - e. Height: Twenty-five feet (25').
4. Green Space: The required *Green Space* must comply with the requirements of Section 18.24.030 D.7. of this Title but do not qualify for density bonuses.
5. Green Infrastructure Design Standards: Where green infrastructure amenities are provided and selected from the following list, common *Green Space* requirements may be reduced by fifty (50) square feet per *Tiny Homes*.
- a. Electrical vehicle (EV) charging stations at a minimum of one (1) station per twenty-five (25) *Tiny Homes*.
 - b. Solar collection system used to capture solar energy, convert it to electrical or thermal power and supply electrical or thermal power primarily for on-site use via roof mounted solar arrays or modules, or solar related equipment which is intended to primarily reduce on-site consumption of utility power or fuels.
 - c. Apply *Xeriscaping* on at least 50% of the open space meeting the requirements of Section 18.24.080(E) located in community or Green Space areas.
6. Access, Driveways, Parking, and Garages: The *Zoning Administrator* may consider consolidated parking structures under the site plan review process.
7. Refuse: All outside storage areas and solid waste storage areas must meet the requirements of Post Falls Municipal Code Section 18.24.040(C). Adequate access must be provided

for collection of solid waste. The *Zoning Administrator* may approve alternative methods of screening if the proposed screening is at least as effective at screening the storage areas from view as the requirements of this section.

SECTION 4. All provisions of the current Post Falls Municipal Code or ordinances of the City of Post Falls and parts of ordinances in conflict with this ordinance are hereby repealed to the extent of such conflict.

SECTION 5. The provisions of this ordinance are severable and if any provision, clause, sentence, subsection, word, or part thereof is held illegal, invalid, or unconstitutional or inapplicable to any person or circumstance, such illegality, invalidity or unconstitutionality or inapplicability shall not affect or impair any of the remaining provisions, clauses, sentences, subsections, words or parts of this ordinance or their application to other persons or circumstances. It is hereby declared to be the legislative intent that this ordinance would have been adopted if such illegal, invalid, or unconstitutional provision, clause sentence, subsection, word, or part had not been included therein, and if such person or circumstance to which the ordinance or part thereof is held inapplicable had been specifically exempt therefrom.

SECTION 6. After its passage and adoption, a summary of this Ordinance, under the provisions of the Idaho Code, shall be published once in the official newspaper of the City of Post Falls, and upon such publication shall be in full force and effect.

Passed under suspension of rules upon which a roll call vote was duly taken and duly enacted an Ordinance of the City of Post Falls at a regular session of the City Council on _____, 2024.

APPROVED, ADOPTED and SIGNED this day of , 2024.

Ronald G. Jacobson, Mayor

ATTEST:

Shannon Howard, City Clerk

SUMMARY OF POST FALLS ORDINANCE NO. [Category]

AN ORDINANCE OF THE CITY OF POST FALLS, KOOTENAI COUNTY, A MUNICIPAL CORPORATION OF THE STATE OF IDAHO, PROVIDING FOR AMENDMENT TO MUNICIPAL CODE SECTION 18.12.010 DEFINITIONS; PROVIDING FOR A NEW CODE SECTION 18.24.034 TITLED TINY HOME RESIDENTIAL PERFORMANCE STANDARDS; PROVIDING THAT REMAINING SECTIONS OF POST FALLS CITY CODE SHALL REMAIN IN EFFECT; PROVIDING FOR SEVERABILITY; PROVIDING FOR THIS ORDINANCE TO BE IN FULL FORCE AND EFFECT FROM AND AFTER ITS PASSAGE, APPROVAL, AND PUBLICATION ACCORDING TO LAW

The City of Post Falls, Kootenai County Idaho hereby gives notice of the adoption of Post Falls Ordinance No. [Category], which [DESCRIPTION]; providing repeal of conflicting ordinances and providing severability. The ordinance is effective upon publication of this summary. The full text of Ordinance No. [Category] is available at Post Falls City Hall, 408 Spokane Street, Post Falls, ID 83854 in the office of the City Clerk. Dated this ____ day of June, 2024.

/s/
Shannon Howard, City Clerk

STATEMENT OF LEGAL ADVISOR

I, Field K. Herrington, the legal advisor for the City of Post Falls, I have examined the attached summary of Ordinance No. [Category], which [DESCRIPTION], and find it to be a true and complete summary of said ordinance and provides adequate notice of the contents to the public.

Dated this day of , 2024.

Field K. Herrington, City Attorney

CITY OF POST FALLS
AGENDA REPORT
UNFINISHED BUSINESS/RETURNING ORDINANCES AND RESOLUTIONS
MEETING DATE: 6/18/2024

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Craig Borrenpohl, Utility Manager

SUBJECT: Adoption of the Water Reclamation Facility (WRF) Facility Planning Study

ITEM AND RECOMMENDED ACTION:

Council reviews and formally adopts the Water Reclamation Facility (WRF) Facility Planning Study.

DISCUSSION:

City Staff worked with engineering consultant J-U-B Engineers and financial subconsultant FCS Group to develop the attached facility master plan and financial plan. The plans lay out anticipated facility needs, capital improvement priorities, and financial structures to ensure the ability of the Water Reclamation Facility to adequately treat anticipated flows and loads throughout the 20-year planning period.

If adopted by the council, the plan will be submitted to the Idaho Department of Environmental Quality for regulatory approval and used to guide division, budgeting, project planning, and priority setting in the coming years. Individual projects listed in the document will each come before council for approval prior to implementation.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

December 5, 2023 – Contract Amendment for Water Reclamation Facility Planning Study

August 16, 2022 – Impact Fee Methodology Memorandum

February 15, 2022 - Contract with J-U-B Engineers for the Water Reclamation Facility Planning Study and Financial Plan

APPROVED OR DIRECTION GIVEN:

Approved by Council

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

NA

BUDGET CODE:

NA

ATTACHMENTS:

1. PFWRF_FacilityPlan_Final_2024-05-17

WATER RECLAMATION FACILITY (WRF) FACILITY PLANNING STUDY

City of Post Falls

May 2024

Prepared by:



J-U-B ENGINEERS, INC.

7825 Meadowlark Way

Coeur d'Alene

(208) 762-8787 | www.jub.com



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Chapter 2 – Flow and Wasteload Projections

Chapter 3 – Regulatory and Permitting Review

Chapter 4 – Existing WRF Evaluation

Chapter 5 – Alternatives to Meet Facility Goals: Liquid Stream

Chapter 6 – Alternatives to Meet Facility Goals: Solids Stream

Chapter 7 – Capital Improvement and Financial Plan

ABBREVIATIONS

AC	asbestos cement	MLSS	Mixed Liquor Suspended Solids
BOD	Biochemical Oxygen Demand	MLVSS	Mixed Liquor Volatile Suspended Solids
cf (CF)	cubic feet	MSL	Mean Sea Level
cfs	cubic feet per second	(msl)	
CIP	Clean-in-Place	NPDES	National Pollutant Discharge Elimination System
COD	Chemical Oxygen Demand	O ₂	oxygen
DO	Dissolved Oxygen	OSHA	Occupational Safety and Health Administration
EPA	Environmental Protection Agency	PLC	Programmable Logic Controller
ESA	Endangered Species Act	ppb	parts per billion; same as µg/L
fpm	feet per minute	ppd	pounds per day
fps	feet per second	ppm	parts per million; same as µg/L
ft	feet	PVC	Polyvinyl Chloride
gpcd	gallons per capita day	RAS	Return Activated Sludge
gpm	gallons per minute	SCADA	Supervisory Control and Data Acquisition (software for integrating components and monitoring operations)
HMI	Human Machine Interface	sf (SF)	square feet
hp	horsepower	SO ₂	sulfur dioxide
HRT	Hydraulic Residence Time	SRT	Sludge Retention Time; same as MCRT
IE	Invert Elevation	TDH	Total Dynamic Head
IDEQ	Idaho Department of Environmental Quality	TKN	Total Kjeldahl Nitrogen
kW	Kilowatt	TSS	Total Suspended Solids
kwh	kilowatt hour	VFD	Variable Frequency Drive
lb/day	pounds per day	VOC	Volatile Organic Compounds
LCP	Local Control Panel	VSS	Volatile Suspended Solids
mA	milliamp	WAS	Waste Activated Sludge
MBR	Membrane Bioreactor	WL	Water Level
MCC	Motor Control Center	WLAP	Wastewater Land Application Permit
MCRT	mean cell residence time; same as SRT	WTP	Water Treatment Plant
mg/L	milligrams per liter; same as ppm	WWTP	Wastewater Treatment Plant
Mgal	million gallons		
mgd	million gallons per day		
mL	milliliter		

Process Flow Abbreviations

AHORSE POWER	Air, High Pressure	LA	Land Application
ALP	Air, Low Pressure	LE	Lagoon Effluent
BD	Bottom Drain	MF	Membrane Microfiltration
BP	Bypass	ML	Mixed Liquor
BW	Filter Backwash	NG	Natural Gas
C	Condensate	NPW	Non-Potable Water
CA	Compressed Air	OF	Overflow
CD	Chemical Drain	PEA	Polymer, Anionic
CFS	Chemical Feed Solution	PEC	Polymer, Cationic
CIPF	MF Cleaning Feed	PEF	Primary Effluent
CL	Chlorine (gas or liquid)	PEN	Polymer, Nonionic
CLS	Chlorine Solution	PER	Permeate (from membranes)
CSL	Circulated Sludge Line	PI	Plant Influent
CV	Chlorinator Vent and Detection Line	PS	Pressure Sewer
DN	Decant	PW	Potable Water
DR	Drain	RAS	Return Activated Sludge
DSL	Digested Sludge Line	RSL	Raw Sludge Line
EQE	Equalization Effluent	SA-	Sample Line - (E)ffluent, (I)nfluent
EQI	Equalization Influent	SAN	Sanitary Sewer
FA	Foul Air	SC	Scum
FE	Final Effluent	SCL	Spare Chemical Line
FM	Force Main	SD	Storm Drain
G	Grit	SE	Secondary Effluent
H	Hypochlorite	SG	Sludge Gas
HWR	Hot Water Return	SI	Screened Influent
HWS	Hot Water Supply	SN	Supernatant
IE	Intermediate Effluent	SPD	Sump Pump Discharge
IR	Internal Recycle	TC	Tertiary Clarification
IRR	Landscaping Irrigation System	UV	Ultraviolet Disinfection
		UF	(Membrane) Ultra-Filtration
		WAS	Waste Activated Sludge

EXECUTIVE SUMMARY

City of Post Falls WRF Facility Plan

May 2024

Prepared by:



J-U-B ENGINEERS, INC.

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EXECUTIVE SUMMARY

ES-1 Objectives for the Plan and Organization

The City of Post Falls (the City) is located in the northern panhandle of Idaho, on the Rathdrum Prairie generally north of the Spokane River. The City's existing Water Reclamation Facility (WRF) is located along Seltice Way north of I-90, between Chase Road and McGuire Road. The WRF discharges reclaimed effluent to the Spokane River downstream of the Post Falls Dam. The City limits are shown in **Figure ES-1**. The City's WRF also receives and treats wastewater from the City of Rathdrum. Wastewater is collected and pumped to the Post Falls WRF in systems owned and operated by the City of Rathdrum. Wastewater is also collected and pumped within the City of Post Falls by the City's own systems. Facility planning for the Rathdrum and Post Falls collection systems are done under separate documents and are not included as a part of this Facility Plan.

This WRF Facility Plan is organized into the following Chapters; a summary of their contents follows:

Chapter 1 - Introduction and Overview: Includes a description of the basis and need for the planning document and the basic existing environmental conditions.

Chapter 2 - Flow and Wasteload Projections: Includes a description of the existing flows and loads experienced at the WRF, and the projected flow and load increases anticipated at the WRF during the 20-year planning period.

Chapter 3 - Permitting Conditions: Includes a review of past, current, and potential future regulatory considerations and restrictions in relation to federal and state water quality regulations associated with river discharge and recycled water rules.

Chapter 4 - Existing WRF Evaluation: Includes a description of the existing WRF unit process treatment capacities and identified deficiencies.

Chapter 5 - Alternatives to Meet Facility Goals: Liquid Stream: Includes a review and recommendation of improvements and options necessary to meet anticipated treatment levels for each liquid stream unit process within the WRF and reuse systems.

Chapter 6 - Alternatives to Meet Facility Goals: Solids Stream: Includes a review and recommendation of improvements and options necessary to meet anticipated treatment levels for each solids stream unit process within the WRF.

Chapter 7 - Capital Improvement and Financial Plan: Includes a capital improvement financial plan with anticipated phasing of projects for liquid stream treatment, reuse implementation and expansion and solids stream improvements at the WRF. The collection system Capital Plan is integrated into the overall capital improvement plan and financial analysis performed in relation to rates, fees and financing.

ES-2 Historical Facility Planning and Projects

In June of 2013, a Facility Plan for the WRF (J-U-B, 2013) was completed to address how the City could meet the requirements of its draft National Pollutant Discharge Elimination System (NPDES) permit. The Facility Plan included a series of upgrades for capacity and tertiary treatment including

disinfection improvements and long-term infrastructure to support effluent reuse projects. The following milestone projects have been implemented since that 2013 plan:

- 2015-2016: Relocation of the WRF headworks with influent flow equalization and solids load-out improvements.
- 2016-2017: The City purchased additional land necessary to support future reuse activities, creating the City's Community Forest area.
- 2017: The City undertook a pilot study to further refine the City's approach to tertiary membrane filtration technologies and associated pre-treatment. The results of this study formed the basis of the Tertiary Treatment Improvements approach.
- 2018-2024: The City is undertaking the construction of upgrading the older portions of the secondary biological system to nutrient removal; tertiary improvements including tertiary plate settlers, tertiary pressure-membrane filtration, new ultraviolet disinfection; and upgrades to the City's river outfall pipeline.

ES-3 Planning Objectives

The purpose of this planning effort is to give the City guidance for future improvements for its WRF over the next 20 years (from 2022 to 2042) and preliminary planning for expansion beyond the 20-year evaluation period. The Plan is organized into a series of chapters to help the City identify immediate needs and foresee needs for long-term upgrades. The chapters also allow for development of costs, implementation strategies, and financial planning coordinated with the wastewater collection system capital program to budget and pay for necessary upgrades. It is crucial that this Facility Plan is reviewed at least every five years for possible modifications to address changing regulatory, economic, and technological conditions that cannot be fully anticipated in advance.

The City is in the process of constructing new tertiary clarification, filtration, and disinfection systems. These systems were put into place to meet the current Idaho Pollutant Discharge Elimination System Program (IPDES) permit that became effective in 2014. The 2014 permit (and current 2023 permit) introduced strict phosphorus limits (3.19 pounds/day seasonal average from February through October) for discharge into the Spokane River. The City was given a compliance schedule to meet the phosphorus and five-day carbonaceous biochemical oxygen demand (CBOD₅) requirements with identified intermediate progress milestones. With the tertiary improvement upgrades currently under construction, the City is on track to meet their current permit requirements. The water quality of the Spokane River is currently under review downstream in Washington. Changes made in Washington may affect discharge requirements upstream in Post Falls.

The scrutiny of the Spokane River water quality has reinforced the City's long-term planning approach to wastewater reclamation including a combination of surface water discharge and reuse of treated effluent for agricultural, or recreational beneficial use on upland areas. This planning study will further refine that approach by assessing the current capacity and treatment capability of the current WRF infrastructure against the potential upcoming water quality requirements coupled with

anticipated growth within the service area. These two drivers will help direct this planning study and dictate the improvements needed at the WRF and the timing of when those improvements will need to be implemented to maintain compliance, including the implementation of effluent reuse activities, the use of treated effluent for a beneficial use such as irrigation.

In addition to discharge related improvements, this planning study assesses the current operational and maintenance challenges within the facility including biosolids treatment, sludge dewatering and handling, odor control, and unused “legacy” infrastructure.

Each of these topics will be discussed further in the proceeding chapters and alternatives will be proposed to address current and future needs. The alternatives will be weighed to assess environmental, operational, and economic impacts to capital and operating costs.

ES-4 Flow and Loading Projections through 2042

Flow data from 2015 through March of 2022 was utilized to evaluate the existing flow and loading trends and conditions being experienced at the WRF. This planning document utilizes the 2018 KMPO anticipated growth rate of 4.56 percent for the 20-year projected flows and loading conditions to the WRF. This approach provides a reasonable, yet conservative timing for the WRF improvement needs and encompasses the observed flow-growth. This selected growth rate provides an anticipated timing for project needs for the 20-year planning period, however the actual timing for implementation of projects will be based on observed trigger (flow/load) conditions impacting the WRF, and necessary time for planning, design, and construction of the necessary improvements. The current year average flows and loads were projected forward in 5-year intervals through 2042 and presented in **Table ES-1**.

Table ES-1 - Flow and Load Projections

Parameter	Metric	Current (2022)	2027	2032	2037	2042
Flow (MGD)	Average Flow (MGD)	3.24	4.05	5.06	6.32	7.90
	Max Month (MGD)	3.50	4.37	5.46	6.82	8.52
	Peak Day (MGD)	4.78	5.97	7.46	9.33	11.65
	Peak Hour (MGD)	7.40	9.24	11.55	14.43	18.04
CBOD (PPD)	Average Load (PPD)	6,762	8,450	10,559	13,195	16,488
	Max Month (PPD)	7,679	9,596	11,991	14,984	18,724
	Peak Day (PPD)	10,476	13,090	16,358	20,441	25,543
TSS (PPD)	Average Load (PPD)	7,547	9,430	11,784	14,725	18,401
	Max Month (PPD)	8,587	10,731	13,409	16,756	20,938
	Peak Day (PPD)	12,250	15,307	19,128	23,902	29,867
Phosphorus (PPD)	Average Load (PPD)	205	257	321	401	501
	Max Month (PPD)	220	275	343	429	536
	Peak Day (PPD)	271	339	423	529	661
NH3 (PPD)	Average Load (PPD)	1,199	1,498	1,872	2,339	2,923
	Max Month (PPD)	1,350	1,687	2,108	2,634	3,292
	Peak Day (PPD)	1,559	1,948	2,435	3,042	3,802

ES-5 Regulatory and Permitting Overview for the Planning Period

Existing IPDES Permit

Post Falls then discharges its recycled water year-round into the Spokane River with authorization from the IDEQ under IPDES Permit No. ID-0025852. Post Falls' current IPDES permit was issued in December 2023; became effective January 1, 2024 and is set to expire December 31, 2028. The primary impetus for the current facility planning effort is to assess the WRF's ability to meet the increasingly stringent IPDES discharge limits in the Spokane River and necessary improvements to capacity to accommodate regional growth.

Potential Future IPDES Permitting Requirements

EPA is currently developing TMDLs to address PCB contamination in the Spokane and Little Spokane Rivers in Washington. And is anticipated to be complete by September of 2024. This will likely drive additional sampling and an evaluation of the impacts of Post Falls effluent in relation to the TMDL. Polybrominated Diphenyl Ethers (PBDEs) are another toxin of concern for the Spokane River, but are not currently listed in the City's IPDES permit and currently have no TMDL for the Spokane River. The current permit has added PFAS as a monitoring and reporting requirement in the third and fourth years of the permit period but has no effluent limitations currently. Similar to PCB's, the approved 40 CFR Part 136 analytical methods for PFAS has not yet been established and until such time permits, must utilize Draft Method 1633 for PFAS analysis.

Based on historic implementation timelines, it is anticipated that new toxins of concern will potentially be enforced within the next 10-20 years while more stringent PCB regulation implementation is expected in the next 5-10 years. As numeric limitations have not been included in the current permit revision, planning for specific additional treatment processes to address potential future permit requirements are not included herein; however, alternatives for effluent reclamation utilizing agricultural reuse are a large portion of the City's overall compliance strategy.

Water Reuse/Recycling Permitting

The wastewater recycling and reuse standards are governed by the Idaho Administrative Procedures Act (IDAPA) 58.01.17. All reuse water must be retained in lined storage ponds awaiting irrigation. Irrigation must be conducted at agronomic rates that meet the crop needs without percolating reuse water and dissolved constituents into the underlying groundwater. The continued use of the Spokane River discharge permit allows Post Falls to match irrigation needs much more closely to recycled water flow to reduce construction of significant (non-growing season) storage ponds. Maintaining the ability to discharge to the Spokane River is critical to managing future needs for expansive land purchases and storage volumes. Further limiting effluent discharge to the Spokane River will have the opposite effect.

The City of Post Falls owns 680 acres designated as Public Reserve open space and for the purpose of land application of recycled water. Rathdrum has also set-aside nearly 314 acres of City property earmarked toward potential reuse. Since the 2013 Facility Plan, the City has additionally purchased nearly 500 acres south of the Spokane River and begun characterization of the property and discussions regarding permitting the Idaho Department of Environmental Quality for the purpose of recycled water application. The City has consolidated this natural multi-use property now called the Community Forest, with the goal of developing and expanding recycled water application on the parcel as a portion of their water reclamation efforts within this planning period.

ES-6 Existing Facilities Review

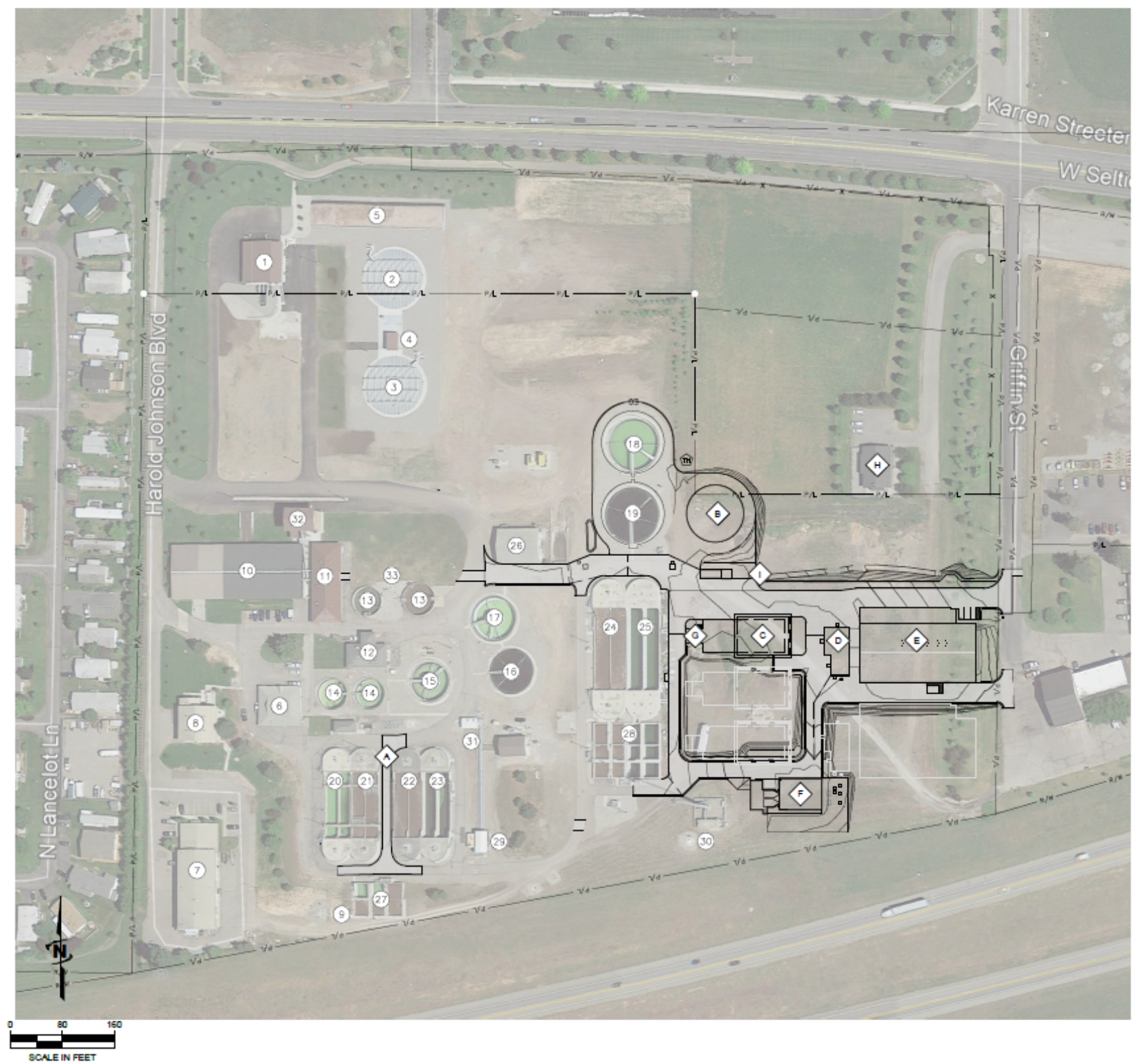
The WRF is a secondary extended aeration activated sludge wastewater treatment plant. Wastewater is screened and de-gritted during preliminary treatment. Flow is then directed to an equalization (EQ) basin. From there it is split between two portions of the plant for biological nutrient removal using oxidations ditches and circular clarifiers. Flows from each half of the plant are then re-combined and pumped to tertiary advanced treatment system. This system uses chemical additives and plate settlers to clarify the flow which then can be directed to membrane ultrafiltration. Flow is then disinfected via ultraviolet (UV) disinfection. Treated flow is currently discharged to the Spokane River downstream of the Post Falls Dam. Biosolids wasted from the secondary processes are dewatered utilizing belt filter presses and are then trucked off site for land application and/or composting.

Each of the existing unit processes at the WRF have been evaluated to determine its current treatment capacity, performance, as well as to identify deficiencies and capacity limitations. Data gathered from the past six years have been utilized to evaluate the performance of these processes. The detailed description of each unit process and its evaluation is included in subsequent sections.

An aerial photo showing the existing location of the major unit processes and facilities on the WRF site is shown in **Figure ES-1**.

Overall, the WRF operates exceedingly well and generally within capacity. Summaries of each process' deficiencies were identified below based on the preceding discussion under current operating and loading conditions. Current loading and estimated capacity of components relative to projected future 5-year and 20-year conditions were evaluated to determine the necessary improvements needed within the planning period. A review of the projected 5- and 20-year impacts identify that several of the systems will have significant capacity impacts within the next five years. The 20-year planning horizon anticipates multiple phases of expansion of nearly every aspect of the WRF including liquid stream improvements (Chapter 5), Reuse implementation improvements (Chapter 5) and solids stream improvements (Chapter 6) within the WRF.

Figure ES-1 - Post Falls WRF Aerial Photo and Site Layout



EXISTING FACILITIES	
1	HEADWORKS
2	EQUALIZATION TANK 1
3	EQUALIZATION TANK 2
4	EQUALIZATION PUMP STATION
5	BIOFILTER SYSTEMS
6	LABORATORY/CONTROL BUILDING
7	ADMIN BUILDING 1
8	ADMIN BUILDING 2
9	SPLITTER BOX S-1
10	SLUDGE STORAGE BUILDING
11	DEWATERING BUILDING
12	UTILITY BUILDING 1
13	SLUDGE HOLDING TANKS
14	SECONDARY CLARIFIERS 1 AND 2
15	SECONDARY CLARIFIER 3
16	SECONDARY CLARIFIER 4
17	SECONDARY CLARIFIER 5
18	SECONDARY CLARIFIER 6
19	SECONDARY CLARIFIER 7
20	OXIDATION DITCH 1
21	OXIDATION DITCH 2
22	OXIDATION DITCH 3
23	OXIDATION DITCH 4
24	OXIDATION DITCH 5
25	OXIDATION DITCH 6
26	UTILITY BUILDING 2
27	OD 1 TO 4 AN SELECTOR BASINS
28	OD 5 AND 6 AN & AO SELECTOR BASINS
29	UV DISINFECTION
30	EFFLUENT PARSHALL FLUME
31	UTILITY WATER PUMP STATION (INTERMEDIATE PARSHALL FLUME)
32	SLUDGE LOADING FACILITY
33	PLANT DRAIN PUMP STATION 1
NEW OR MODIFIED FACILITIES	
A	OXIDATION DITCHES 1 TO 4 ANOXIC IMPROVEMENTS
B	SECONDARY CLARIFIER 8
C	TERTIARY PLATE SETTLERS
D	CHEMICAL STORAGE SYSTEMS
E	MEMBRANE FILTRATION
F	UV DISINFECTION AND UTILITY WATER PUMPING
G	INTERMEDIATE PUMP STATION (SECONDARY EFFLUENT)
H	LABORATORY (FUTURE)
I	PLANT DRAIN PUMP STATION NO.2

ES-7 Alternatives to Meet Facility Goals – Liquid Stream

In general, three primary high-level planning alternatives were developed for consideration in addition to the No Action Alternative. These three planning alternatives were targeted to maintain compliance and flexibility with the WRF (and City's) long term water reclamation planning objectives for the WRF liquid stream. These alternatives include:

- **Alternative 1 - Facility Improvements to WRF**
 - This alternative includes general facility improvements to existing processes to mitigate known operational deficiencies and anticipated capacity needs identified previously in Chapter 4 through the 20-year planning period. Improvements will be phased as necessary to accommodate growth and necessary logistics for implementation as well as timing for capital funding.
- **Alternative 2 - Facility Improvements to WRF + Reuse on Currently Allocated Property**
 - This alternative includes and expands on Alternative 1 with the phased implementation of Reuse on currently allocated reuse properties (including the City Owned Community Forest and Public Reserve properties identified on the Rathdrum Prairie).
- **Alternative 3 - Facility Improvements to WRF + Reuse on Currently Allocated Property + Additional Property Acquisition for Full Reuse during Growing Season**
 - This alternative includes and expands on Alternative 1 and 2 with the expansion of Reuse to additional property. The alternative includes costs for additional property purchase/acquisition to expand the prairie Public Reserve property as well as infrastructure to expand reuse. The target expansion would provide adequate reuse infrastructure to allow for zero discharge to the Spokane River during the summer growing season. The River discharge would be retained for non-growing season discharge as well as for backup discharge of non-compliant Class A water meeting river standards during the growing season.

These alternatives were compiled into overall cost comparison sheet and presented in **Table ES-2** below.

Table ES-2 – Alternatives to Meet Facility Goals – Liquid Stream

Alternative	Description	Capital Improvements Cost (2023 \$)	O&M Net Present Worth Cost (2023 \$) - [Annual O&M]	Total Present Worth Cost (2023 \$)
1	Facility Improvements to WRF	\$141.9 M	Increases proportional to current O&M	\$142 M
2	Facility Improvements to WRF + <u>Reuse on Currently Allocated Property</u>	\$190.7 M	\$13.19 M [\$825,000 annually]	\$204 M
3	Facility Improvements to WRF + Reuse on Currently Allocated Property + <u>Additional Property Acquisition for Full Reuse during Growing Season</u>	\$267.3 M	\$17.38 M [\$1,085,000 annually]	\$285 M

The list of potential general facility improvements to accommodate growth and operational deficiencies were reviewed during workshops with the City staff and ultimately City council. The alternatives were reviewed with the long-term planning goals for the City to provide flexibility at the WRF to maintain permit compliance, combined with capital planning to serve anticipated growth within the planning period and staging of infrastructure beyond the 20-year planning period.

The three alternatives were presented at the City Council Workshop on May 7, 2024. The long-term strategic planning implications for each alternative were reviewed and discussed by the Council, City staff and planning team. Ultimately, upon consideration of factors including environmental concerns, future potential regulatory changes, and costs, Alternative No. 3 was selected by the City council for inclusion in the Capital Improvement Plan and financial plan to allow finalization of the plan and for formal consideration and adoption by the Council.

ES-8 Alternatives to Meet Facility Goals – Solids Stream

Biosolids management is a broad term that covers all aspects of handling, treatment, and ultimate disposal of the solids stream generated from the WRF. A workshop was conducted in April 2023 with the planning team including engineers and various members from City management and WRF operations staff. Multiple biosolids treatment, handling, and disposal/reuse approaches were reviewed at a cursory level against the long term-planning goals of the City. From that workshop, a short-list of potentially viable alternatives with varying end-goals were developed for more detailed consideration and evaluation. The result was four primary biosolids management alternatives that were shortlisted for evaluation and are summarized below:

- **Alternative 1 (A, B and C)** looks at the current biosolids disposal option of Barr Tech with and without thickening and additional dewatering facilities through the planning period.
 - **Alternative 1A** Holding Tanks with Unthickened Sludge, Dewatering, and Contract Hauling and Disposal

- **Alternative 1B** Holding Tanks with Thickening and Belt Press Dewatering, and Contract Hauling and Disposal
- **Alternative 1C** Holding Tanks with Thickening and Centrifuge Dewatering, and Contract Hauling and Disposal
- **Alternative 2** reviews a Class B land application on City property with primary clarification, sludge thickening, mesophilic digestion, and additional dewatering.
- **Alternative 3** looks at Class A land application on City property using thickening, heat drying and additional dewatering.
- **Alternative 4** reviews Class A land application using composting and additional dewatering.

Each option was reviewed based on both monetary and non-monetary factors and given a weighted score. The alternatives were then ranked with the most favorable alternative having the highest score.

Costs for each alternative presented previously were collated and are presented in **Table ES-3** for comparison. As can be seen, Alternative 1B is the least expensive 20-year Net Present Worth cost. As discussed previously and during the facility plan, non-monetary considerations must also be considered and presented in **Chapter 6**.

Table ES-3 – Capital, 20-Year O&M and Net Present Worth Cost (Capital + 20-year O&M)

	Alternative 1A	Alternative 1B	Alternative 1C	Alternative 2	Alternative 3	Alternative 4
Capital	\$22.7M	\$24.3M	\$28.9M	\$45.0M	\$61.0M	\$35.4M
20 YR PW	\$36.0M	\$32.0M	\$36.3M	\$28.8M	\$28.4M	\$64.9M
Total PW	\$58.7M	\$56.3M	\$65.2M	\$73.8M	\$89.4M	\$100.3M

Based on the final ranking of alternatives, **Alternative 1B** was selected by the City staff to improve solids handling operations, allow flexibility in the future with minimal ancillary impacts to the existing liquid stream processes. This alternative was included in the Capital Improvement Plan and financial plan.

ES-9 Capital Improvement Plan Projects and Financial Plan

Alternatives for addressing identified capacity and operational concerns were developed and evaluated in Chapters 5 (Liquid Stream Improvements and Chapter 6 (Solids Stream Improvements). The selected improvements are summarized in **Table ES-4** and reflect the evaluation of monetary and non-monetary criteria as selected and by the City and presented previously. **Figure ES-2** illustrates the changes to the WRF process and the likely siting for the various phases of improvements within the WRF site with phasing for implementation of reuse projects shown in

Figure ES-3. **Figure ES-3** also shows preliminary site space allocation for the build-out of the WRF property, with eventual expansion into the streets department parcel, owned by the City.

Table ES-4 - WRF and Reuse Capital Improvement Projects Summary

No.	Description	Capital Cost (2023 Dollars)	Project Summary / Description
1.1	Headworks- Influent Mods	\$586,000	Modify influent piping for additional forcemains, odor control collection improvements
1.2	Headworks- 3rd Channel/Train	\$3,006,000	Additional screenings and grit removal channel for increased capacity.
2.1	Equalization Modifications for OD 7 Feed Control	\$630,000	Equalized flow control valve/meter system for feed to BNR 7 expansion
2.2	Equalization Tanks PS 2 and Tank 3	\$7,198,000	Addition of Equalization Tank 3 and associated Pump Station
2.3	Equalization Tank 4 and Pumping	\$4,215,000	Addition of Equalization Tank 4
3	Biological Nutrient Removal (Train 7)	\$15,778,000	BNR Train 7 Expansion and Flow Control at Splitter Box S-1 Improvements
4	Biological Nutrient Removal (Train 8)	\$13,949,000	BNR Train 8 Expansion
5	Biological Nutrient Removal (Train 9)	\$13,949,000	BNR Train 9 Expansion
6	UB3, SC Splitter Box, and Scum Pumping	\$5,196,000	Utility Building No.3 and associated RAS and Scum Pumping to Support SC No. 9 through 11.
7	Secondary Clarifier No. 9	\$2,934,000	Secondary Clarifier No. 9 and Associated RAS/WAS Pump.
8	Secondary Clarifier No. 10	\$2,934,000	Secondary Clarifier No. 10 and Associated RAS/WAS Pump
9	Secondary Clarifier No. 11	\$2,934,000	Secondary Clarifier No. 11 and Associated RAS/WAS Pump
10.1	Intermediate Pumping 2 (IP2)	\$2,200,000	Intermediate Pump Station No. 2 (IP2) including feed to Tertiary Clarification Building No.2 (TC2)
10.2	Tertiary Clarification 2 (TC2)	\$11,481,000	Tertiary Clarification Building No.2 (TC2) and associated chemical feed modifications to within MF1 Facility
10.3	MF1 Module Capacity Expansion/Replacement	\$860,200	Membrane Module Replacement at MF1 Building and expansion to fully populate existing MF1 membrane racks
11	Chem Feed and Bulk Storage	\$2,243,000	Chem Feed and Bulk Storage to Support TC2 and MF2 Buildings and Facilities
12	Tertiary Membrane Filtration 2	\$36,250,000	Tertiary Membrane Filtration No. 2 (MF2) Facility
13	UV Disinfection (Expansion of River Discharge)	\$510,000	Addition of UV banks to existing UV channels for increased capacity
14	Outfall Piping Improvements	\$1,239,000	Outfall piping improvements from WRF across I-90 and south to Lundy Blvd connection to Phase 1 Outfall Project.
15	Vactor Dump Station Improvements	\$604,000	Vactor Dump Station Relocation and Improvements for dewatering and managing solids.
16	Plant Drain Lift Station No. 1	\$1,793,000	Relocation and capacity improvements for Plant Drain LS No. 1
17	Control Building Lift Station	\$450,000	Control Building Lift Station No. 1 replacement
18	Odor Control (Maintenance of Existing Facility)	\$654,000	Odor control Modifications to existing facility, replacement of underdrain piping, rock plenum and compost media
19.1	Laboratory Facilities	\$2,180,000	Remodel and expansion of laboratory building
19.2	Maintenance / Shop / Storage Facilities	\$3,410,000	New Maintenance shop, heated parking and storage facility
19.3	Administration / Staff Building Improvements	\$3,027,000	Remodel and expansion of staff facilities at Water Office Building
20	Utility Water	\$411,000	Expansion of Utility Water Pump Station Capacity
21	Secondary Clarifier No. 1 and No. 2 Demo	\$333,000	Demolition and removal of abandoned Secondary Clarifiers No. 1 and No. 2
22	Facility Plan Updates (~10yr interval)	\$600,000	WRF and Reuse Facility Plan Updates
23	Overall Process Evaluation Study - Technology Assessment (Liquid/Solids stream)	\$300,000	Process evaluation study to assess potential changes to overall secondary biological treatment process with considerations for impacts to BNR from potential solids digestion processes.
24.1	Solids Stream Improvements - BFP 2	\$4,277,000	Replacement of existing Andritz belt filter press with new BDP press and polymer system improvements for increased capacity for tertiary and biological sludge dewatering.
24.2	Solids Stream Improvements - Thickening	\$8,507,000	Addition of solids blend tank, feed pumping, and rotary drum thickening for solids management. Modifications to solids holding tanks, aerations systems and belt filter press feed pumping.
24.3	Solids Stream Improvements - BFP 3	\$7,817,000	New Dewatering Building, and new Belt Filter Press No. 3
24.4	Solids Stream Improvements - BFP 4	\$3,671,000	New Belt Filter Press No. 4 in existing building.
25.1	Reuse Improvements- Phase 1	\$21,100,000	Implementation of Reuse Activities on Community Forest Property targeting 1.0 mgd average daily flow capacity. Includes pumping facilities at WRF, pipeline to reuse site and associated storage, pumping and irrigation systems.
25.2	Reuse Improvements- Phase 2 (A)	\$2,168,000	Reuse Forcemain in Seltice Way Corridor from WRF to Chase
25.3	Reuse Improvements- Phase 2 (B)	\$25,549,000	Implementation of reuse activities on Prairie Public Reserve Property (Including Rathdrum parcels) targeting additional 4.35 mgd average daily flow capacity. Includes pumping facilities at WRF, and remaining pipeline to reuse site and associated storage, pumping and irrigation system improvements
25.4	Reuse Improvements- Phase 3	\$76,659,000	Expanded reuse activities on Prairie with new property acquisition/purchase targeting no river discharge during growing season and additional 2.55 mgd capacity. Includes pumping facilities at WRF, pipeline to reuse site and associated storage, pumping and irrigation systems.
	TOTAL	\$291,602,000	Capital Projects through 2042 - WRF and Reuse Sites

Figure ES-2 - WRF Site Master Plan

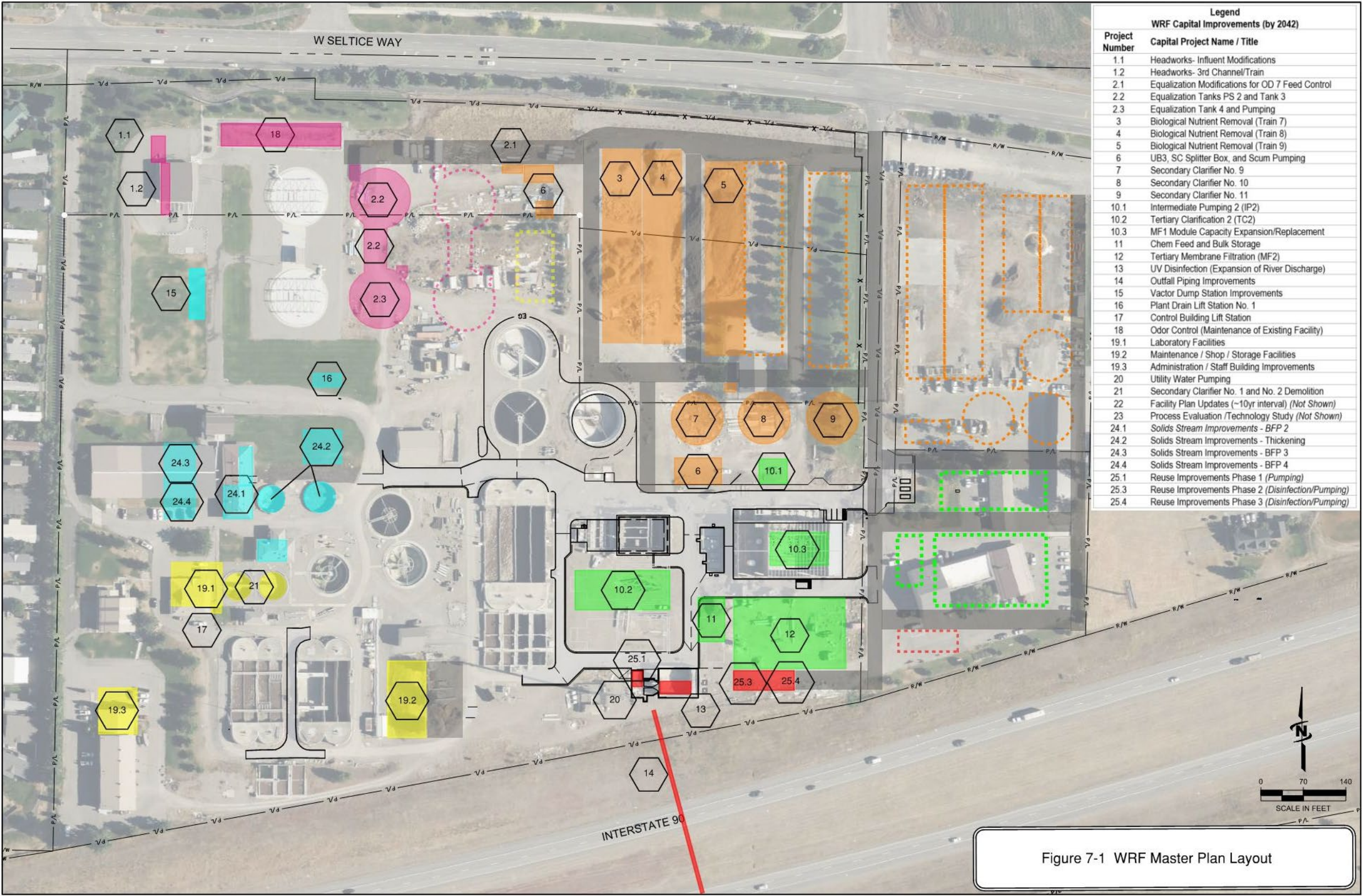
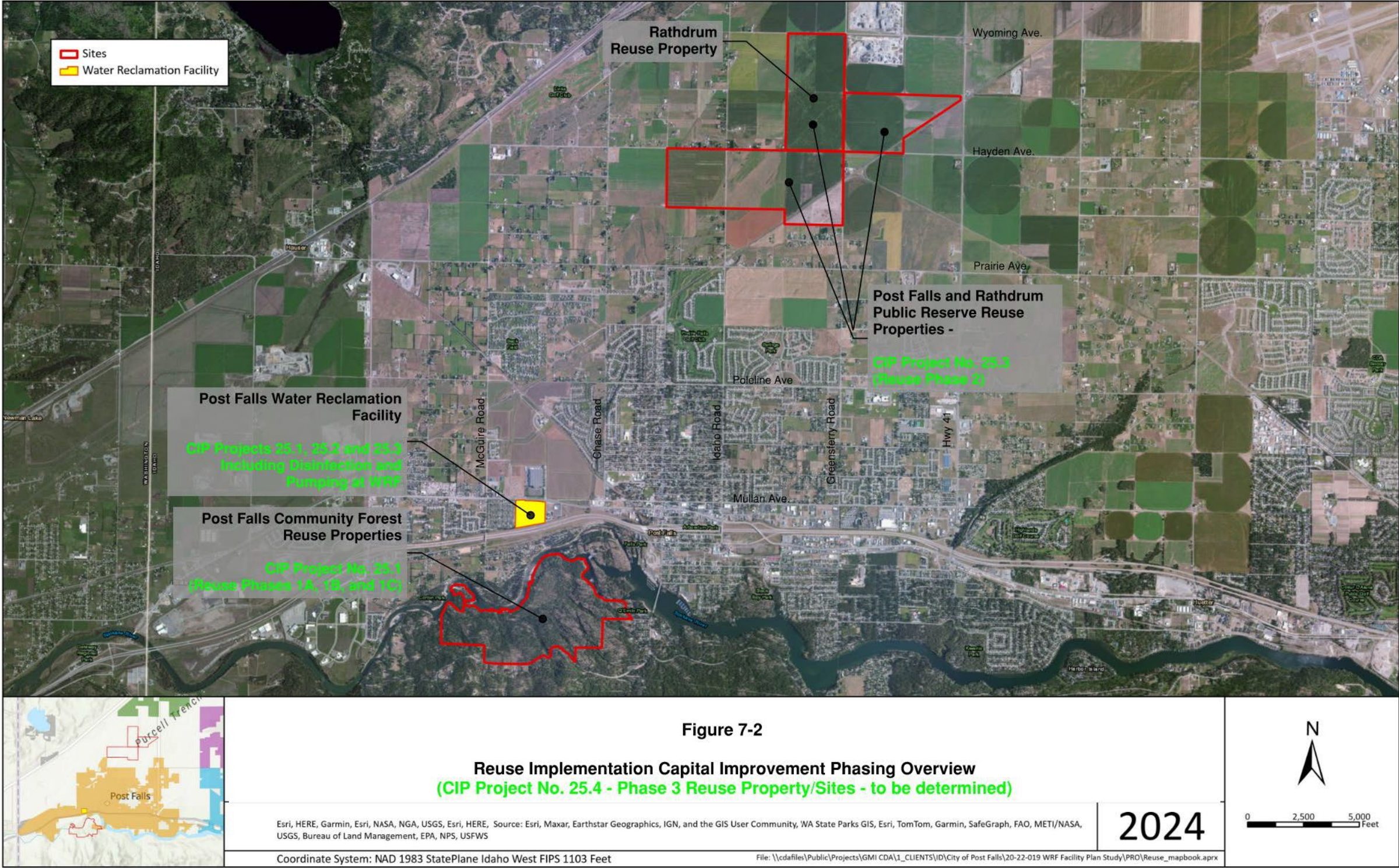


Figure ES-3 - Reuse Implementation Phasing Plan Overview



To develop a comprehensive capital improvement plan, projects identified for the WRF and Reuse sites were coupled with needs within the collection system, identified in the City’s 2019 Collection System Master Plan (**Chapter 7 -Capital Improvement Plan**). WRF projects were reviewed with the City to determine which components were most critical for retaining adequate treatment capacity, maintaining reliable operations and satisfying known permit conditions. Collection System projects were reviewed with the City and updated to reflect projects that had already been completed; were currently in design and/or construction and the anticipated timing for all remaining projects.

Both the WRF/Reuse CIP and Collections System CIP were merged into the financial analysis model to predict cash flow balances and rate impacts over the 20-year planning period. The financial approach tends to utilize relatively conservative assumptions for future projections in order to provide reliable system funding. Critical important financial analysis parameters and assumptions developed are presented in the *Financial Plan and Rate Forecast* located in **Chapter 7, Appendix 7-C**.

This approach currently projects that annual average rate increase of 2.5 percent for the average City customer to fully fund Alternative No.3, including design, land acquisition, construction, operations, maintenance, and full-funded depreciation reserves. **Table ES-5** shows how these projected rate increases would apply during the course of planning period.

Table ES-5 - Rate Analysis Summary (Alternative No. 3)

Description	2025	2028	2033	2038	2042
Cumulative Rate Increase from FY 2024	5.06%	13.14%	28.01%	44.83%	44.83%
Total Monthly Rate (Average User)	\$70.17	\$75.57	\$85.50	\$96.73	\$96.73

It is important to note that the financial model is a representation of anticipated revenue and need for capital, operations, maintenance and replacement funding. As such, the model should be updated regularly and periodically when factors such as significant capital project costs, financing terms, etc. become available.

REFERENCES

N/A

CHAPTER 1

INTRODUCTION AND OVERVIEW

City of Post Falls WRF Facility Plan

May 2024

Prepared by:



J-U-B ENGINEERS, INC.

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1 INTRODUCTION AND OVERVIEW

1.1 Background

The City of Post Falls (the City) is located in the northern panhandle of Idaho, on the Rathdrum Prairie generally north of the Spokane River. The City's existing Water Reclamation Facility (WRF) is located along Seltice Way north of I-90, between Chase Road and McGuire Road. The WRF discharges reclaimed effluent to the Spokane River downstream of the Post Falls Dam. The City limits are shown in **Figure 1-1**. The City's WRF also receives and treats wastewater from the City of Rathdrum. Wastewater is collected and pumped to the Post Falls WRF in systems owned and operated by the City of Rathdrum. Wastewater is also collected and pumped within the City of Post Falls by the City's own systems. Facility planning for the Rathdrum and Post Falls collection systems are done under separate documents and are not included as a part of this Facility Plan.

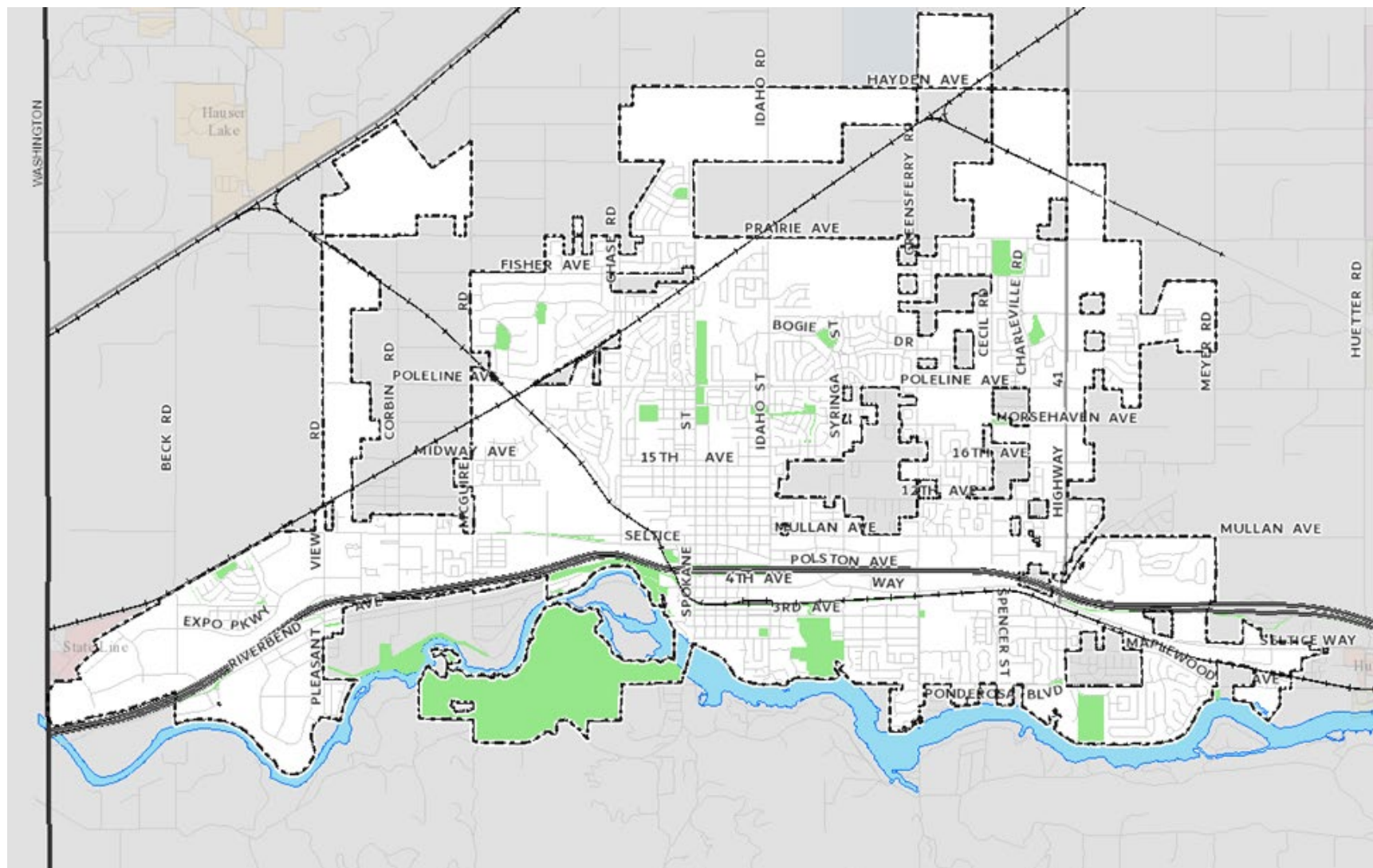
1.2 Historical Facility Planning and Projects

A previous facility planning effort for the Post Falls WRF was completed in 2000 by Kimball Engineering. Kimball Engineering and J-U-B ENGINEERS, Inc. (J-U-B) merged in 2003. Rapid growth concerns in the Post Falls and Rathdrum areas in 2005 and 2006 prompted a master planning update. This document titled, "Wastewater Treatment Plant Master Plan, February 2006 through July 2008" written by J-U-B identified the necessary improvements to achieve 4.0 mgd plant capacity. The recommended improvements were subsequently constructed between 2008 to 2011, increasing the plant's biological capacity from 3.1 mgd to 4.0 mgd. The improvements additionally converted the new half of the facility to full biological nutrient reduction (BNR) which pairs with the existing half of the plant which utilizes enhanced biological phosphorus removal.

In June of 2013, a Facility Plan for the WRF (J-U-B, 2013) was completed to address how the City could meet the requirements of its draft National Pollutant Discharge Elimination System (NPDES) permit. The Facility Plan includes a series of upgrades for capacity and tertiary treatment including disinfection improvements and long-term infrastructure to support effluent reuse projects. The following milestone projects have been implemented since that plan:

- 2015-2016: Relocation of the WRF headworks with influent flow equalization and solids load-out improvements.
- 2016-2017: The City purchased additional land necessary to support future reuse activities, creating the City's Community Forest area.
- 2017: The City undertook a pilot study to further refine the City's approach to tertiary membrane filtration technologies and associated pre-treatment. The results of this study formed the basis of the Tertiary Treatment Improvements approach.
- 2018-2024: The City is undertaking the construction of upgrading the older portions of the secondary biological system to nutrient removal; tertiary improvements including tertiary plate settlers, tertiary pressure-membrane filtration, new ultraviolet disinfection; and upgrades to the City's river outfall pipeline.

Figure 1-1 – City of Post Falls



1.3 Planning Objectives

The purpose of this planning effort is to give the City guidance for future improvements for its WRF over the next 20 years (from 2022 to 2042) and preliminary planning for expansion beyond the 20-year evaluation period. The Plan is organized into a series of chapters to help the City identify immediate needs and foresee needs for long-term upgrades. The chapters also allow for development of costs, implementation strategies, and financial planning coordinated with the wastewater collection system capital program to budget and pay for necessary upgrades. It is crucial that this Facility Plan is reviewed at least every five years for possible modifications to address changing regulatory, economic, and technological conditions that cannot be fully anticipated in advance.

The City is in the process of constructing new tertiary clarification, filtration, and disinfection systems. These systems were put into place to meet the current Idaho Pollutant Discharge Elimination System Program (IPDES) permit that became effective in 2014. The permit was issued by the Environmental Protection Agency (EPA) in 2014 under the NPDES permit program. Since that time, the Idaho Department of Environmental Quality (IDEQ) has taken over control of issuing surface water discharge permits in the state and the subsequent permit application was submitted through the IPDES program, which is administered by the IDEQ. The 2014 permit expired in 2019 and was under administrative extension for reissuance by IDEQ. A public comment period was performed in 2023 and a new Final Permit was issued in December 2023, effective January 1, 2024. The 2014 permit (and current 2023 permit) introduced strict phosphorus limits (3.19 pounds/day seasonal average from February through October) for discharge into the Spokane River. The City was given a compliance schedule to meet the phosphorus and five-day carbonaceous biochemical oxygen demand (CBOD₅) requirements with identified intermediate progress milestones.

With the tertiary improvement upgrades currently under construction, the City is on track to meet their current permit requirements. The water quality of the Spokane River is currently under review downstream in Washington. Changes made in Washington may affect discharge requirements upstream in Post Falls.

The scrutiny of the Spokane River water quality has reinforced the City's long-term planning approach to wastewater reclamation including a combination of surface water discharge and reuse of treated effluent for agricultural, or recreational beneficial use on upland areas. This planning study will further refine that approach by assessing the current capacity and treatment capability of the current WRF infrastructure against the potential upcoming water quality requirements coupled with anticipated growth within the service area. These two drivers will help direct this planning study and dictate the improvements needed at the WRF and the timing of when those improvements will need to be implemented to maintain compliance, including the implementation of effluent reuse activities, the use of treated effluent for a beneficial use such as irrigation.

In addition to discharge related improvements, the study will assess current operational and maintenance challenges within the facility including biosolids treatment, sludge dewatering and handling, odor control, and unused “legacy” infrastructure.

Each of these topics will be discussed further in the proceeding chapters and alternatives will be proposed to address current and future needs. The alternatives will be weighed to assess environmental, operational, and economic impacts to capital and operating costs. It is the goal of this report to receive public input on these alternatives to select the most appropriate solution for the City. The following sections describe and summarize the general environmental setting for the City of Post Falls WRF service area.

1.4 Physical Aspects: Topography, Soils and Geology

The topography of the City of Post Falls area is depicted on the U.S. Geologic Survey (USGS) topographical map shown in **Figure 1-2**. The planning area generally consists of relatively flat land with a gradual slope to the south towards the Spokane River. The ground surface elevation is approximately 2,200 feet above sea level. The City of Post Falls shares borders with the Spokane River on the south, the City of Coeur d’ Alene on the east, the Rathdrum prairie on the north, and the Idaho Washington Stateline on the west.

The Post Falls area is at the south edge of the Rathdrum Prairie. This is a glacial outwash plain where soils were deposited by water from the Spokane floods 12,000 to 22,000 years ago. The floodwaters were released when an ice dam burst on Glacial Lake Missoula in Montana. In the Post Falls area, up to 500 feet of sand, gravel, and silt were deposited in a relatively short period. Generally, the Prairie has level or gently sloping terraces with moderately steep slopes on the terrace breaks and along the Spokane River. Significant geologic features include the Spokane River and the Rathdrum Prairie Aquifer (Comprehensive Plan, 2020).

A Natural Resource Conservation Service (NRCS) Web Soil Survey Map of the Post Falls area appears in **Figure 1-3**. The Post Falls regional area is generally underlain by Avonville-Garrison-McGuire soil types. These soils are well drained, and their composition is mainly very coarse sand and gravel, and all materials are porous and permeable. These soil types are primarily suitable for irrigated cropland and rangeland. **Table 1-2** summarizes various characteristics of the predominant soil types in the area.

Figure 1-2 – City of Post Falls Topographical Map

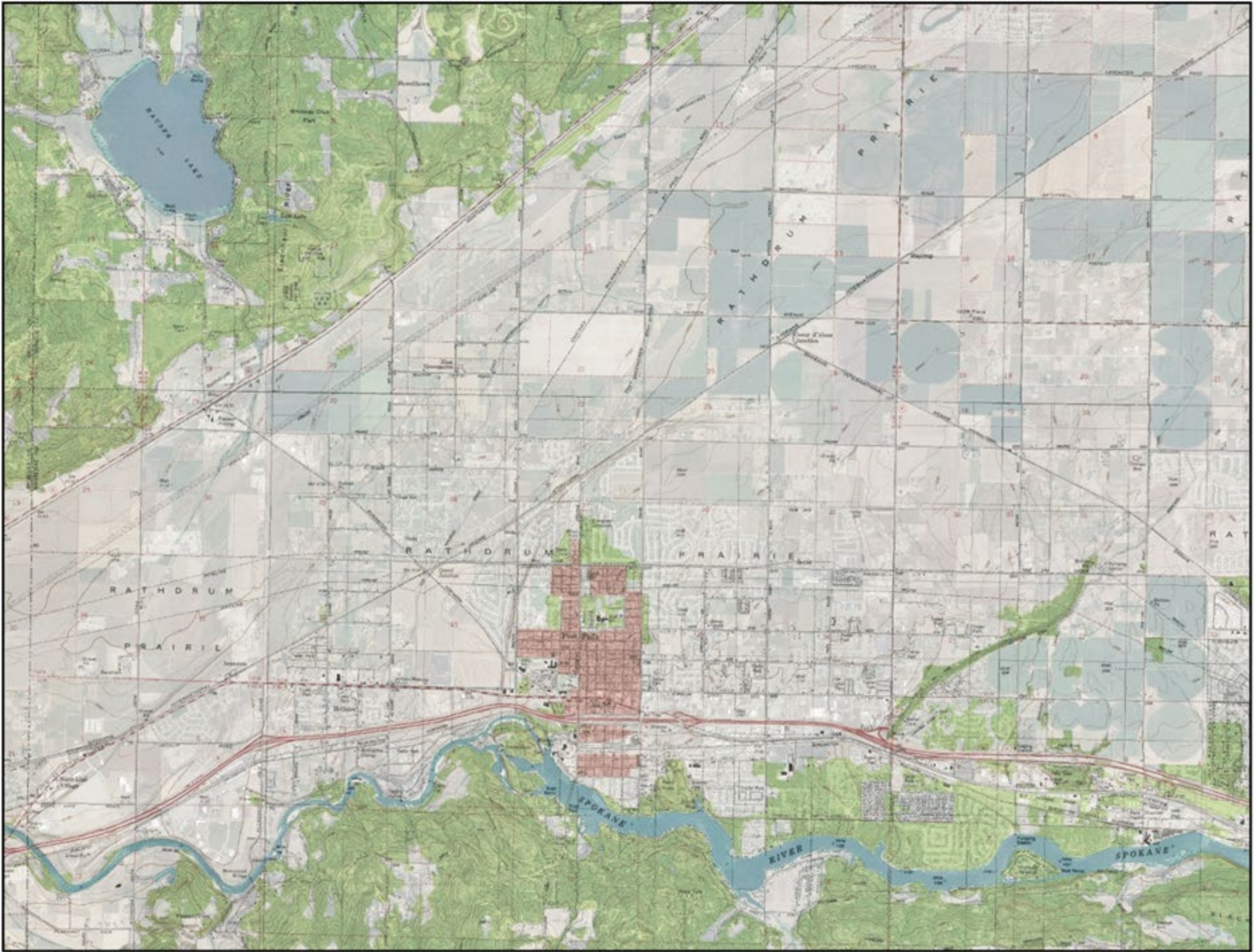


Figure 1-3 – NRCS Web Soil Survey Map

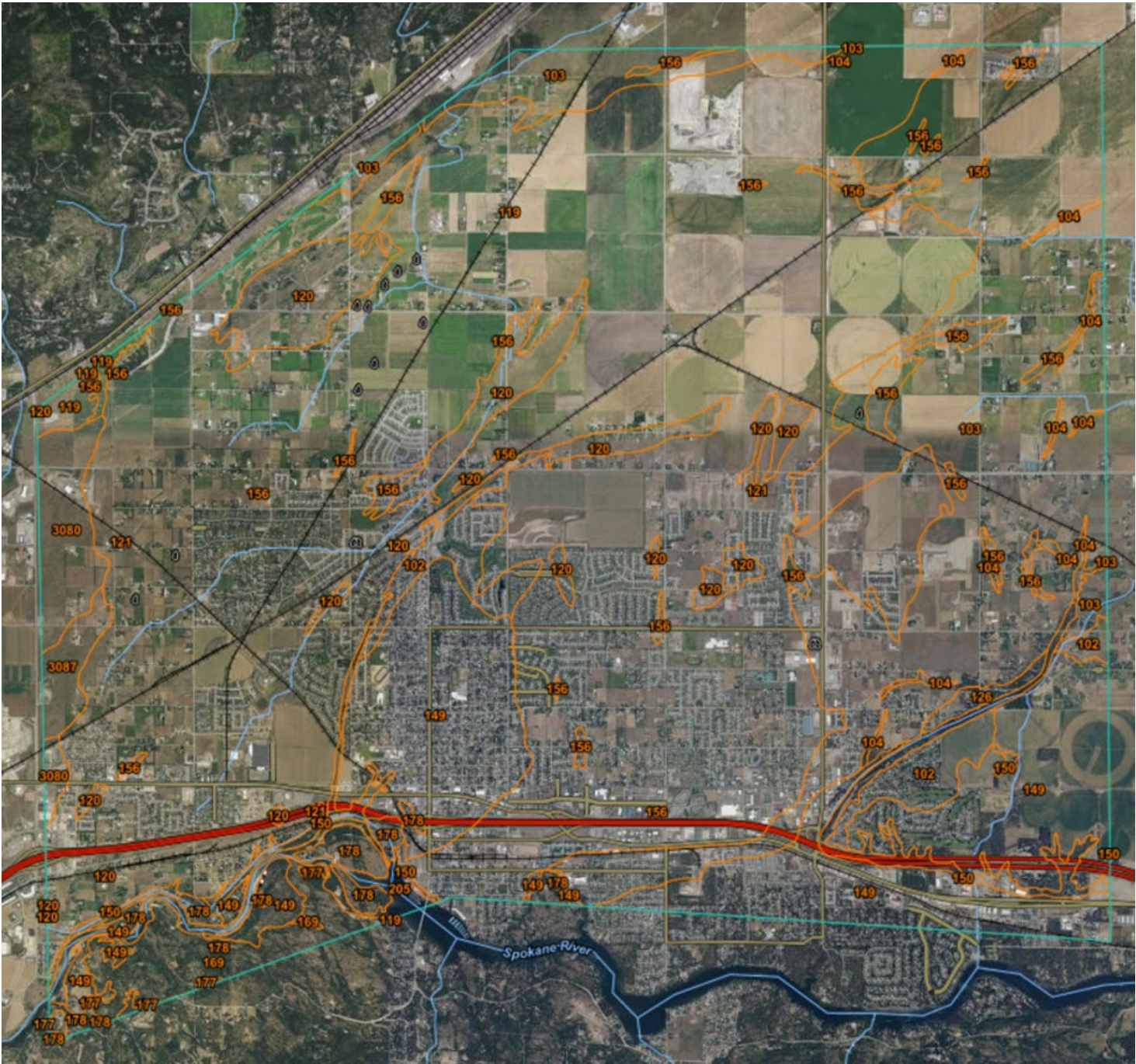


Table 1-1 – Soil Characteristics

Soil Map Unit	Description	Slope	Percent of Area	Drainage Class	Saturated Hydraulic Conductivity	Available Water Capacity (cm/cm)	Frequency of Ponding/Flooding
102	Avonville gravelly coarse sandy loam	0 to 20	2.7%	Well Drained	High	0.08	None/None
103	Avonville fine gravelly silt loam	0 to 7%	7.0%	Well Drained	Moderately High	0.15	None/None
104	Avonville fine gravelly silt loam	7 to 20%	0.1%	Well Drained	Moderately High	0.14	None/None
119	Garrison gravelly silt loam	0 to 7% slopes	67.7%	Somewhat Excessively Drained	Moderately High	0.14	None/None
120	Garrison very stony silt loam	0 to 7% slopes	2.2%	Somewhat Excessively Drained	Moderately High	0.14	None/None
121	Pits, gravel	NA	0.1%	NA	NA	NA	None/None
126	Kootenai Gravelly Silt	0 to 7% slopes	0.2%	Well Drained	Very High	0.45	None/None
149	McGuire-Marble association	0 to 7% slopes	14.9%	Somewhat Excessively Drained	Very High	0.54	None/None
150	McGuire-Marble association	20 to 45% slopes	1.6%	Somewhat Excessively Drained	Very High	0.45	None/None
156	Narcisse silt loam	0 to 5% slopes	0.8%	Moderately Well Drained	Moderately High	0.20	None/Occasional
169	Schumacher Silt Loam	3 to 7% slopes	<0.1%	Well Drained	Very High	0.45	None/None
177	Skalan gravelly loam	5 to 25% slopes	0.1%	Well Drained	Very High	0.30	None/None
178	Skalan-Rock outcrop complex	5 to 30% slopes	1.8%	Well Drained	Very High	0.30	None/None
205	Water	NA	0.9%	NA	NA	NA	NA
3080	Opportunity Very Gravelly Ashy Loam	0 to 3% slopes	1.4%	Well Drained	Moderately High	0.11	None/None
3087	Garrison Very Gravelly Ashy Loam	0 to 8% slopes	0.6%	Somewhat Excessively Drained	Moderately High	0.11	None/None

Source: Natural Resource Conservation Service – Web Soil Survey

1.5 Surface Water and Groundwater Hydrology

The area in and around Post Falls has an abundance of high-quality water. Surface water includes the Spokane River, with its shoreline bordering the southern edge of the City.

Below ground is the Rathdrum Prairie Aquifer, known to be one of the most vulnerable and prolific aquifers in the country. Soils in the City are generally dominated by alluvial sands and gravels and are hydraulically connected to the Rathdrum Prairie Sensitive Resource Aquifer (RPA). Groundwater generally ranges from 150 to 300 feet below the ground surface. The RPA is the only Sensitive Resource Aquifer in Idaho. It is an aquifer high on the public's awareness for protection, with the following regulation history:

- 1977: Panhandle Health District (PHD) and Kootenai County create “5-acre rule” to limit onsite septic tank and drain field wastewater treatment to one residential unit per five acres.
- 1978: US Environmental Protection Agency (EPA) Sole Source designation.
- 1980: Idaho Department of Environmental Quality (IDEQ) designation as “Special Resources Water”.
- 1995: IDEQ Supplement to Land Application Guidelines over Special Resource Aquifer.
- 1997: IDEQ designates as “Sensitive Resource Aquifer”.
- 2002: Idaho Department of Water Resources (IDWR) creates the Rathdrum Prairie Groundwater Management Area leading to adjudication.
- 2003-2007: Bi-State Hydrologic Study, with the U.S. Geological Survey (USGS) and the State of Washington, focuses on water quantity.
- 2006: voters approve Aquifer Protection District.
- 2015: Washington Department of Ecology issues an instream flow rule for the Spokane River.

1.6 Temperature, Precipitation, and Prevailing Winds

Climatic data for the area is recorded by the Coeur d'Alene Idaho Airport Weather Station in Hayden, Idaho. A summary of this data is provided in **Table 1-2**. Prevailing winds are predominantly from the west. The climate is generally temperate with approximately 25 inches of annual precipitation.

Table 1-2 – Historical Climatic Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Max. Temperature (F)	34.7	40.5	48.1	58.1	67.8	74.7	84.8	84.7	73.9	60.3	44.2	36.5
Average Min. Temperature (F)	22.1	24.5	28.8	34.4	41.8	48.4	53.2	52.2	45	37.3	30.1	25.3
Average Total Precipitation (in.)	3.43	2.39	2.34	1.74	2	1.86	0.73	0.9	1.21	1.97	3.15	3.61
Average Total Snow Fall (in.)	16.1	8.6	3.6	0.5	0	0	0	0	0	0.2	4.3	12.6
Average Snow Depth (in.)	5	3	1	0	0	0	0	0	0	0	0	2

Source: Western Regional Climate Center, wrcc@dri.edu

Period of Record: 09/01/1895 to 06/10/2016

1.7 Fauna, Flora, and Natural Communities

Vegetation is an integral part of larger environmental systems. Predominate native tree species in the Post Falls area include Ponderosa Pine, Douglas Fir, Grand Fir, and Lodge Pole Pine. Understory plants that are native to the area include Snowberry, Sedge, Oregon Grape, and Idaho Fescue. The loss of indigenous plants can alter the character of the City and impact residents and wildlife. The City has an urban forestry program and supports the planting of trees throughout the community.

There are a variety of plants and animals in the Post Falls urban area that contribute to the quality of life within the community. All species require a specific set of conditions with respect to food, water, and vegetative cover or other natural features necessary for protection, feeding, and reproduction.

Important animal habitat areas include the riparian vegetation adjacent to the Spokane River and grasses on the Rathdrum Prairie, which support white tail deer, songbirds, and small mammals (Comprehensive Plan, 2020).

1.8 Housing, Industrial, and Commercial Development

The City of Post Falls encourages a balance of residential, commercial, and industrial lands that will provide a well-balanced tax base. The City cooperates with the local business community to help

retain, promote, and expand existing business and industry and to attract new business and clean industry that enhances, sustains, and diversifies the economic base.

Post Falls is strategically located along I-90 with easy access to metropolitan Spokane and Coeur d'Alene. For this and many other reasons, Post Falls has become a vibrant, growing community.

Lumber and agriculture were the mainstays of the economy for most of the 20th century, and a number of the residents commuted to the thriving mining district. The last 20 years of the century saw the decline of the lumber industry, the decline in mining, and major changes to agricultural production. During this time, tourism grew into a major economic force and the City attracted new industries and commercial development. Rapid residential development has also occurred.

Since 2000, the City has seen a great deal of new healthcare-related development. This includes a specialty and rehabilitation hospital, a new Kootenai Medical Cancer Center, numerous medical offices, and a new Life Care Center. This can be viewed as a significant positive trend in the community.

The City of Post Falls has also planned to develop a 350-acre mixed-use, light industrial business park, and shopping center on the north end of Post Falls. This Technology Park is believed to help stimulate the economy and create 5,000-10,000 new jobs.

Local “human capital” is growing and improving through enhanced educational services offered to the local labor force and through strengthening collaboration among business groups. The City has also recently worked through the initial permitting phases of a tech-park addition on the northern area/Highway 41 frontage that aims at providing space to attract employers from the tech industry. The North Idaho College Workforce Training Center and the University of Idaho Research Park are located in Post Falls and continue to positively impact the education of the workforce.

Generally, the Post Falls area has grown faster than the surrounding areas and supports a larger population of people under age 40 than the surrounding areas. The City had a balanced housing to employment ratio until recently; housing has been growing faster than employment opportunities. The largest fields of employment are retail, manufacturing, and government service. Compared to the surrounding area, Post Falls tends to have a much stronger manufacturing sector than the surrounding areas that is continuing to grow (Comprehensive Plan, 2020).

The area's numerous lakes, rivers, mountains, and open spaces add to the overall quality of life and economic attractiveness of Post Falls. The natural resources of the area and region continue to attract new residents and tourists (Comprehensive Plan, 2020).

1.9 Cultural and Historic Resources

Cultural and historic resources contribute to the overall wellbeing of a community and provide an economic base by attracting quality businesses, residents, and tourists. Today, the Post Falls community is actively engaged in expanding its cultural and historic resources through the combined efforts of citizens and citizen groups. The Post Falls Historical Commission plays an active role in preserving the heritage of the community.

In 1871, German immigrant, Frederick Post settled in the area. Purchasing 298 acres from Chief Seltice of the Coeur d'Alene tribe, he immediately set to work. Mr. Post dammed the Spokane River and erected the first sawmill in this portion of the country. He developed an important power supply from the Upper Falls of the Spokane River. Appropriately, the small town that emerged to support the milling and lumber industries was known as Post Falls.

Remaining structures of early Post Falls include a few commercial buildings and monuments generally found in the older portion of the community near the Spokane River. There are some residences located throughout older neighborhoods, public buildings scattered throughout the community, and several churches in the older sections of town. I-90 construction bisected the community, removing many earlier settlement structures. It is fortunate that several large engineering structures, such as bridges and canals, endure as reminders of the town's vital association with the Spokane River and the railroads.

The First Methodist Episcopal Church, with Gothic Revival architecture, was built in 1890 at the corner of Sixth Avenue and Post Street in Post Falls, Idaho. The Presbyterian Church, with Vernacular style architecture, was built in 1899 at the corner of Second Avenue and Henry Street. After World War I, Post Falls had more churches than the town could support. The Reverend Nathan Fiske, of the Presbyterian Church, encouraged the citizens to combine the two churches into one.

Drawn by horses, the church buildings were moved and joined at their present location in 1921 at the corner of Fourth Avenue and William Street. The new congregation became the Community Presbyterian Church. Through the years, the Community Presbyterian Church served people from around the area. The church brought together a rich tapestry of people and became the gathering place in the community. The Old Church has been restored by Post Falls Community Partners and is currently a Regional Community Cultural Center.

There are sites that have such a significant impact on the City that they warrant special attention. Special areas of the City include the City Center, the Spokane River Corridor, Falls Park and Treaty Rock, Q'emlin Park, Corbin Park, Black Bay, and Ford Rock. Other special areas include the City's entryway corridors and the Centennial trail. Historically, the City Center was the commercial and transportation center of Post Falls. Over time, its function has changed, yet the historic significance and sense of place is important to the citizens. Spokane Street traverses the area and provides direct access to I-90. Recent improvements to the district include Falls Park, Centennial Trail, and street trees and new sidewalks on the lower part of Spokane Street.

The City Center has great potential for a community focal point. Significant developable land provides a prime opportunity for an innovative private and/or public partnership. Another resource is the future development of the Spokane riverfront. Through creative street and architectural designs, landscaping, etc., the opportunity exists to tie together recreation like The Spokane River, Falls Park, Treaty Rock, and Post Falls Landings Park. The City has also recently finalized park improvements on the Spokane riverfront at The Landing esplanade an extension of Falls Park, connecting and enhancing the downtown area connection to the riverfront. By investing in rehabilitating historic buildings, cultural uses, and a mix of commercial and housing uses the district plans to attract tourists and serve as a focal point for City life (Comprehensive Plan, 2020).

1.10 Floodplains and Wetlands

Flood-prone areas in Post Falls are found primarily along the Spokane River and are noted on Federal Emergency Management Agency (FEMA) maps located at the City's Community Development Department. There is very little property within the City that could be subject to flooding, and most of these areas have been developed or are in park areas (Comprehensive Plan, 2020).

1.11 Wild and Scenic Rivers

The Spokane River begins on the northern end of Lake Coeur d'Alene and eventually drains into the Upper Columbia River. From Lake Coeur d'Alene, the river traverses west until reaching the Post Falls dam and natural 40-foot waterfall. Continuing west across the Idaho-Washington state line, it eventually passes over four more dams in the City of Spokane. It is finally impounded by the Long Lake and Little Falls dams, forming Long Lake, a 15-mile-long reservoir. The river flows 112 miles from Post Falls Dam in Idaho to Lake Roosevelt (the Upper Columbia River) in Washington.

The river is a valuable resource for the City of Post Falls, being a key natural feature in the City that provides recreation, power, and scenic waterfalls the City is named after.

REFERENCES

City of Post Falls Comprehensive Plan; 2020; City of Post Falls.

Idaho Department of Environmental Quality (IDEQ); Spokane River Total Maximum Daily Load Lead and Zinc; January 2022

National Resource Conservation Service (NRCS) Web Soil Survey (WSS); Custom Soil Resource Report for Kootenai County Area, Idaho, Post Falls Area; September 2011.

Spokane Tribe of Indians v. Environmental Protection Agency (EPA); 2022;
http://waterplanet.ws/pdf/EPA-HQ-OGC-2021-0828-0002_content.pdf

Western Regional Climate Center; wrcc@dri.edu; Climatic Data 9/1/1985 to 6/10/2016.

CHAPTER 2

FLOW AND WASTELOAD PROJECTIONS

City of Post Falls WRF Facility Plan

May 2024

Prepared by:



J-U-B ENGINEERS, INC.

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2 DESCRIPTION OF EXISTING WATER SYSTEM

2.1 Introduction

The City of Post Falls (The City) receives wastewater from residential and commercial users from the City of Post Falls, as well as the City of Rathdrum, at their Water Reclamation Facility (WRF). Flow data from 2015 through March of 2022 was utilized to evaluate the existing flow and loading conditions being experienced at the WRF. Influent flows from the City of Post Falls are metered through a 24-inch Parshall flume. A separate 9-inch Parshall flume measures flow from the City of Rathdrum. Total effluent flow for the WRF is measured through a 24-inch Parshall flume prior to discharge to the Spokane River. This chapter will review the existing flows entering the Post Falls WRF, as well as projections of future flows and loads through the 2042 planning period. Projected flow and load conditions for the WRF will subsequently be used to identify current and future capacity limitations in the existing plant, sizing for future unit processes, and phasing for plant capacity expansion through the planning period.

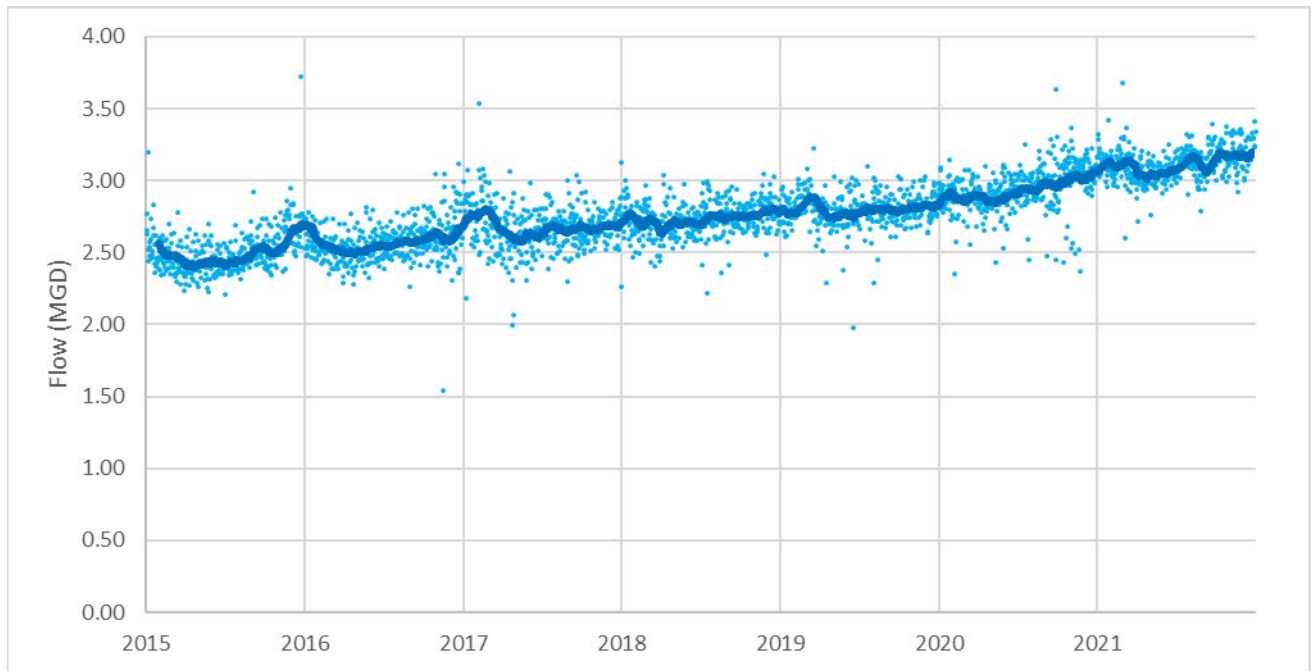
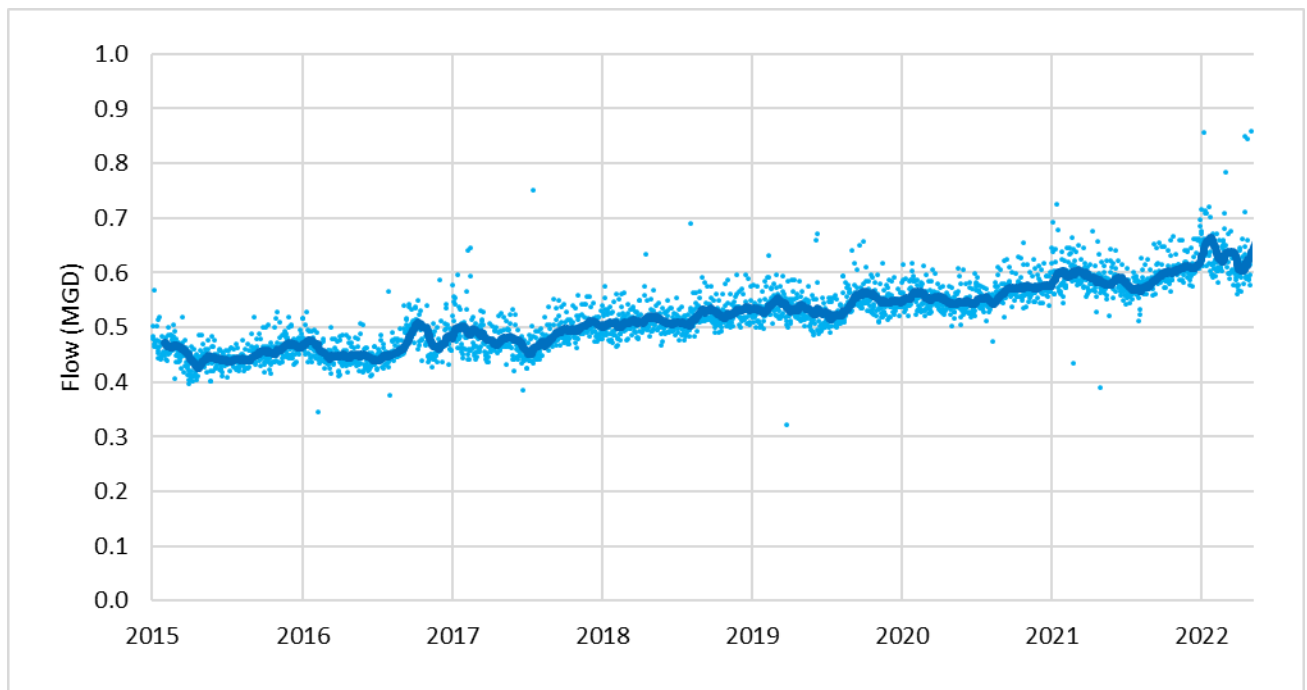
2.2 Existing Influent Flows and Loads

2.2.1 Flows

Discussion with the City was prompted due to irregularities observed in the data. This led to the identification of the following concerns:

- Due to a recent headworks upgrade. Late 2016 and early 2017 influent flow data is sporadic or missing.
- On August 19th of 2020 there was a lightning strike that altered effluent flow readings.
- During August of 2021 both influent flumes were replaced, data before calibration in January 2022 is assumed to be inaccurate.

Select influent and effluent flow data were combined and manipulated to create a new “Total Influent Flow” composite data set. This data set was believed to be representative of actual influent data. This data set was used to help establish growth rates and calculate loading data. Most of the influent flow comes from the City of Post Falls; the City of Rathdrum contributes around 19 percent of the total flow. A detailed discussion of the flow data evaluation and coordination with the City operations staff is included in **Appendix 2-A**. Graphs of the Total Influent as well as the Rathdrum Influent flow are shown in **Figure 2-1** and **Figure 2-2** respectively.

Figure 2-1 – Total Influent Flow*Figure 2-2 – Rathdrum Influent Flow*

The total influent flow data was analyzed for the following conditions:

- **Average Day Flow (ADF):** The annual average flow rate at the facility for a 24-hour period. The ADF is used to estimate the annual average pumping and chemical costs, solids production, and average organic loading rates.
- **Maximum Month Flow (MMF):** The highest continuous 30-day average flow in a year. This flow is typically used for design unit processes for permit compliance.
- **Peak Day Flow (PDF):** The flow corresponding to the peak day in the year. The PDF is primarily used to adequately size unit process for peak hydraulic conditions.
- **Peak Hour Flow (PHF):** The peak one-hour flow rate occurring over a year. PHF is utilized for peak hydraulic design of pump stations, flow meters, influent screens, grit chambers, weirs, and influent equalization sizing for the WRF.

Peaking factors were determined for each calendar year since 2015, they are shown in **Table 2-1** with other flow data by year. The highest peaking factor from the data set will be utilized for future projections to provide a conservative envelope of potential peak conditions.

Since hourly flow data was not available the hourly peaking factor was calculated with the method outlined in the Recommended Standards for Wastewater Facilities (also known as the Ten State Standards) (GLUMRB, 2014). This peaking factor calculation matches the peak-hour peaking factor determined in the previous 2013 Facility Plan (J-U-B, 2013) (Peak Hour PF = 2.3) that was based on a detail analysis and review of five-minute supervisory control and data acquisition (SCADA) data for a peak influent event.

Table 2-1 – Influent WRF Flow Summary by Year

Parameter	Metric	2015	2016	2017	2018	2019	2020	2021	(2022) Current/ Existing
Flow (MGD)	Average Day Flow	2.50	2.57	2.67	2.72	2.80	2.94	3.12	3.24
	Max Month ^(a)	2.70	2.77	2.80	2.81	2.92	3.14	3.35	3.50
	MMF Peaking Factor	1.08	1.08	1.05	1.03	1.04	1.07	1.07	1.08 ^(b)
	Peak day	3.73	3.12	3.54	3.05	3.23	3.63	3.68	4.78
	PDF Peaking Factor ^(c)	1.48	–	–	1.27	1.20	1.20	–	1.48 ^(b)
	Peak Hour ^(d)	–	–	–	–	–	–	–	7.40
	PHF Peaking Factor	–	–	–	–	–	–	–	2.28

(a) Calculated as previous 30-day moving average.

(b) Existing (Current) peaking factor selected based on highest previous observed peaking factors from data set analyzed.

(c) Peaking Factor for Peak-Day flow was calculated based on raw influent data, utilizing reliable data sets available from 2015, and 2018 through 2020.

(d) Peak-hour flow based on calculation estimate established in Ten State Standards GLUMRB, 2014 Edition.

2.2.2 Loads

Due to the irregular flow data discussed previously, the mass-loading data had to be adjusted based on the new corrected total flow data (concentration data remained unaltered). Loading rates were calculated for CBOD, total suspended solids (TSS), Phosphorus, and Ammonia from the composite data set including full calendar years of 2016 through 2021. Concentrations of these constituents varied but on average did not seem to change appreciably over time. A table of pertinent loading data is shown in **Table 2-2** followed by graphs (**Figure 2-3** through **Figure 2-6**) which further illustrate the data.

Table 2-2 – Influent Loading

Parameter	Metric	2016	2017	2018	2019	2020	2021	(2022) Current/ Existing
CBOD	Average	4919	5153	5271	5707	6214	6511	6762
	Max Month Load (PPD)	5586	5739	5744	6342	6558	6847	7679
	Peaking Factor	1.14	1.11	1.09	1.11	1.06	1.05	1.14
	Peak Day Load (PPD)	6512	7984	7387	8502	7666	8015	10476
	Peaking Factor	1.32	1.55	1.40	1.49	1.23	1.23	1.55
TSS	Average	5475	5717	6069	6295	6815	7267	7547
	Max Month Load (PPD)	6230	6090	6583	6583	7274	8009	8587
	Peaking Factor	1.14	1.07	1.08	1.05	1.07	1.10	1.14
	Peak Day Load (PPD)	8100	9279	9458	7829	8890	9626	12250
	Peaking Factor	1.48	1.62	1.56	1.24	1.30	1.32	1.62
Phosphorus	Average	159	153	166	171	184	198	205
	Max Month Load (PPD)	170	161	175	179	191	208	220
	Peaking Factor	1.07	1.05	1.05	1.05	1.04	1.05	1.07
	Peak Day Load (PPD)	210	187	216	223	241	241	271
	Peaking Factor	1.32	1.22	1.30	1.30	1.31	1.22	1.32
Ammonia	Average	882	888	975	1025	1099	1154	1199
	Max Month Load (PPD)	965	1001	1074	1078	1149	1230	1350
	Peaking Factor	1.09	1.13	1.10	1.05	1.05	1.07	1.13
	Peak Day Load (PPD)	1148	1102	1163	1260	1427	1395	1559
	Peaking Factor	1.30	1.24	1.19	1.23	1.30	1.21	1.30

Figure 2-3 – Influent CBOD Concentration and Loading

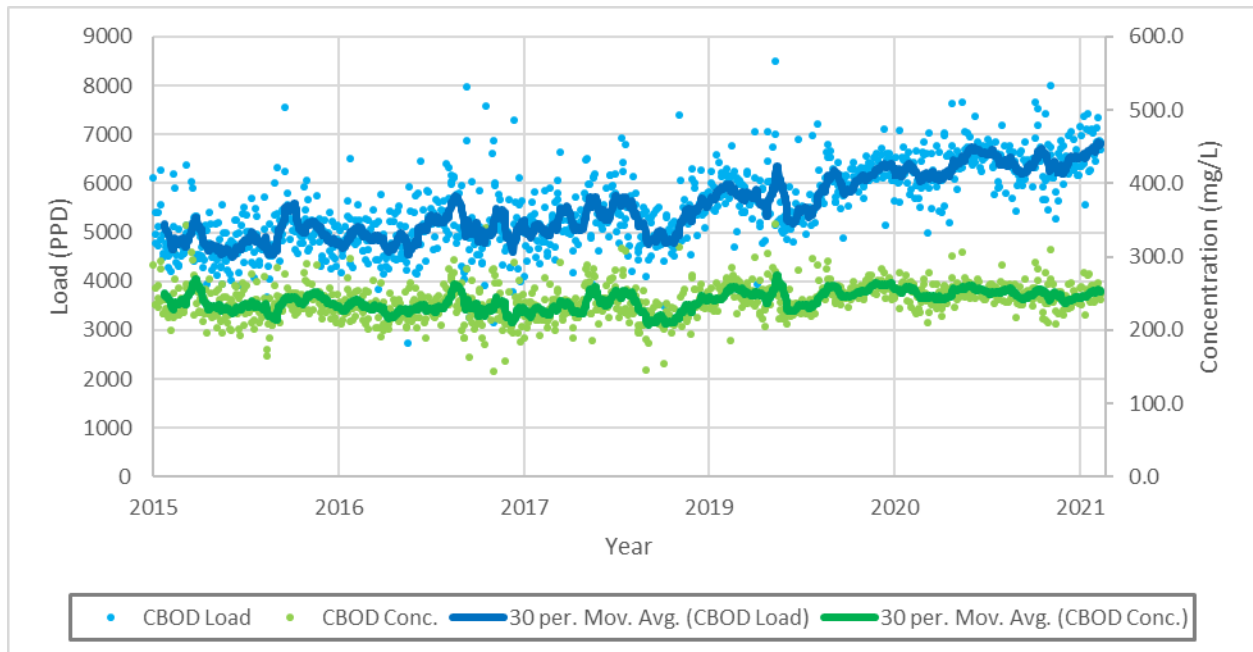


Figure 2-4 – Influent TSS Concentration and Loading

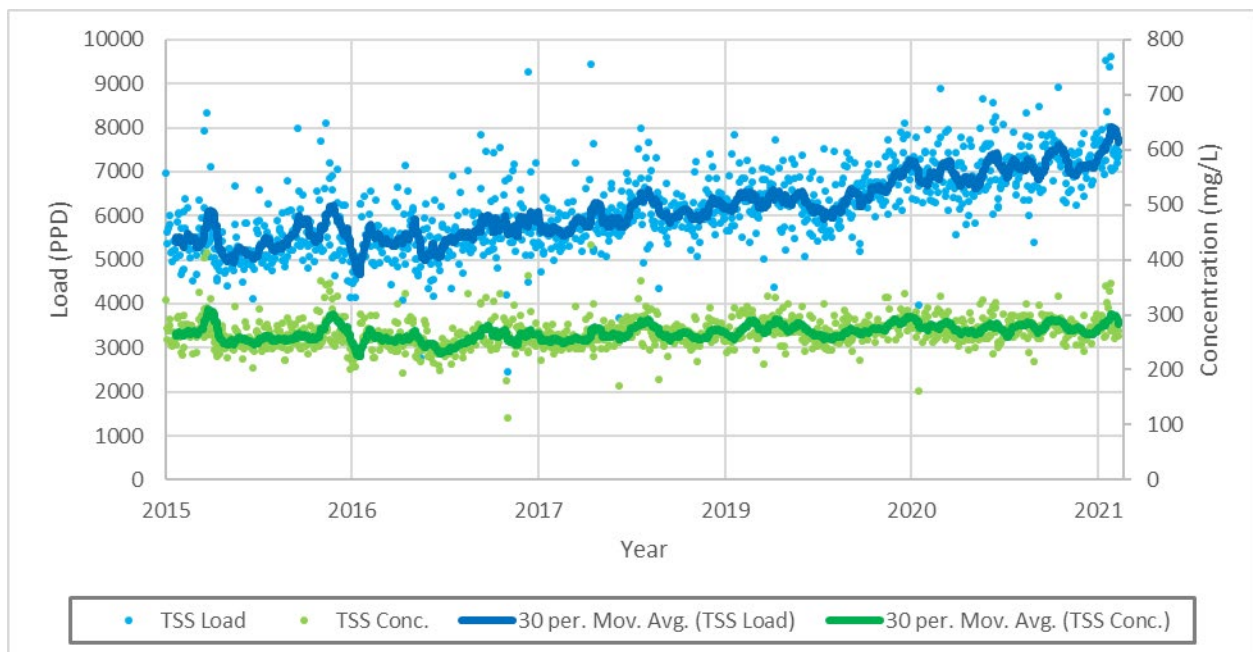


Figure 2-5 - Influent Phosphorus Concentration and Loading

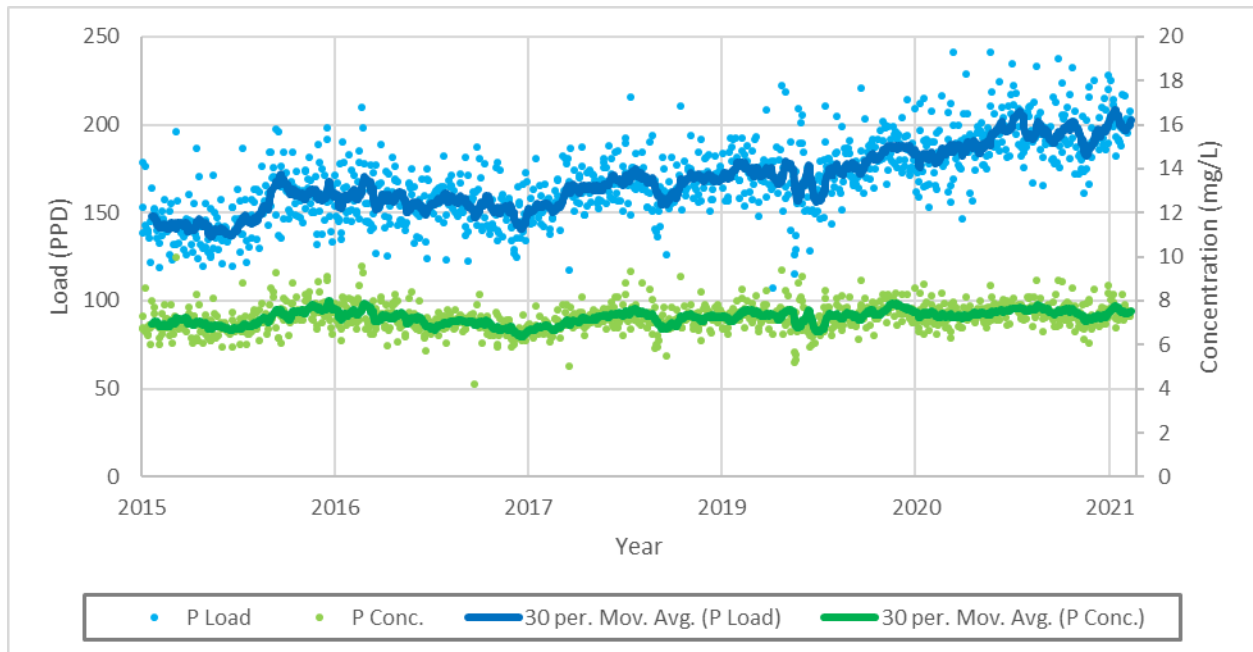
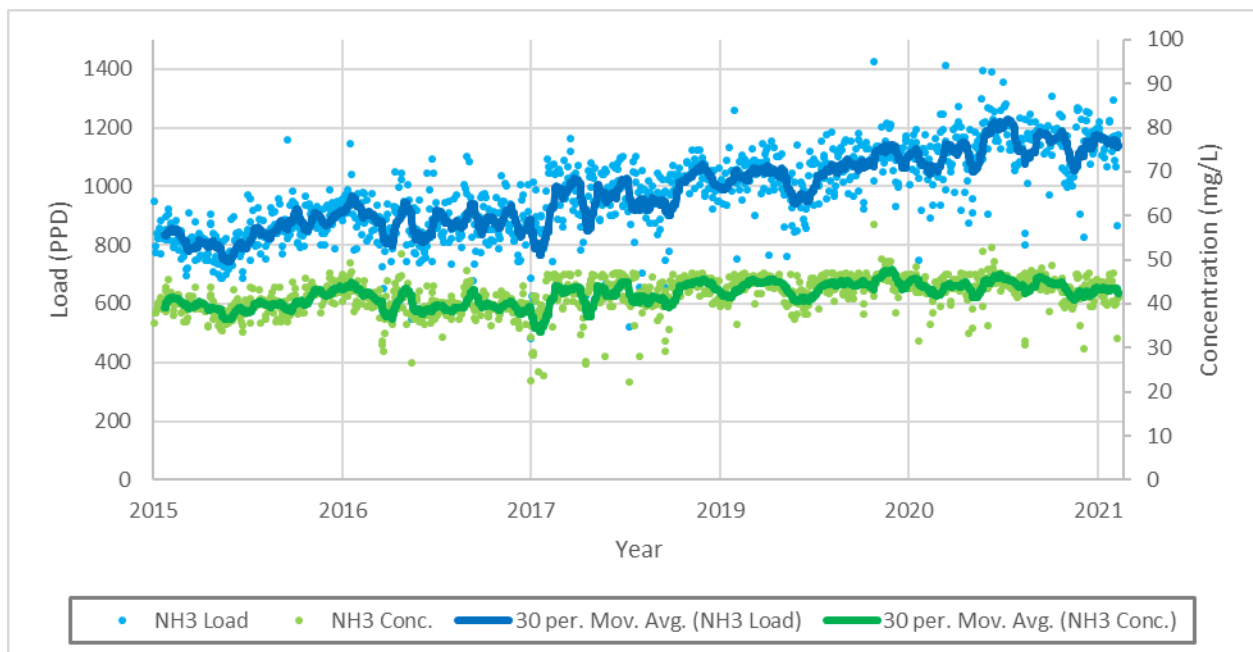


Figure 2-6 – Influent Ammonia Concentration and Loading



2.2.3 Seasonal Variations

The treatment facility permit has seasonal criterion for some pollutant constituents. Because of this, flow data was evaluated on a seasonal basis. It was found that typically there was not an appreciable difference in these seasons that would warrant different design criteria for unit process evaluation. Data from February 1 to October 31 are shown in **Table 2-3**, while data from November 1 to January 31 are shown in **Table 2-4**.

Table 2-3 – Seasonal Flow Analysis (February 1 – October 31)

Year Ending	Average Day (mgd)	Max Month (mgd)	Peaking Factor	Peak Day (mgd)	Peaking Factor
2016	2.55	2.65	1.04	3.04	1.19
2017	2.66	2.79	1.05	3.54	1.33
2018	2.72	2.77	1.02	3.04	1.12
2019	2.80	2.89	1.03	3.23	1.15
2020	2.92	3.03	1.03	3.63	1.24
2021	3.10	3.20	1.03	3.68	1.19
2022	3.23	3.25	1.01	3.59	1.11
Average	2.86	2.94	1.03	3.39	1.19

Table 2-4 – Seasonal Flow Analysis (November 1 – January 31)

Year Ending	Average Day (mgd)	Max Month (mgd)	Peaking Factor	Peak Day (mgd)	Peaking Factor
2016	2.64	2.70	1.02	3.73	1.41
2017	2.68	2.77	1.04	3.12	1.17
2018	2.71	2.77	1.02	3.13	1.15
2019	2.78	2.81	1.01	3.05	1.10
2020	2.86	2.92	1.02	3.15	1.10
2021	3.07	3.14	1.02	3.42	1.12
2022	3.24	3.35	1.04	3.64	1.12
Average	2.85	2.92	1.02	3.32	1.17

2.2.4 Summary of Current Flows and Loads

The flow and load data presented previously are summarized in **Table 2-5**.

Table 2-5 - Existing Flows and Loads Summary (Year 2022)

Parameter	Metric	Value
Flow (MGD)	Average Day Flow	3.24
	Max-Month Flow ^(a)	3.50
	MMF Peaking Factor ^(a,b,c)	1.08
	Peak Day Flow	4.78
	PDF Peaking Factor ^(b,c)	1.48
	Peak Hour	7.40
	PHF Peaking Factor ^(d)	2.28
CBOD (PPD)	Average	6762
	Max Month Load	7679
	Peaking Factor	1.14
	Peak Day Load	10476
	Peaking Factor	1.55
TSS (PPD)	Average	7547
	Max Month Load	8587
	Peaking Factor	1.14
	Peak Day Load	12250
	Peaking Factor	1.62
Phosphorus (PPD)	Average	205
	Max Month Load	220
	Peaking Factor	1.07
	Peak Day Load	271
	Peaking Factor	1.32
Ammonia (PPD)	Average	1199
	Max Month Load	1350
	Peaking Factor	1.13
	Peak Day Load	1559
	Peaking Factor	1.30

(a) Calculated as previous 30-day moving average.

(b) Existing (Current) peaking factor selected based on highest previous observed peaking factors from data set analyzed.

- (c) *Peaking Factor for Peak-Day flow was calculated based on raw influent data, utilizing reliable data sets available from 2015, and 2018 through 2020.*
- (d) *Peak-hour flow based on calculation estimate established in Ten State Standards GLUMRB, 2014 Edition.*

2.3 Projected Flows and Loads for Year 2042

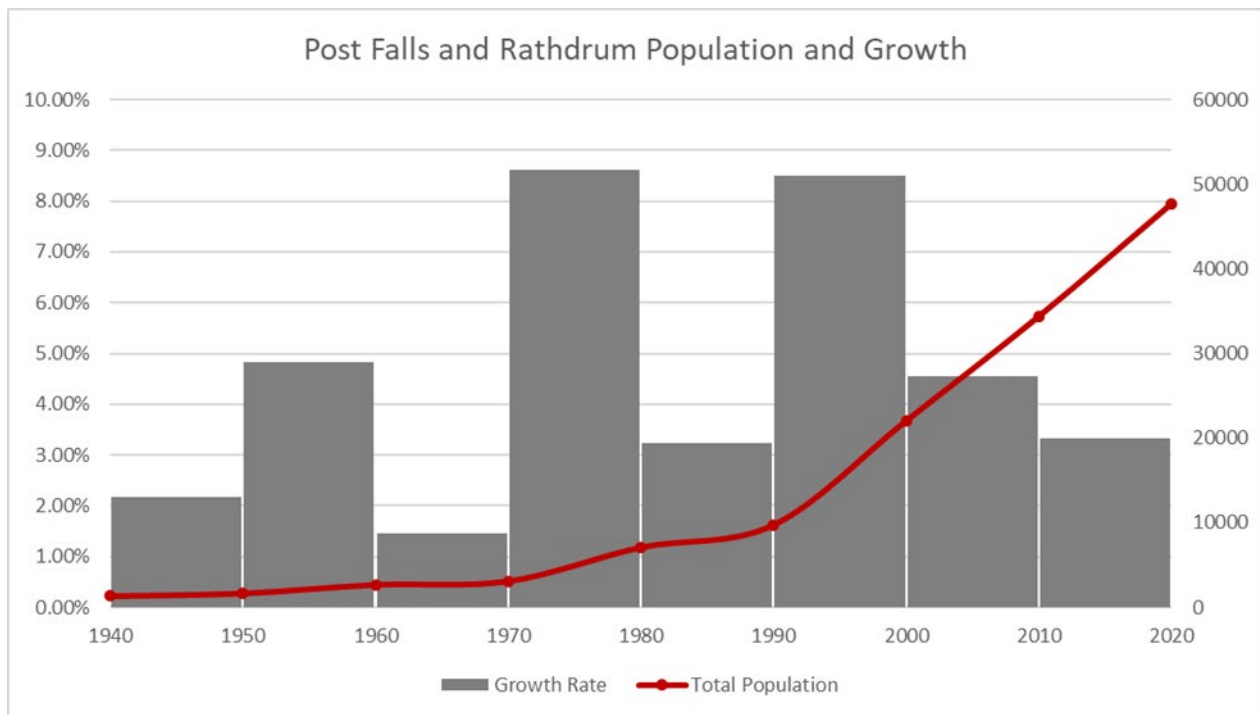
2.3.1 Growth Rate Evaluation

Numerous sources of data were analyzed to estimate future growth rates of influent loading parameters to the WRF. A brief description of each growth parameter considered is discussed below.

2.3.1.1 US Census

Analysis of Data from the US Census Bureau shows considerable changes in growth rates. The 90's experienced a growth rate around 8.49 percent while the last decade experienced closer to 3.32 percent. **Figure 2-7** shows the population and growth rates through time. Growth rates were calculated over ten-year periods using the US census data.

Figure 2-7 – Post Falls and Rathdrum Population and Growth



Current data suggest fairly constant growth since the 1990s with an inverse relation between growth rate and population. The 3.32 percent growth rate over the last decade will be used for this analysis. The Census data is updated once every ten years making it hard to discern the volatility of population growth and as such, this only provides a high-level overview that should be used in conjunction with other sources of data.

2.3.1.2 Kootenai Metropolitan Planning Organization (KMPO)

The Kootenai Metropolitan Planning Organization periodically produces growth projections for regional growth planning. At the time of this study, the most recent growth projection was updated in 2018 and uses growth rates of 4.8 percent for Post Falls and 3.5 percent for Rathdrum. The combined growth rate of both cities has been calculated to be 4.56-percent.

2.3.1.3 Collection Master Plan

The City of Post Falls Wastewater Collection System Master Plan (Keller, 2019) uses a 5.5 percent growth rate. This was based on the 2016 population estimate by the City planning division. While this is an applicable and recent document, the 5.5 percent growth rate is good for anticipating collection system needs, but it is likely conservative if it were to be used in this WRF Facility Plan.

2.3.1.4 Water Master Plan

The City of Post Falls Water System Master Plan (Murraysmith, 2018) does not list specific growth rates used, but rather utilizes population projections and land-use data for water source needs. Utilizing their long-term 20-year data, a 6.0 percent growth rate was calculated from their 2016 through 2036 period. Similar to the collection system master plan, the 6.0 percent growth rate is likely conservative if it were to be used in this WRF Facility Plan

2.3.1.5 Historic Flow

As discussed previously in this chapter, there were numerous anomalies in the recent Post Falls influent flow data. Because of this, a technical memorandum was prepared to review the irregularities and document how they were addressed and establish a reliable data set for evaluation. This memorandum is included in **Appendix 2-A**. Utilizing this updated flow data set, a 3.85 percent growth rate was observed over the last seven years. This data set was derived from WRF plant data, and therefore is considered relevant for projecting future conditions.

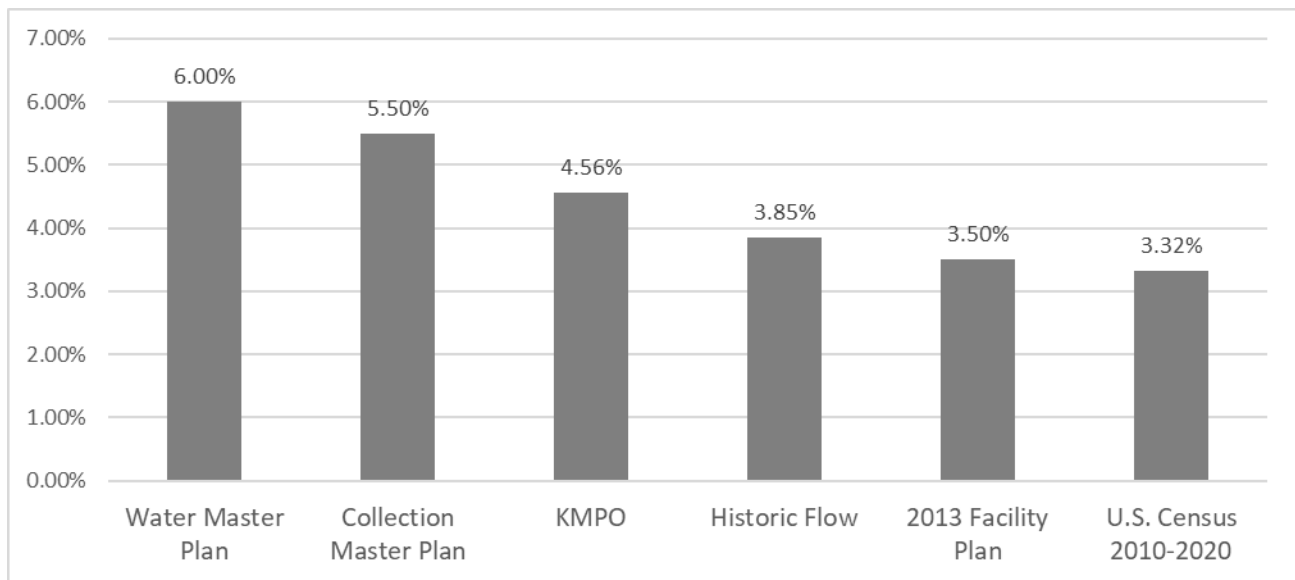
2.3.1.6 2013 Facility Plan

The previous 2013 WRF Facility Plan (J-U-B, 2013) efforts utilized a 3.5 percent growth rate which was based on influent flow parameters including flows and loads and at that time was considered a conservative long-term envelope for the 20-year planning period.

2.3.1.7 Planning Growth Rate Summary

A histogram comparing the growth rates evaluated is shown in **Figure 2-8**. A workshop was held with City Staff to discuss the analysis of the potential growth rate projections presented, the factors discussed previously, and the potential impacts of the selected growth rate on planning level decisions. Based on those discussions the City has elected to utilize the 2018 KMPO growth rate of 4.56 percent for the 20-year projected flows and loading conditions to the WRF. This approach provides a reasonable, yet conservative timing for the WRF improvement needs and encompasses the observed flow-growth. This selected growth rate will define the likely project needs for the 20-year planning period, however the actual timing for implementation of projects will be based on observed trigger (flow/load) conditions impacting the WRF, and necessary time for planning, design, and construction of the necessary improvements.

Figure 2-8 – Planning Growth Rate Comparison



2.3.2 Flow and Load Projections

Flow and load projection were calculated using the current conditions and peaking parameters in **Table 2-5** along with the 4.56 percent growth selected by the City. The current year average flows and loads were projected forward in 5-year intervals through 2042. The results of these calculations are shown in **Table 2-6**.

Table 2-6 – Flow and Load Projections

Parameter	Metric	Current (2022)	2027	2032	2037	2042
Flow (MGD)	Average Flow (MGD)	3.24	4.05	5.06	6.32	7.90
	Max Month (MGD)	3.50	4.37	5.46	6.82	8.52
	Peak Day (MGD)	4.78	5.97	7.46	9.33	11.65
	Peak Hour (MGD)	7.40	9.24	11.55	14.43	18.04
CBOD (PPD)	Average Load (PPD)	6,762	8,450	10,559	13,195	16,488
	Max Month (PPD)	7,679	9,596	11,991	14,984	18,724
	Peak Day (PPD)	10,476	13,090	16,358	20,441	25,543
TSS (PPD)	Average Load (PPD)	7,547	9,430	11,784	14,725	18,401
	Max Month (PPD)	8,587	10,731	13,409	16,756	20,938
	Peak Day (PPD)	12,250	15,307	19,128	23,902	29,867
Phosphorus (PPD)	Average Load (PPD)	205	257	321	401	501
	Max Month (PPD)	220	275	343	429	536
	Peak Day (PPD)	271	339	423	529	661
NH3 (PPD)	Average Load (PPD)	1,199	1,498	1,872	2,339	2,923
	Max Month (PPD)	1,350	1,687	2,108	2,634	3,292
	Peak Day (PPD)	1,559	1,948	2,435	3,042	3,802

2.3.3 Temperature

Influent temperature is pertinent to some unit process designs. Influent daily temperatures from 2015-2021 were analyzed for each month. It was observed that the temperature generally fluctuated on an annual cycle between 10° and 24°C. On average the effluent is about 2.5°C colder than the influent. The data sets are summarized in **Figure 2-9** and **Table 2-7**.

Figure 2-9 – Temperature Data

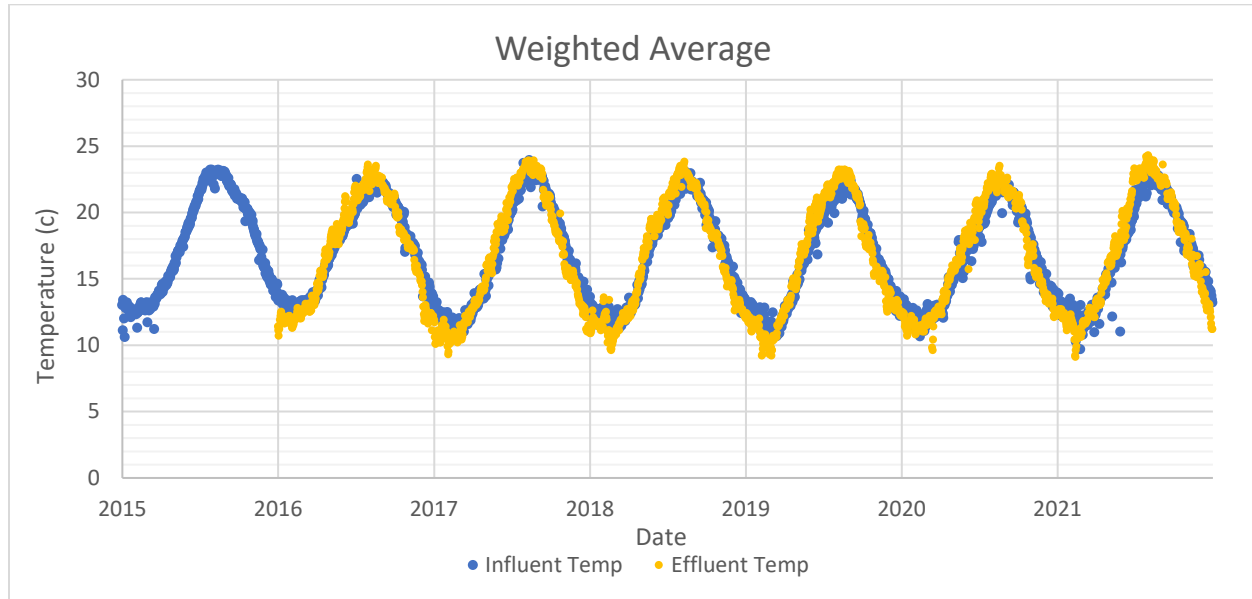


Table 2-7 – Temperature Summary (Monthly Data)

Month		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max °C	INF	13.9	13.4	14.1	16.5	18.7	21.4	23.7	23.9	23.0	21.1	19.4	16.2
	EFF	12.7	13.6	13.9	17.2	19.5	22.9	24.2	24.3	23.6	21.3	18.0	16.1
Avg °C	INF	12.6	12.0	12.3	13.9	16.3	18.8	21.1	21.9	21.4	19.3	16.7	14.2
	EFF	10.0	9.5	10.2	12.0	14.8	16.9	18.9	19.5	18.4	15.9	13.4	11.1
Min °C	INF	10.6	9.7	10.7	11.6	11.0	16.3	17.8	19.9	19.8	14.9	14.6	12.2
	EFF	10.1	9.1	9.2	12.0	14.4	15.7	18.8	21.5	18.2	15.2	12.5	11.0

- (a) Max Day Temp: 23.9, Max Effluent: 24.3
- (b) Average Day INF: 16.7, Average EFF: 14.2
- (c) Minimum Day INF: 9.7, Minimum EFF: 9.1

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APPENDICES

Appendix 2-A – City of Post Falls Preliminary Flow Data Analysis, July 2022

Appendix 2-A

City of Post Falls Preliminary Flow Data Analysis, July 2022

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GROUP



GATEWAY
MAPPING
INC.

City of Post Falls Preliminary Flow Data Analysis

July 2022

Prepared by:

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Chapter 1 Post Falls Preliminary Flow Data Analysis

The purpose of this memo is to review the Post Falls Water Reclamation Facility (WRF) flow data and determine the validity of the various periods of data and potential reasons for changes within the data set. The Post Falls flow data has several irregularities that make it difficult to identify past trends and project future flow rates.

1.1 Data Overview

The WRF serves both Post Falls and Rathdrum and flow is monitored via two separate Parshall flumes. Graphs of both data sets (and the total) are shown below.

Figure 1-1: Total Influent Flow

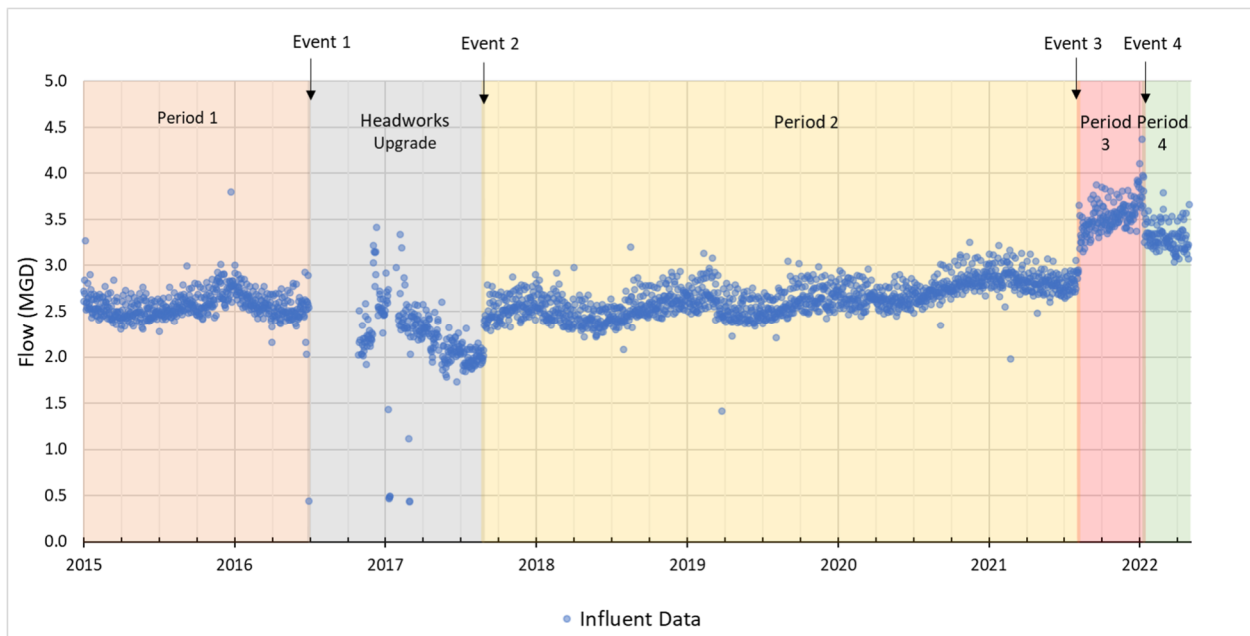


Figure 1-2: Post Falls Influent Flow

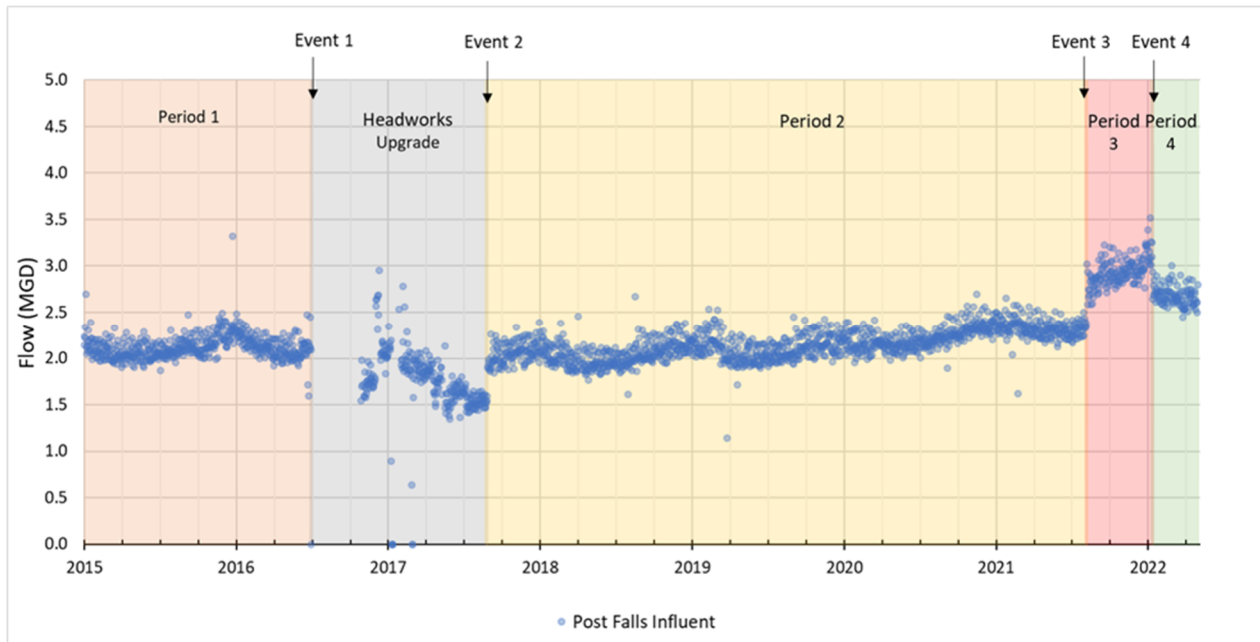
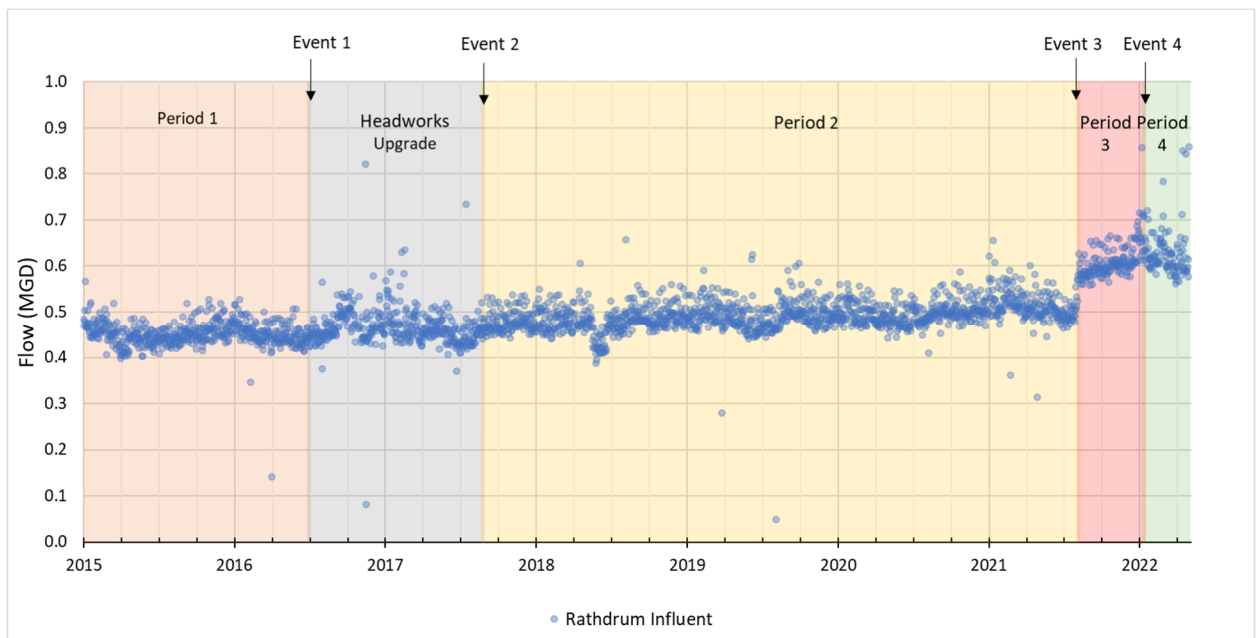


Figure 1-3: Rathdrum Influent Flow



1.2 Data Review Summary and Observations:

The Total Influent Flow data shown in **Figure 1-1** shows a period during the headworks upgrade, between Events 1 and 2, where the data is potentially unreliable. Most of this poor data appears to be coming from the Post Falls flume (flow meter) as Rathdrum is relatively consistent during this time.

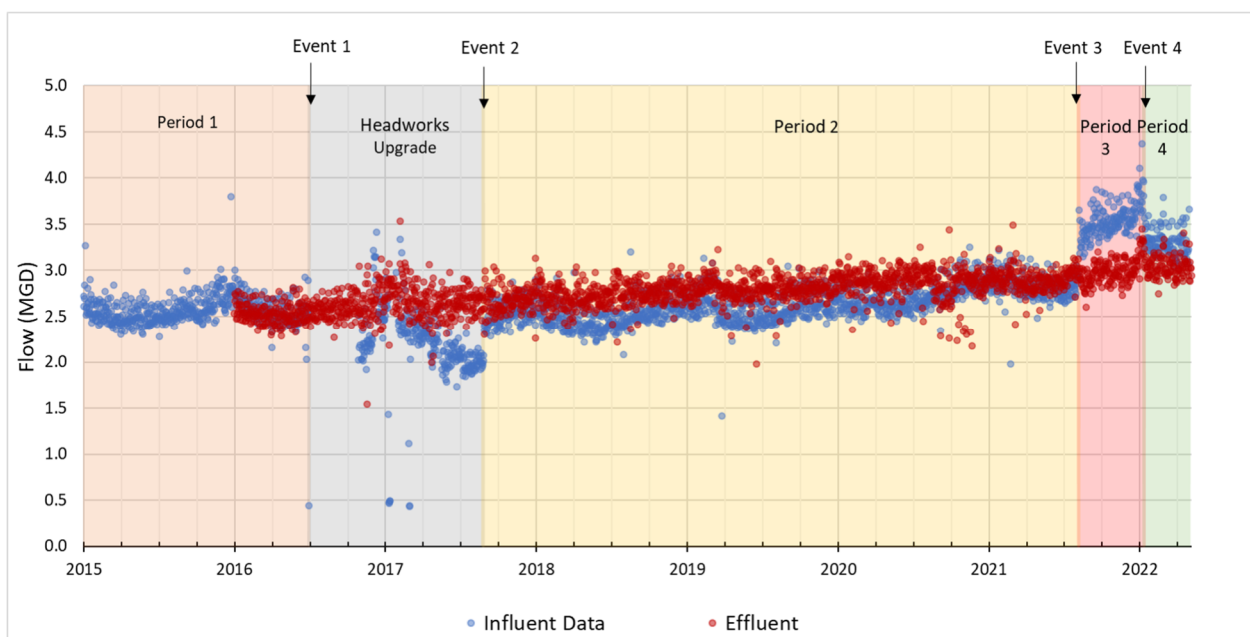
Starting in mid-2017, an additional event occurred and has been labeled Event 2. Period 2 following Event 2 is relatively consistent. A discussion with the City Operations Staff indicates that the Post Falls flume was calibrated at this point. This suggests that data from early Period 2 is more reliable following the recent calibration.

During Event 3, there is an obvious upward shift in flow on both the Rathdrum and Post Falls flumes. Discussion with City Staff indicate that both Rathdrum and Post Falls flumes were replaced at this time. The data in Period 3 is considered unreliable.

The last identifiable shift in the data occurred at the beginning of 2022 and is labeled Event 4 in the graph below. Following Event 4, there was a downward shift in flow for the Post Falls flume, but no observable shift to the Rathdrum flume readings. Discussion with the City Operations Staff indicates that both influent flumes were calibrated at this point. Similar to Event 2, this lends credibility to data following the calibration.

As a comparison and attempt to validate reliability, influent data was compared to the effluent flow data. **Figure 1-4** below compares the combined influent (for both Post Falls and Rathdrum) versus the effluent Parshall flume data.

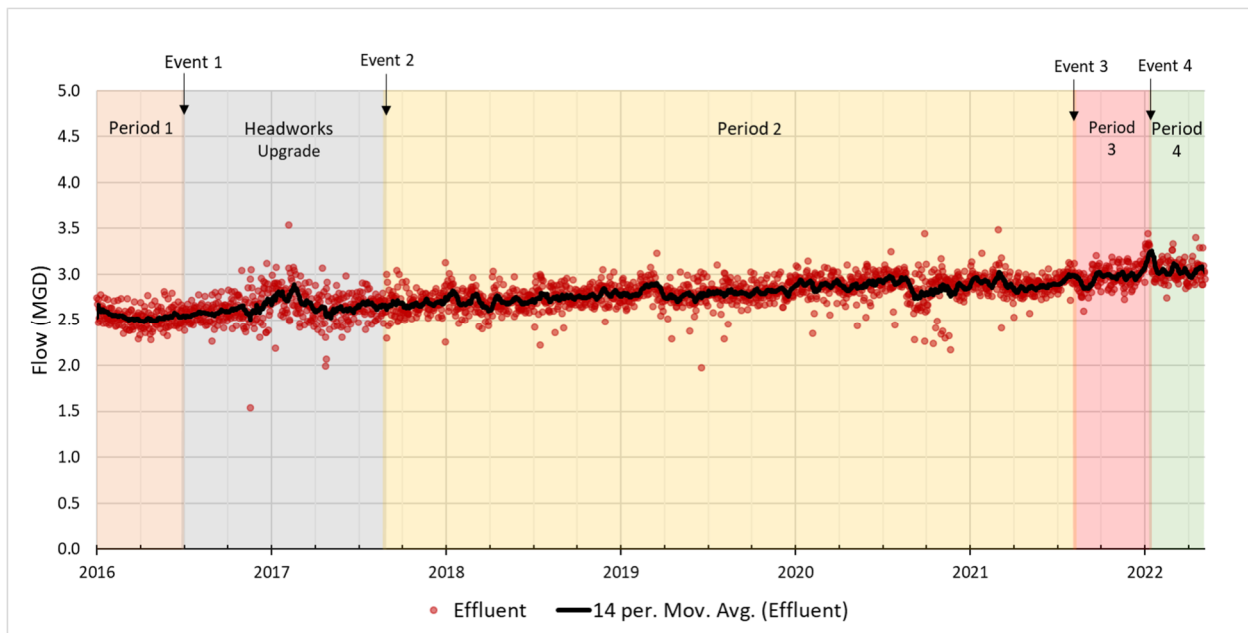
Figure 1-4: Influent and Effluent Flows



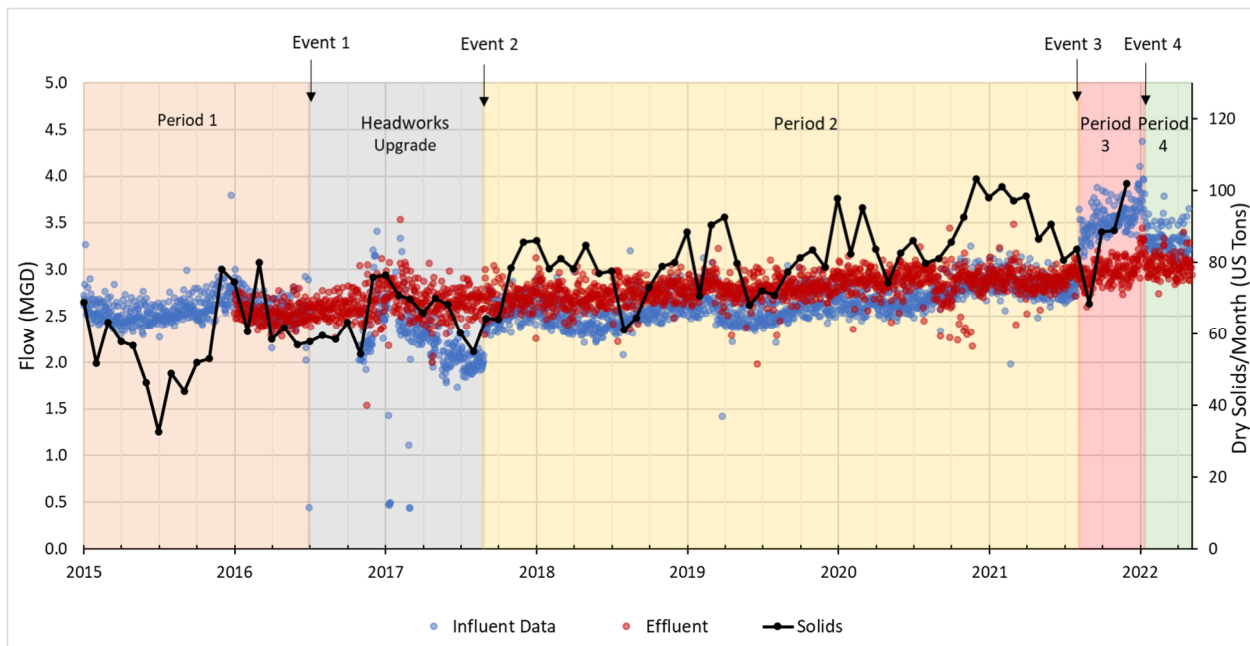
According to **Figure 1-4**, the effluent flow is generally higher than the influent data. This suggests a possible error in one of the measurements, although it is not clear which data set is

correct. There are a few points of interest in the effluent data. During the headworks construction, there appears to be a period of increased flow. A minor downward shift in the data also appears on August 19, 2020. City staff have indicated this was due to a lightning strike and the effluent meter was recalibrated at that point. Effluent data is shown below in **Figure 1-5**. To show trends more clearly, a 14-day moving average was plotted.

Figure 1-5: Effluent with Moving Average



Total monthly dry solids production was tabulated as another comparison point to validate the observed flow trends. This data was plotted and shown in **Figure 1-6**.

Figure 1-6: Influent, Effluent, and Dry Solids

The solids production shows a slightly higher growth trend compared to both influent and effluent plant flow. The cause of this high solids growth rate is not immediately clear and is further discussed on the next page.

1.3 Historic Growth Rate Analysis

To determine growth rates, a representative average of flow data was taken at two points separated in time. The growth rate between these two points was then calculated with the equation below, assuming an annually compounding rate.

Equation 1: Annual Growth Rate

$$\left(\frac{B}{A}\right)^{\frac{1}{n}} - 1 = R$$

B= End Representative Flow

A=Initial Representative Flow

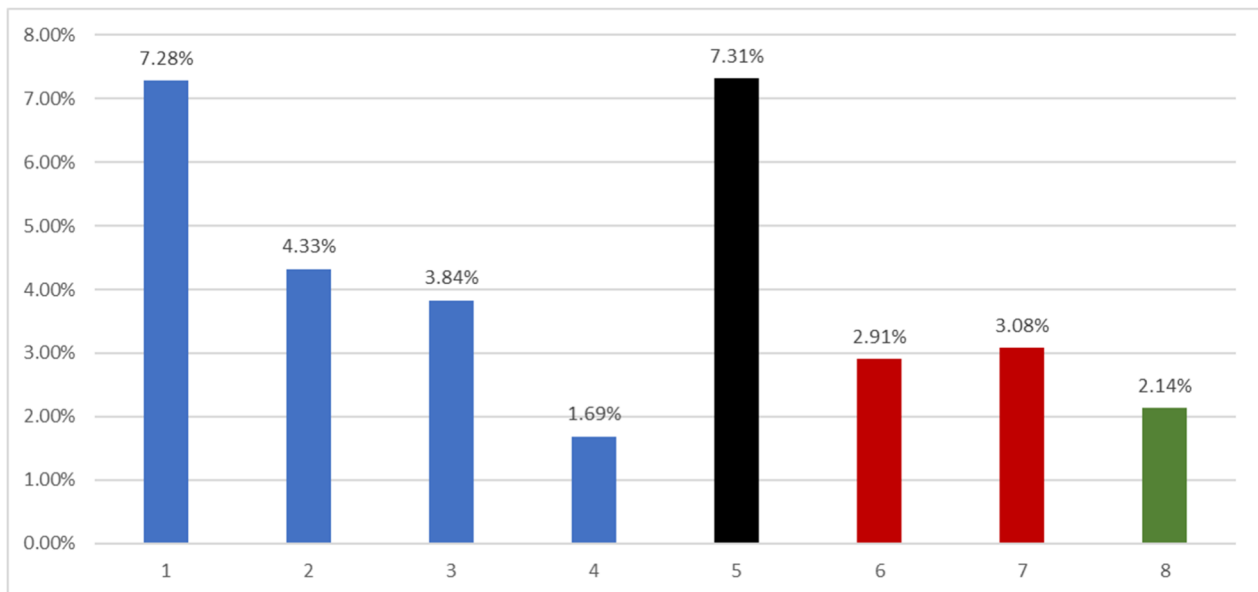
n=years between A and B

R=Annual Growth Rate

Five different data sets were used to evaluate the various growth rates. Each period analyzed, along with a summary description of the data utilized, is listed below.

1. Total Influent Event 2 through Period 4:
 - a. It was assumed that the influent flumes were calibrated during Event 2 and 4. The regression utilizes the period of 12 months immediately after both events to establish a growth rate. Due to lack of data in Period 4, a full year average was not possible and utilizes the first 3 months of data for 2022.
2. Total Influent Event 2 to 3:
 - a. This assumes Period 2 influent data is accurate. The regression utilizes the 12-month period immediately after Event 2 and immediately prior to Event 3.
3. Total Influent 2015 through Period 4:
 - a. This assumes Period 1 and 4 influent are accurate.
4. Total Influent 2015 to Event 3:
 - a. This assumes Period 1 and Period 2 data leading up to Event 3 is accurate.
5. Dry Solids:
 - a. The regression utilizes monthly data from 2016 through 2021.
6. Total Effluent:
 - a. The regression utilized data from 2016 through the final 12 months of data ending March 2022.
7. Effluent 2016-August 2020
 - a. The regression utilized data from 2016 and the year preceding the lightning strike that occurred in August 19, 2020.
8. Rathdrum Influent:
 - a. The regression utilizes 2015 data and the 12 months of data in Period 2, leading up to Event 3.

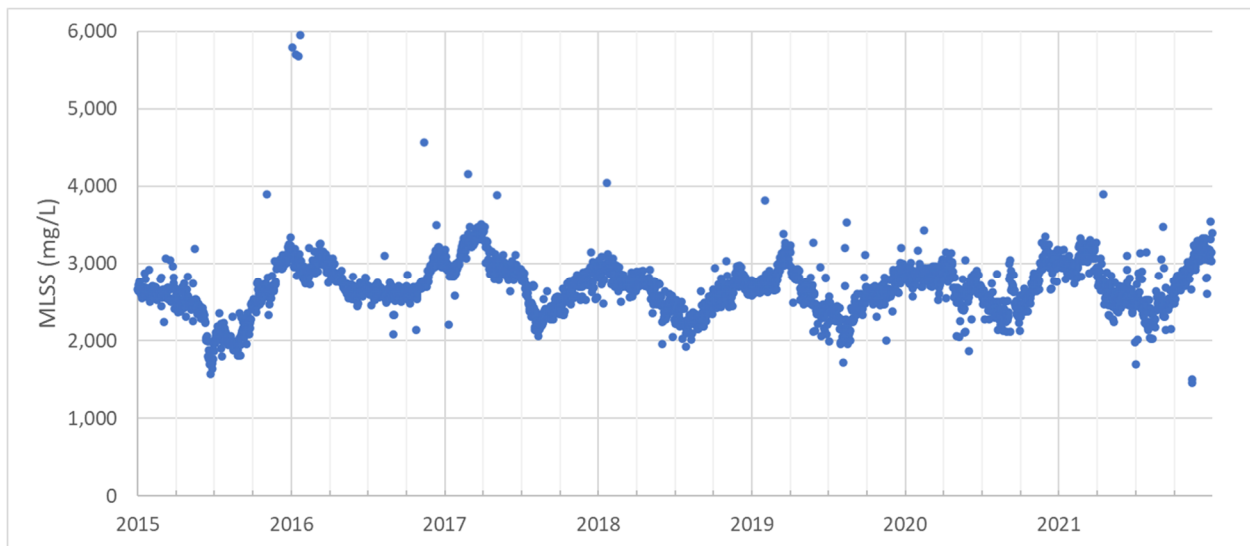
Figure 1-7 shows historic growth rates using the data sets previously defined. Total influent rates are shown in blue, Rathdrum in green, effluent in red, and total dry solids in black.

Figure 1-7: Historic Growth Rate Analysis

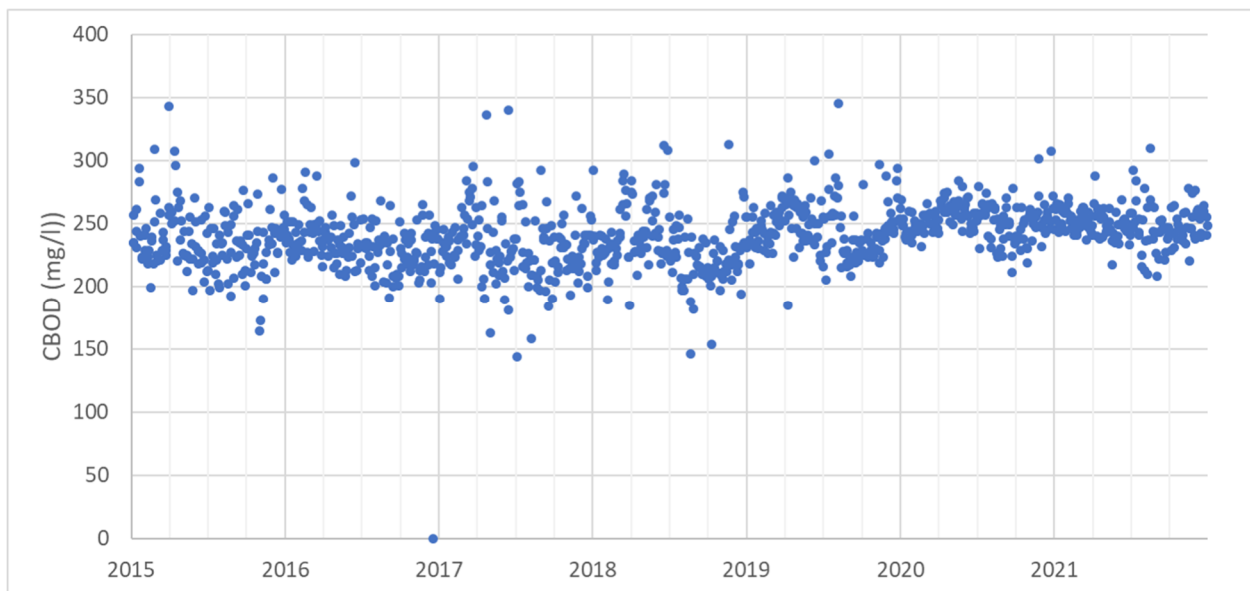
Due to the concerns identified with the total influent flow data during the last five years, the data used for the growth regression is extremely important. The growth rate for influent data ranges from 1.69% to 7.28%. This disparity emphasizes the importance of identifying reliable flow data. One key issue in understanding this data is the unknown validity of Period 4. This period can have a relatively large effect on the estimated growth rate and its incorrect inclusion or exclusion could greatly affect future projections for the growth of the facility. The data from the headworks upgrade and Period 3 have not been used to calculate any of the above growth rates due to concerns with their accuracy.

1.4 Solids

The WRF is experiencing a relatively high rate of increase in solids production. A 7.3% increase dry solids data has been reported from 2016 to 2021. This rate of increase considerably outpaces that of influent flow data and seems to have a stable growth pattern as shown in **Figure 1-5**. This growth pattern suggests that there was no singular event that spiked the solids levels, but this happened gradually over time. To better understand this growth and determine if other factors may be impacting solids production, historic WAS, mixed liquor, and CBOD concentrations were analyzed. Mixed liquor is shown in **Figure 1-8**. MLSS data from 2016 to 2021 (the years used for solids data) was used to establish a growth rate. No appreciable change was seen in MLSS, with a calculated annual growth rate of -0.4%.

Figure 1-8: MLSS Concentration

As another consideration for why solids may be increasing faster than influent flow, CBOD was analyzed and is shown in **Figure 1-9**.

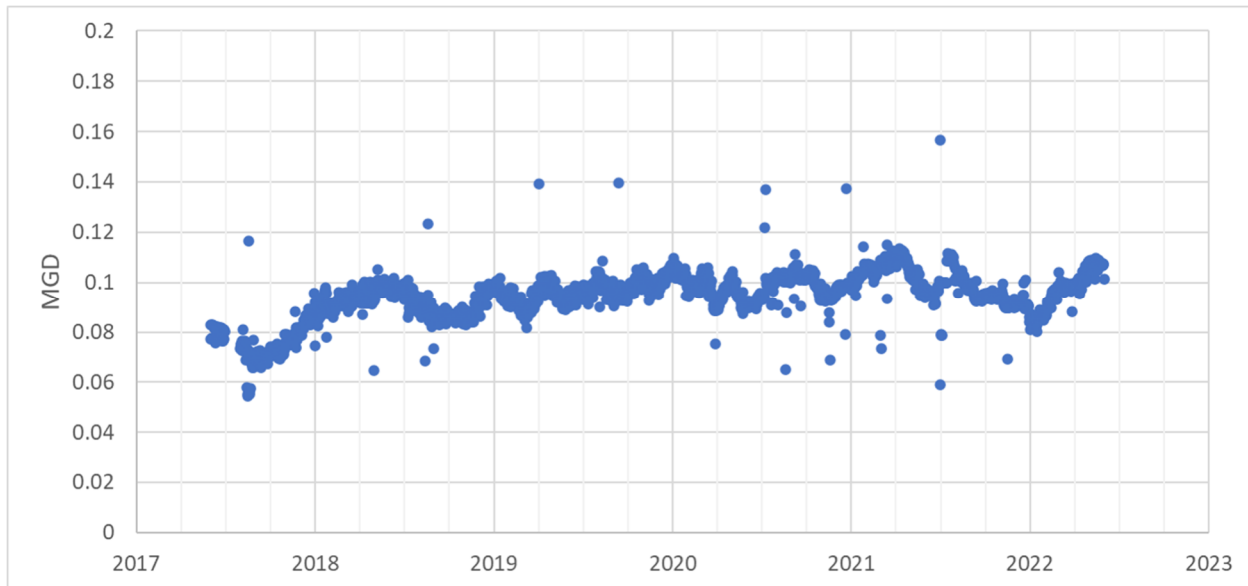
Figure 1-9: CBOD Concentration

There is a small change in average influent CBOD concentration of 1.04% annually. This coupled with flow growths could explain a portion of the difference in the observed growth rates (biosolids generation vs influent flow), but does not fully address this discrepancy.

WAS data was also analyzed to better understand the elevated solids growth rate. **Figure 1-8** shows the historic WAS flow data. WAS daily flow rate increased by 2.32% annually between

2017 and 2022. The growth in the WAS generation is considerably lower than the growth rates seen in solids data.

Figure 1-10: WAS Flow



1.5 Conclusions

Upon analysis of the data it was determined that the effluent flow data (Reference Figure 1-7, Data Set #6 and #7) are likely the most reliable data set for plant flow. This data shows a relatively stable growth with only minor inconsistencies like the August 2020 lightning strike. This data has shown a 2.91% growth over the data set or 3.08% up to the lightning strike.

Data Set #3 (reference Figure 1-7) includes the most recent Period 4 data within the calendar year 2022 and roughly the same extents as the effluent data. Growth utilizing this data set is at approximately 3.84% annually. This data shows a slightly higher growth rate that may be representative of the current growth conditions being experienced in the service area.

Based on the analysis above, the influent flows and hence loading are likely increasing at a rate of approximately 3.08% to 3.84% annually. This range of rates will be compared to overall planning level growth estimates (Land use planning, labor/census data) and ultimately evaluated for potential use in subsequent flow and load projections through the planning period.

The calculated rate of dry solids growth also does not appear realistic when compared with the rest of the plant data and may be impacted by inputs (vector receiving station) or changes to the overall solids processing systems that are not directly correlated to influent loading changes.

CHAPTER 3

REGULATORY AND PERMITTING REVIEW

City of Post Falls WRF Facility Plan

May 2024

Prepared by:



J-U-B ENGINEERS, INC.

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3 REGULATORY AND PERMITTING REVIEW

3.1 Introduction

An important objective of this Facility Plan is to review the current and proposed regulatory requirements and consider their impact when developing the range of improvement alternatives. Treatment and reuse alternatives must be implemented to meet current regulatory requirements with a capability to meet as many anticipated requirements as feasible. Staying abreast of emerging regulations is a crucial and continuous process as Post Falls reviews and adapts this Facility Plan's improvement alternatives over the next 20 years.

Regulations ultimately become implemented through permits and rule enforcement. The Idaho Department of Environmental Quality (IDEQ) administers all surface water discharge permits through their Idaho Discharge Permit Elimination System (IPDES) program. Post Falls operates primarily under one Idaho Pollutant Discharge Elimination System (NPDES) Permit. The City's current, recently issued permit is summarized below:

- Spokane River discharge permit; IPDES Permit No. ID0025852; effective from January 1, 2024. Link to currently active permit is <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/15621>. (and is attached in **Appendix 3-A**).

The following sections describe the existing and developing conditions and regulations for IPDES Permits as well as what could be expected under a state-issued Reuse Permit over the next several permit cycles.

3.2 Spokane River Water Quality Issues

Water quality concerns in the Spokane River have required wastewater treatment improvements upstream for several decades. Under the federal Clean Water Act (CWA), each state and Tribe must promulgate designated beneficial uses of its receiving waters and water quality standards to protect those uses. The state standards must also be approved by the Environmental Protection Agency (EPA). If uses and standards are not promulgated in a timely manner, then the EPA has a duty to perform that task under the CWA.

Under Post Falls' 2024 IPDES permit, Idaho had designated the Spokane River for the beneficial uses of primary and secondary contact recreation, cold-water biota, salmonid spawning, domestic water supply, and agricultural water supply. Currently, the river is protected for the cold-water aquatic life habitat, salmonid spawning, primary contact recreation, and domestic water supply. All waters in Idaho are also protected for industrial and agricultural water supply, wildlife habitats, and aesthetics. Applicable rules exist within the Idaho Administrative Procedures Act (IDAPA) which can be found at:

- Chapter 2 – “Water Quality Standards”
<https://adminrules.idaho.gov/rules/current/58/580102.pdf>
- Chapter 16 – “Wastewater Rules”
<https://adminrules.idaho.gov/rules/current/58/580116.pdf>

Additionally, permitted activities in an upstream state or Tribe must be controlled so as not to cause a violation of a downstream state or Tribe’s water quality standards. Therefore, Washington State’s and the Spokane Tribe of Indians’ standards can materially affect Post Falls’ IPDES Permit conditions.

A water body is listed as a “water quality limited segment” under Section 303(d) of the CWA where it is not expected to meet the required water quality standards in the foreseeable future. Currently, the Spokane River has a 4A rating for lead and zinc in Idaho due to historic mining discharges above Coeur d’Alene Lake in Idaho’s Silver Valley, the Total Maximum Daily Load (TMDL) was published in 2022. Idaho also has the Spokane River 303(d) listed for phosphorus. In Washington the river is listed for dissolved oxygen, total polychlorinated biphenyls (PCB), and 2,3,7,8 tetrachlorodibenzo-p-dioxin (dioxin). Idaho had previously listed the Spokane River as impaired for cadmium and temperature concerns, but these listings no longer exist. Finally, the Spokane River in Idaho has site-specific criteria for ammonia that are identical to the state-wide site-specific ammonia criteria for protecting cold-water aquatic life when early life stages of fish are present.

Lead and zinc are classified as chronically toxic to the cold-water biota in the river. That chronic toxicity has historically driven the water quality standards for the Spokane River in both Idaho and Washington. Heavy metals, PCB, and dioxin bioaccumulate in fish as they are continuously ingested by organisms further up the food chain. Those concentrated levels of toxins are then available to be directly ingested by humans. Future regulations regarding the safe amount of consumption of contaminated fish may drive the water quality standards to much more stringent levels than the previous chronic exposure to the cold-water biota.

NPDES/IPDES permit holders have been subject to lead, cadmium, and zinc limitations. Additionally, they have been seasonally removing phosphorus since the late 1970s to reduce downstream algae growth and increase dissolved oxygen in the Lake Spokane Reservoir. Permit holders have also been tasked with monitoring PCBs and dioxin levels.

3.2.1 Total Maximum Daily Loads

Surface waters that do not meet the state-established water quality standards must first receive technology-based pollution controls. If technology standards do not achieve the required water quality, the Clean Water Act requires the state to place the surface water on a Section 303(d) list of water quality limited segments. The state must prioritize all their water segments and prepare a TMDL study for approval by the EPA in order of that priority. A TMDL identifies sources of the pollutants of concern, quantifies the assimilative capacity of the water segment for those pollutants, and defines the process by which those pollutants will be controlled to achieve compliance with the

water quality standards. The TMDL also allocates the loading capacity among the various sources, both point and non-point. The TMDL usually considers seasonal variations and must include a margin of safety that considers any lack of knowledge about the cause of the water quality problem or its loading capacity. If the TMDL limits create unattainable standards for pollutant sources, a Use Attainability Analysis (UAA) can be performed in accordance with the Clean Water Act to determine achievable water quality levels.

The Washington State Department of Ecology (WDOE) developed a TMDL for cadmium, lead, and zinc on the Spokane River and EPA approved it in 1999. The IDEQ and EPA promulgated a TMDL on the Spokane River for dissolved cadmium, lead, and zinc in August 2000. Mining interests in the Silver Valley challenged the TMDL on procedural grounds and the Idaho Supreme Court voided Idaho's approval in 2003. In January of 2022, IDEQ implemented and issued a new TMDL for the Spokane River. This TMDL covers lead and zinc, cadmium was delisted as a cause for impairment. This study found the loading from treatment plants and stormwater below the outlets of Coeur d'Alene Lake make up less than one percent of monthly loading during months that load reductions are required. It was determined that the Post Falls current IPDES permit is sufficient and that assigning a maximum daily load limit beyond the permit would be ineffective at reducing lead and zinc load in the river. Further, the past five years of monitoring of lead levels from the Post Falls effluent data have identified that the effluent has no reasonable potential to exceed the TMDL limitations and therefore the numerical effluent limitation was removed.

The WDOE proposed to update their 1992 phosphorus TMDL in 2004, The WDOE and the EPA approved the Spokane River and Lake Spokane dissolved oxygen TMDL in mid-2010. The plan required strict total phosphorus, CBOD, and ammonia controls from March through October. Idaho dischargers promptly challenged the EPA's approval of the TMDL based on an inequitable distribution of allowable loading as well as technical concerns with the water quality modeling utilized. In lieu of a TMDL the EPA decided it was equivalent to conduct a loading analysis from point and non-point sources and set limits to attain water quality standards. The results of this analysis have set limits on various entities that are believed to keep the concentration in the Idaho portion of the Spokane River below 9.1 ug/L.

Idaho currently has a human health criterion (HHC) for PCBs of 190 pg/L. This is based on a fish consumption rate of 66.5 g/day and cancer risk level of 10^{-5} . On November 14, 2022 (effective December 19, 2022) the EPA finalized the HHC for Washington waters. This criterion sets PCB limits to 7 pg/L. This new criteria is based on a fish consumption rate of 175 g/day and cancer risk level of 10^{-6} . The EPA is also currently developing a TMDL for PCB contamination in the Spokane River and the Little Spokane River in Washington and is set for completion by September 2024.

A significant hurdle in the regulation of PCBs is the ability to reliably and accurately test to required levels. Method 608.3 is currently approved by the EPA for the testing of PCBs. For this test Washington State requires detection limits of 65,000 pg/L and a quantitation limit of 195,000 pg/L. Method 1628 has received multi-laboratory validation but has not been approved by the EPA. It has

a quantification limit of approximately 2000 pg/L for each congener. It is unlikely that these limits will be enforceable due to current testing limitations.

3.3 Current IPDES Permit Conditions

As discussed in preceding Chapters, wastewater generated by the cities of Post Falls and Rathdrum are routed to and treated by the Post Falls WRF. Post Falls then discharges its recycled water year-round into the Spokane River with authorization from the IDEQ under IPDES Permit No. ID-0025852.

Post Falls' current IPDES permit was issued in December 2023, and became effective in January 1, 2024 and was set to expire December 31, 2028. The City's previous IPDES permit had expired in 2019 and was administratively extended by IDEQ as the current permit was being developed.

During the recent permit review and development several discharged constituents were identified for regulation by Idaho's Water Quality Standards (WQS) limitations to protect the Spokane River's designated beneficial uses. Zinc, chlorine, and ammonia concentrations (similar to previous permitting cycles) could affect the river's cold-water aquatic organisms in an immediate manner (acute toxicity) and/or in a long-term manner (chronic toxicity). Therefore, discharge concentrations and/or mass limits are restricted for those constituents.

In addition, excessive bacteria in the recycled water could negatively affect the recreational use of the river, therefore *E. coli* (and/or enterococci) concentrations are restricted in the discharge. The current permit adds the alternative of monitoring of enterococci bacteria for compliance in lieu of fecal coliform, albeit at lower allowable numerical limits. Assuming the City maintains compliance monitoring for *E. coli*, the new enterococci values are not anticipated to affect the design capacity of the disinfection system. If the City were to switch to monitoring for enterococci it could adversely impact the available capacity of the disinfection system as the required UV dose has the potential to be up to 50% higher than that required for *E. coli* based on published research.

Low dissolved oxygen (DO) concentrations and excess aquatic growth downstream in Lake Spokane have also been targeted for improvement since at least 1978. Besides employing secondary treatment, NPDES/IPDES Permit holders in both Washington and Idaho reduce seasonal phosphorus to improve those conditions in Lake Spokane. In December of 2014, the City's permit went into effect for the Post Falls WRF. This permit set much more stringent limits on phosphorus. These limits were not able to be obtained with the treatment technology of the Post Falls WRF at that time. An interim effluent limit was set as part of the 2014 permit with intermediate milestones and a requirement that construction of new technology would allow the effluent to meet the reduced requirements for CBOD and phosphorus and will be implemented and adequately demonstrated by November 30, 2024. The interim milestone deadlines were updated as part of the current (2024) permit renewal due to construction delays associated with the COVID-19 pandemic. The new milestones require substantial completion of the improvements by March 29, 2024 with full compliance with the final permit limitations by November 20, 2025.

The current 2024 permit is largely unchanged from the 2014 permit with regard to effluent limitations. However, subtleties in the proposed seasonal operation approach of the City's tertiary treatment system as-designed and identified in the previous planning, preliminary engineering report for the tertiary facilities, and operation and maintenance manual, has been a point of discussion during the comment period between the City and IDEQ, specifically Response to Public Comments Items 8, 11, 15 and 26 (**Appendix 3-A**). The City is continuing discussion with IDEQ on this topic as they commission the new tertiary treatment facilities, and move into operation under the new permit. Discussions with DEQ highlight there is nothing in the 2024 permit which requires operation of the tertiary treatment facilities beyond those design parameters and operational scenarios reviewed and approved by DEQ throughout the planning, design, and construction process.

3.4 Anticipated Future IPDES Permit Conditions

The primary impetus for the current facility planning effort is to assess the WRF's ability to meet the increasingly stringent IPDES discharge limits in the Spokane River and necessary improvements to capacity to accommodate regional growth. The current permitting is being driven by a concern for diminished dissolved oxygen, chronic heavy metals exposure to cold-water biota, and fish tissue concentrations of toxic compounds. Post Falls' 2024 IPDES Permit includes minor modifications to the previous permit requirements for effluent limitations, and additional reporting of constituents for both influent, effluent and receiving water. Future permitting cycles may further modify permit conditions to address water quality concerns for toxic compounds.

The Spokane River and Lake Spokane dissolved oxygen TMDL restricts the discharge of oxygen-demanding substances, including ammonia-nitrogen ($\text{NH}_3\text{-N}$), total phosphorus, and five-day carbonaceous biochemical oxygen demand (CBOD_5). Since Idaho permits issued by IDEQ cannot cause the violation of a downstream water quality standard, it must comply with the Washington standards. The result of this may promulgate more stringent requirements set by Washington to be addressed through permit requirements being set for Idaho dischargers including Post Falls. At this time no significant permit changes are anticipated in the next permit cycle for phosphorus, $\text{NH}_3\text{-N}$, or CBOD_5 . Temperature has also been a concern for the Spokane River and has begun to be evaluated in relation to downstream dischargers in Washington. It may not become an issue for Post Falls due to its proximity downstream of the Post Falls dam and cooler receiving waters, however it could be on the permitting horizon in the next 5-10 years.

The current 2024 Permit does not set effluent limits on PCBs, Dioxin or PFAS. Post Falls is required, to perform routine testing, and comply with Best Management Practices (BMP's). The testing requires regular sampling of influent and effluent for PCB plus sampling of river water for PCBs to determine "if the discharges have the reasonable potential to cause or contribute to excursions above water quality standards for waters in the State of Idaho, State of Washington, or the Spokane Tribe of Indians." With the data collected over this time period it is possible that a sufficient understanding of point sources contribution of PCBs to the Spokane River has been developed to create effluent limits. These limits have already been proposed downstream in Washington and it is possible that effluent limits will be further regulated in the upstream tributaries in Idaho. As noted previously, the EPA is currently developing TMDLs to address PCB contamination in the Spokane and

Little Spokane Rivers in Washington. And is anticipated to be complete by September of 2024. This will likely drive additional sampling and an evaluation of the impacts of Post Falls effluent in relation to the TMDL. Polybrominated Diphenyl Ethers (PBDEs) are another toxin of concern for the Spokane River, but are not currently listed in the City's IPDES permit and currently have no TMDL for the Spokane River. The current permit has added PFAS as a monitoring and reporting requirement in the third and fourth years of the permit period but has no effluent limitations currently. Similar to PCB's, the approved 40 CFR Part 136 analytical methods for PFAS has not yet been established and until such time permits, must utilize Draft Method 1633 for PFAS analysis.

Based on historic implementation timelines, it is anticipated that new toxins of concern will potentially be enforced within the next 10-20 years while more stringent PCB regulation implementation is expected in the next 5-10 years.

As discussed, lead and zinc are classified as chronically toxic to the cold-water biota in the river. Chronic toxicity has historically driven the water quality standards for the Spokane River in both Idaho and Washington. In the past, Idaho had a TMDL that addressed zinc, lead, and cadmium. Because cadmium was found to be below Idaho's acute and chronic hardness-based criteria for over five years it was delisted previously in the 2014 permit. Similarly, lead was also found to not have reasonable potential to exceed and was removed from the numerical effluent limits in the current permit. Currently, zinc exceeds both chronic and acute levels and new effluent limitations have been defined in the current permit. Copper and Silver are also a metal of concern for the Spokane River and required monitoring and reporting but have no effluent limitations. Arsenic is also a metal of concern for the Spokane River but has no TMDL for Post Falls.

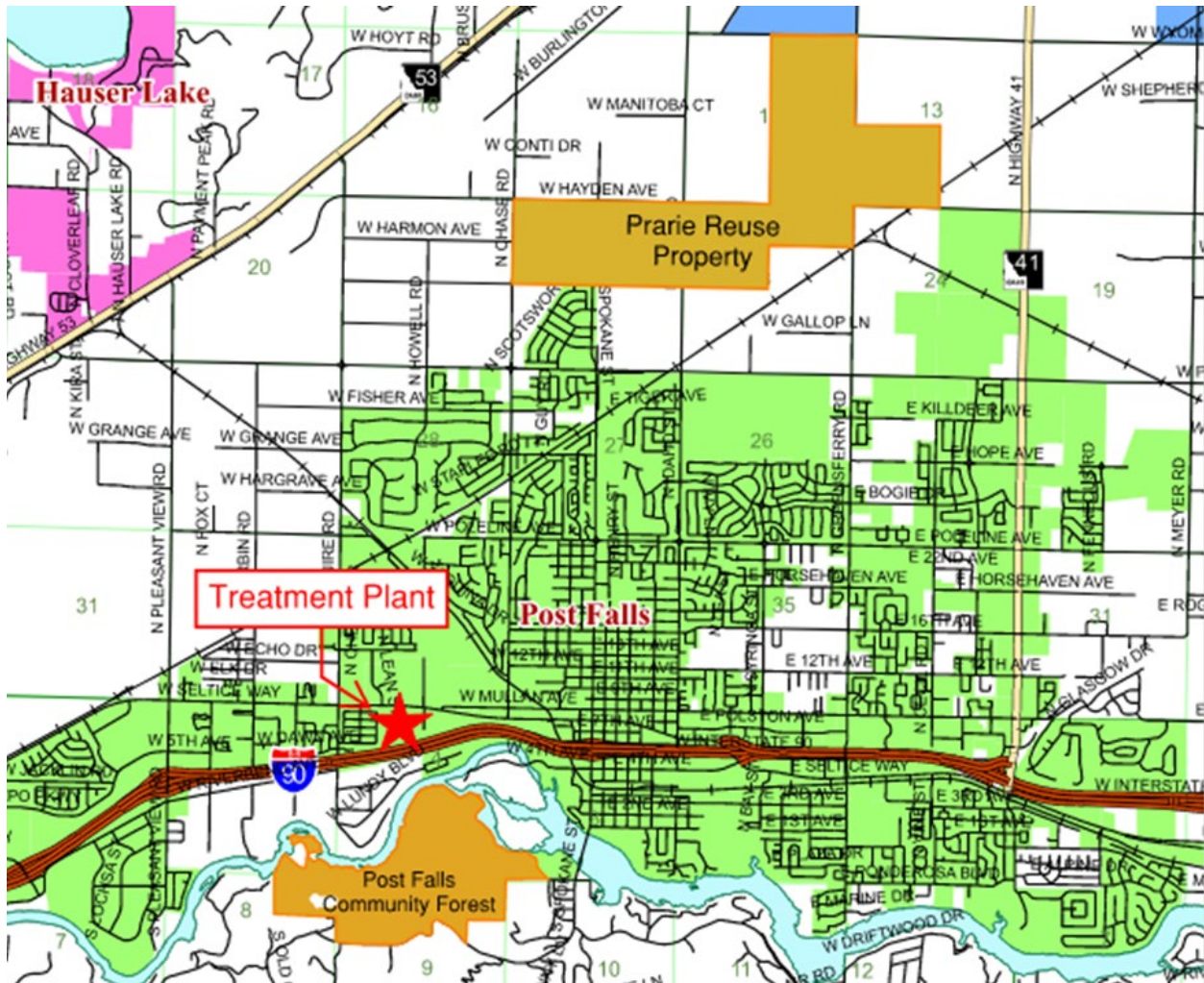
3.5 Wastewater Recycling and Reuse Standards

On May 18, 2021, the Post Falls City Council finalized the annexation of 717-acres of property of the Rathdrum Prairie with a zoning designation of Public Reserve for open space and land application of recycled wastewater. The Public Reserve Property includes a 70-acre school site owned by the Post Falls School District and 647 acres reserved for open space and the land application of recycled water. Irrigation must be conducted at agronomic rates that meet the crop needs without percolating reuse water and dissolved constituents into the underlying groundwater. All reuse water must be retained in lined storage ponds awaiting irrigation. The continued use of the Spokane River discharge permit allows Post Falls to match irrigation needs much more closely to recycled water flow to reduce construction of significant (non-growing season) storage ponds. Maintaining the ability to discharge to the Spokane River is critical to managing future needs for expansive land purchases and storage volumes. Further limiting effluent discharge to the Spokane River will have the opposite effect. This "zero discharge" approach to reuse is generally applied across the state but is monitored even more closely over the Rathdrum Prairie Aquifer, which underlies Post Falls' and Rathdrum's future reuse sites.

Since the 2013 Facility Plan, the City has purchased nearly 500 acres south of the Spokane River. The City has consolidated this natural multi-use property now called the Community Forest, with the goal of developing and expanding recycled water application on the parcel as a portion of their water

reclamation efforts. It is envisioned for this area to serve as a multi-use property for the City, providing an opportunity to reuse highly treated Class A reclaimed water via drip irrigation, serving as an educational forest, and providing outdoor recreational opportunities to citizens and visitors. A map showing the layout of the reuse properties is shown in **Figure 3-1**.

Figure 3-1 – Reuse Properties



The wastewater recycling and reuse standards are governed by the Idaho Administrative Procedures Act (IDAPA) 58.01.17. IDAPA is available on the State of Idaho website at.

<https://adminrules.idaho.gov/rules/current/58/580117.pdf>

The primary IDAPA chapters that apply are:

- Chapter 2 – “Water Quality Standards”
- Chapter 8 – “Idaho Rules for Public Drinking Water Systems”
- Chapter 11 – “Groundwater Quality Rules”
- Chapter 16 – “Wastewater Rules”

- Chapter 17 – “Rules for the Recycling and Reuse of Municipal and Industrial Wastewater”
(Recycled Water Rules)

The following tables are from IDAPA Part 58.01.17 part 602. They give information on the standards set forth for reuse classes including treatment requirements and applicable use.

TABLE 1 - CLASSIFICATION TABLE						
Classification		Class A	Class B	Class C	Class D	Class E
Oxidized		Yes	Yes	Yes	Yes	No
Clarified		Yes	Yes	No	No	No
Filtered		Yes	Yes	No	No	No
Disinfected		Yes	Yes	Yes	Yes	No
Total coliform (organisms/100 milliliters)	Median results for last x-days for which analysis have been completed	2.2 7-day median	2.2 7-day median	23 5-day median	230 3-day median	No limit
	Maximum in any sample	23	23	230	2300	No limit
	Monitoring frequency	Daily, or as determined.	Daily or as determined.	Once weekly or as determined.	Once monthly or as determined.	
Disinfection requirements contact time		Contact time of 450 mg-min L with 90 min of modal time Or disinfection to 5-log inactivation of virus	Total chlorine not less than 1mg/L after 30 min contact time at peak flow Or alternate process comparable to this			

(3-31-22)

TABLE 2 - CLASS A AND CLASS B ADDITIONAL REQUIREMENTS			
Classification		Class A	Class B
Turbidity (NTU)	24-hr - mean, Not to exceed	Granular or cloth media - 2 Membrane filter - 0.2	Granular or cloth media - 5
	Maximum, in any sample	Granular or cloth media - 5 Membrane filter - 0.5	Granular or cloth media - 10
	Monitoring frequency	Continuous	Continuous
Maximum Total nitrogen (mg/L)		Ground water recharge - 10 Residential irrigation and other non-recharge uses - 30 or As required based on an analysis of ground water impacts	May be required based on an analysis of ground water impacts

TABLE 2 - CLASS A AND CLASS B ADDITIONAL REQUIREMENTS		
Classification	Class A	Class B
BOD5 (mg/L) Monthly arithmetic mean, from weekly composite samples not to exceed	Ground water recharge - 5 Residential irrigation and other non-recharge uses - 10	
pH Daily grab samples or continuous monitoring	Between 6.0 and 9.0	

(3-31-22)

02. Municipal Recycled Water - Uses. The following table provides a summary of municipal recycled water uses for which a specific classification is required. Other uses not listed here may be considered on a case-by-case basis and approved by the Department.

TABLE 3 - RECYCLED WATER USES					
Recycled Water Uses	Class A	Class B	Class C	Class D	Class E
Uses relating to Irrigation and buffers					
Buffers required	No	Yes	Yes	Yes	Yes
Fodder, fiber crops	Yes	Yes	Yes	Yes	Yes
Commercial timber, firewood	Yes	Yes	Yes	Yes	Yes
Processed food crops or "food crops that must undergo commercial pathogen-destroying processing before being consumed by humans"	Yes	Yes	Yes	Yes	No
Ornamental nursery stock, or Christmas trees	Yes	Yes	Yes	Yes	No
Sod and seed crops not intended for human ingestion	Yes	Yes	Yes	Yes	No
Pasture for animals not producing milk for human consumption	Yes	Yes	Yes	Yes	No
Pasture for animals producing milk for human consumption	Yes	Yes	Yes	No	No
Orchards and vineyards irrigation during the fruiting season, if no fruit harvested for raw use comes in contact with the irrigation water or ground, or will only contact the inedible portion of raw food crops	Yes	Yes	Yes	No	No
Highway medians and roadside vegetation irrigation on sides	Yes	Yes	Yes	No	No
Cemetery irrigation	Yes	Yes	Yes	No	No
Parks, playgrounds, and school yards during periods of non-use	Yes	Yes	No	No	No

TABLE 3 - RECYCLED WATER USES					
Recycled Water Uses	Class A	Class B	Class C	Class D	Class E
Parks, playgrounds, and school yards during periods of use	Yes	No	No	No	No
Golf courses	Yes	Yes	No	No	No
Food crops, including all edible food crops	Yes	Yes	No	No	No
Residential landscape	Yes	No	No	No	No
Uses at Industrial, Commercial, or Construction Sites					
Dust suppression at construction sites and control on roads and streets	Yes	Yes	Yes	No	No
Toilet flushing at industrial and commercial sites, when only trained maintenance personnel have access to plumbing for repairs	Yes	Yes	Yes	No	No
Nonstructural fire fighting	Yes	Yes	Yes	No	No
Cleaning roads, sidewalks and outdoor work areas	Yes	Yes	Yes	No	No
Backfill consolidation around non-potable piping	Yes	Yes	Yes	No	No
Soil compaction	Yes	Yes	Yes	No	No
Commercial campus irrigation	Yes	Yes	No	No	No
Fire suppression	Yes	Yes	No	No	No
Snowmaking for winter parks, resorts	Yes	No	No	No	No
Commercial laundries	Yes	No	No	No	No
Ground Water Recharge					
Ground water recharge through surface spreading, seepage ponds or other unlined surface water features, such as landscape impoundments	Yes	No	No	No	No
Subsurface Distribution					
Subsurface distribution.	Yes	Yes	Yes	Yes	No

3.5.1 Reclamation and Reuse over the Rathdrum Prairie Aquifer

It is important to recognize that the study area is over the Rathdrum Prairie Aquifer (RPA), also known as the Spokane Valley-Rathdrum Prairie Aquifer (SVRPA) and is the only designated “Sensitive Resource Aquifer” in Idaho. As such, there are several special provisions that impact reuse practices in the study area. In particular, the “Reuse Rules” (IDAPA 58.01.17.602) allow groundwater recharge using surface spreading, seepage ponds, unlined surface water features, or subsurface distribution. The recharge activities must meet the “Groundwater Quality Rule” (IDAPA 58.01.11) and must be located at least 1,000 feet and at least six months of travel time from any downgradient drinking water.

IDAPA 58.01.11.300-350 also requires the following:

- The aquifer shall not be degraded, as it relates to beneficial uses, because of point source or non-point source activity unless it is demonstrated by the person proposing the activity that such change is justifiable because of economic or social development.

- Activities with the potential to degrade Sensitive Resource Aquifers shall be managed in a manner that maintains or improves existing groundwater quality.
- Sensitive Resource Aquifer groundwater is of better quality than the groundwater quality standards in Section 200, and maintenance of this quality is needed to protect an identified beneficial use.

The net result of these rules is that groundwater recharge is not feasible in most instances over the RPA for two reasons. First, the high quality and readily available quantity of water has led to a proliferation in the number of drinking water wells present. Second, horizontal hydraulic conductivities in the study area range from an estimated 12,100 to 22,100 feet per day, so groundwater travels very quickly (USGS, 2007). These two facts make it unlikely that a recharge site could be located less than six months travel time from a downgradient drinking water well. As a result, this Facility Plan concentrates on irrigation and other reuse practices that will not lead to groundwater recharge.

3.5.2 Spokane Valley Rathdrum Prairie (SVRP) Aquifer Special Supplemental Guidelines

Reuse is a permitted activity in Idaho under IDAPA 58.01.17 which references the “Idaho Guidance for Recycled Water” (IDEQ, 2007). The IDEQ Guidance “provides assistance in applying and interpreting” the Reuse Rules for permitting and operating reclamation and reuse facilities. Of particular importance to this guidance is Section 12.11, titled “Wastewater Land Application Sites Overlying Designated Special Resource Water.” It outlines the background behind the need for possible “special considerations” for nutrient management of land application reuse over the RPA, including calculation of the nitrogen and phosphorus balance and calculation of loss to groundwater.

3.5.3 Anticipated Wastewater Reclamation and Reuse Standards over the Rathdrum Prairie Aquifer

Regulators continue to trend toward tighter discharge restrictions into the Spokane River. Consequently, reuse over the RPA will likely become an ever-increasing part of the long-term management strategy for Post Falls. Anticipated regulations to govern reuse over the RPA also become more important in planning that strategy. The City’s current 632-acre site and the Rathdrum 300-acre sites are over the main body of the aquifer. The Post Falls Community Forest located on the southern side of the Spokane River is near the fringe of the aquifer boundary and the applicability of the RPA limitations are being coordinated with IDEQ by the City as part of their recycled water application permit process.

Although every activity over the aquifer has the potential to degrade it, reuse practices are some of the most carefully managed and controlled activities. That management and control appears to be warranted to balance the need for proper wastewater management with the protection of this exceptional water resource. Key actions that balance reuse irrigation with aquifer quality appear to include:

- Site-specific soil sampling and testing to a depth of 60 inches to characterize the physical and chemical characteristics of all soil types composing 10 percent or more of the site as part of the reuse proposal.
- Site-specific crop selection and agronomic and/or silvicultural plan to balance water and nutrient uptake to those available in reuse water, supplemental irrigation, and supplemental fertilizer.
- Establishing and sampling a representative dedicated monitoring well network prior to reuse activities to adequately characterize background water levels and constituents in the uppermost 10 feet of the aquifer.
- Developing a site-specific soil moisture monitoring and irrigation management strategy so that water is applied within the water-holding capacity of the soil and depleted prior to the non-growing season.
- Conducting soil and soil water sampling to establish existing conditions and manage to reduce or eliminate potential ongoing leaching losses to the aquifer.
- Conducting ongoing monitoring well sampling and analysis to verify no significant impact to the RPA because of the reuse activities.

The proposed characterization and monitoring of reuse activities over the RPA may be reduced for Class A reuse water that includes nutrient reduction. The Class A standard in all other parts of the State already allows for such “unrestricted” reuse. Previous calculations show that nutrient removal standards would likely be required to be protective of RPA water quality due to the non-degradation standard. In such instances, it may also be necessary to exercise some level of control over supplemental fertilizer addition to meet the non-degradation standard. This would certainly be possible on publicly controlled spaces (parks, play fields, rights-of-way, etc.) and may be possible with contractual water sale agreements as well.

In summary, reuse activities over the Rathdrum Prairie Aquifer and in the Community Forest are likely to increase over time due to population growth and the tightening restrictions on effluent discharged to the Spokane River. Stringent regulations designed to protect the high quality of the RPA also mean that reuse water quality, monitoring, and management practices will be held to a higher standard than in other areas of the State. In reviewing the proposed Post Falls and Rathdrum reuse sites, these standards can be met, but will require significant initial background work to characterize the soil and groundwater as well as propose a suitable cropping and monitoring plan. Class A reuse water with nutrient removal may alleviate several groundwater protection concerns. However, even Class A reuse water may require a management agreement with the end users to avoid overloading the soil system with nitrogen or other constituents of concern.

REFERENCES

- Spokane River Regional Toxics Task Force. (2016). 2016 Comprehensive Plan to Reduce Polychlorinated Biphenyls (PCBs) in the Spokane River.
- State of Idaho Department of Environmental Quality. (2022). (rep.). Spokane River total Maximum Daily Load - Lead and Zinc.
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- U.S. Department of Environmental Quality. (n.d.). IDAPA 58.01.02 Water Quality Standards.
- U.S. Department of Environmental Quality. IDAPA 58.01.16 Wastewater Rules.
- U.S. Environmental Protection Agency, Guidelines Establishing Test Procedures For The Analysis Of Pollutants, 40 CFR part 136 (n.d.).
- U.S. Environmental Protection Agency. (2010). Method 1668C Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS.
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- U.S. Environmental Protection Agency. (2014). (rep.). Post Falls NPDES Permit.
- U.S. Environmental Protection Agency. (2016). The EPA's Partial Approval/Partial Disapproval of Washington's Human Health Water Quality Criteria and Implementation Tools Submitted on August 1, 2016.
- U.S. Environmental protection Agency. (2019). The EPA's Reversal of the November 15, 2016, Clean Water Act Section 303(c) Partial Disapproval of Washington's Human Health Water Quality Criteria.
- U.S. Environmental Protection Agency. CFR Title 40 Vol 24 Part 131.

APPENDICES

Appendix 3-A – 2024 NPDES Permit, Fact Sheet and Response to Public Comment

Appendix 3-B – Hydroelectric Operation and Flows

Appendix 3-C – History of PCBs In the Spokane River

Appendix 3-A

**2023 IPDES Permit,
2023 IPDES Permit Fact Sheet,
2023 IPDES Response to Public Comment**

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Issuance Date: 12/01/2023
Effective Date: 01/01/2024
Expiration Date: 12/31/2028
Permit Renewal
Application Due: 07/04/2028

Idaho Pollutant Discharge Elimination System Discharge Permit No. ID0025852

Idaho Department of Environmental Quality

Water Quality Division
IPDES Program
1410 N. Hilton
Boise, ID 83706

In compliance with the provisions of the State of Idaho Environmental Protection and Health Act Title 39, Chapter 1, "Rules Regulating the Idaho Pollutant Discharge Elimination System Program" (IDAPA 58.01.25) and the Federal Water Pollution Control Act (Clean Water Act) Title 33 United States Code, Section 1251 *et seq.*

City of Post Falls

is authorized to discharge in accordance with the permit conditions that follow.

Facility Location: 2002 W. Seltice Way Post Falls, ID 83854	Receiving Water: Spokane River	
Outfall Name: 001	Latitude: 47.709520	Longitude: -116.969420
Treatment Type: Secondary, Tertiary		



Mary Anne Nelson, PhD
Administrator, Surface and Wastewater Division

Submission Schedule

The following list contains a summary of some of the items the permittee must complete and/or submit to the Idaho Department of Environmental Quality (DEQ) during the term of this Idaho Pollutant Discharge Elimination System (IPDES) permit. Please refer to the permit sections for specific submittal requirements.

Permit Section	Submittal Item	Frequency	Initial Submittal Date
2.2.5	Notice of New Introduction of Toxic Pollutants	As required	--
2.2.7	24-Hour Notice of Noncompliance 1-833-473-3724 (IPDES24)	As required	--
2.2.8	5-Day Written Submission for Noncompliance	As required	--
3.3.3	Whole Effluent Toxicity (WET) test results	As required	--
2.2.3	Discharge Monitoring Report (DMR)	Monthly	02/20/2024
4.2.8	Annual Equivalent Dwelling Unit (EDU) Reporting	Yearly	05/31/2024
3.3.4	Initial Toxicity Reduction Evaluation (TRE) Strategy Notification	As required	06/01/2024
2.1.3	Biosolids Management Plan	As required	06/01/2024
4.1.1	Quality Assurance Project Plan (QAPP) Notification	As required	06/01/2024
4.1.2	Operation and Maintenance (O&M) Manual Notification	As required	06/01/2024
4.1.3	Emergency Response Plan Notification	As required	06/01/2024
3.5.1	Toxics Management Plan Annual Report	Annually	12/20/2023
3.5.2	Phosphorus Management Plan Annual Report	Annually	12/20/2023
3.7.1	Master List of Nondomestic Users	Annually	01/31/2024
3.7.8	Pretreatment Annual Report	Annually	01/31/2024
2.1.3	Biosolids Annual Report	Annually	02/19/2024
2.1.4	Receiving Water Monitoring Report	Annually	02/20/2024
2.2.2	Continuously Monitored Data Report (Influent and effluent only)	Once per permit cycle	07/04/2028
1.3	Mixing Zone Data Needs Form	Once per permit cycle	07/04/2028
4.2.2	Application for Permit Renewal	Once per permit cycle	07/04/2028

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1 Effluent Limits

1.1 Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants to Spokane River at the permitted location(s) in Table 1 subject to compliance with the limits shown in Table 2 and Table 3 and all other conditions of this permit. This permit authorizes discharge of only those pollutants from the specified outfalls resulting from facility processes, waste streams, and operations clearly identified in the permit application process.

Compliance with this permit during its term constitutes compliance, for purposes of enforcement, with Clean Water Act §§ 301, 302, 306, 307, 318, 403, and 405(a) through (b); except for any toxic effluent standards and prohibitions imposed under the Clean Water Act section 307, and standards for sewage sludge use or disposal under the Clean Water Act section 405(d).

The issuance of, or coverage under, this permit does not convey any property rights or any exclusive privilege, nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations (including but not limited to Water Quality Standards at IDAPA 58.01.02, 40 CFR 503 incorporated at IDAPA 58.01.25.003, Idaho Wastewater Rules found at IDAPA 58.01.16, and Recycled Water Rules found at IDAPA 58.01.17). The issuance of, or coverage under, this permit does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity, and does not excuse the permit holder from the obligation to obtain and comply with any other necessary approvals, authorizations, or permits.

1.2 Effluent Limits and Associated Monitoring Requirements

The permittee must operate the facility to limit pollutant discharges from Outfall 001 from Table 1 as described in Table 2 and Table 3 and meet all other permit conditions. The permittee must also monitor discharges at effluent monitoring locations described in Table 1 to verify compliance with the permit limits. The permittee must comply with the effluent limits in Table 2 and Table 3 at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table 1. Outfalls and monitoring site locations.

Site Name	Site Location	Site Description
Influent Monitoring Point	Influent Structure	Influent monitoring near the headworks.
Outfall 001	External Outfall	After the final treatment process and prior to discharge to the Spokane River.
Spokane River 001	Upstream receiving water, mid channel	PCB Upstream (CD3) Approximately 1.2 miles upstream of the Post Falls outfall, or at new location approved by DEQ.
Spokane River 002	Upstream receiving water	Conventional Upstream "Wave Park" Approximately 0.1 miles upstream of the Post Falls outfall, or at new location approved by DEQ .
Spokane River 003	Downstream receiving water	Conventional Downstream "Corbin Park" Approximately 1.5 miles downstream of the Post Falls outfall, or at new location approved by DEQ.
Spokane River 004	Downstream receiving water, mid channel	PCB Downstream (CD4) "Corbin Park" Approximately 1.5 miles downstream of the Post Falls outfall, or at new location approved by DEQ.

The permittee must report all effluent data results with units of measure and level of precision (and significant figures, when applicable) identified in section 1.2 and report effluent monitoring results on the appropriate DMR as described in section 2.2.3. For all effluent monitoring, the permittee must use sufficiently sensitive analytical methods that achieve a minimum level (ML) less than the effluent limit unless otherwise specified in Table 2.

This permit authorizes a compliance schedule for total phosphorus. Until compliance with the final effluent limits, at a minimum, the permittee must meet interim effluent limits and monitoring requirements in Table 3, report monitoring results on the appropriate DMR, and accomplish the tasks required in section 3.1.

Table 2. Pollutants with effluent limits and monitoring requirements for Outfall 001 from Table 1.

Parameter	Discharge Period	Units	Effluent Limits						Monitoring Requirements		
			Monthly Average	Weekly Average	Monthly Geometric Mean	Instantaneous Minimum	Instantaneous Maximum	Daily Maximum	Sample Type	Sample Frequency	Reporting Period ^a (DMR Months)
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	01/01 to 12/31	mg/L	25	40	—	—	—	—	24-hour composite ^a	1/week	Monthly
CBOD ₅ Percent Removal	01/01 to 12/31	%	85 (min.)	—	—	—	—	—	Calculation ^b	1/month	
CBOD ₅ (February - October)	02/01 to 10/31	lb/day	369	679	—	—	—	—	Calculation ^c	1/week	Monthly
			Seasonal Average Limit: 255 lb/day						Calculation ^c	1/year	Annually (October)
CBOD ₅ (November – January)	11/01 to 01/31	lb/day	1,086	1,738	—	—	—	—	Calculation ^c	1/week	Monthly
Total Suspended Solids (TSS)	01/01 to 12/31	mg/L	30	45	—	—	—	—	24-hour composite ^a	1/week	Monthly
		lb/day	1,303	1,955	—	—	—	—	Calculation ^c		
TSS Percent Removal	01/01 to 12/31	%	85 (min.)	—	—	—	—	—	Calculation ^b	1/month	
<i>E. coli</i> ^{d,e}	01/01 to 12/31	#/100 mL	—	—	126 ^f	—	406 ^g	—	Grab ^h	5/month	Monthly
Enterococci ^{d,e}	01/01 to 12/31	#/100 mL	—	—	35 ^f	—	130 ^g	—	Grab ^h	5/month	
pH	01/01 to 12/31	std. units (s.u.)	—	—	—	6.5	9.0	—	Grab ^h	5/week	Monthly

Table 2. Pollutants with effluent limits and monitoring requirements for Outfall 001 from Table 1.

Parameter	Discharge Period	Units	Effluent Limits						Monitoring Requirements		
			Monthly Average	Weekly Average	Monthly Geometric Mean	Instantaneous Minimum	Instantaneous Maximum	Daily Maximum	Sample Type	Sample Frequency	Reporting Period ^a (DMR Months)
Chlorine, total residual (July – September) ^{d,i}	07/01 to 09/30	µg/L	127	—	—	—	—	294	Grab ^h	2/day	Monthly
		lb/day	5.3	—	—	—	—	13.6	Calculation ^c	1/month	
Chlorine, total residual (October – June) ^{d,i}	10/01 to 06/30	µg/L	244	—	—	—	—	565	Grab ^h	2/day	Monthly
		lb/day	10.2	—	—	—	—	23.6	Calculation ^c	1/month	
Ammonia, total (as N) February – October	02/01 to 10/31	lb/day	Annual Average Limit: 255 lb/day						24-hour composite ^a Calculation ^c	1/week	Annually (October)
Phosphorus, total (as P), Final ^j February – October	02/01 to 10/31	lb/day	Annual Average Limit: 3.19 lb/day						24-hour composite ^a Calculation ^c	3/week	Annually (October)
Zinc, total ^d	01/01 to 12/31	µg/L	82.39	—	—	—	—	120.23	24-hour composite ^a	1/month	Monthly
		lb/day	3.58	—	—	—	—	5.22	Calculation ^c		

a. 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.

b. $\% \text{ Removal} = ([\text{Influent}](\text{mg/L}) - [\text{Effluent}](\text{mg/L})) / ([\text{Influent}](\text{mg/L})) \times 100\%$
 Braces “[]” indicate concentration of the attribute contained inside.

c. Calculation - means figured concurrently with the respective sample, using the following formula: Concentration (in mg/L) x Flow (in mgd) x Conversion Factor (8.34) = lb/day

- d. Exceedance of a maximum daily limit, instantaneous maximum limit, or instantaneous minimum limit, for this parameter requires 24-hour reporting in accordance with 2.2.7 of the permit.
- e. The permittee is required to monitor for and meet the applicable limits for *E. coli* or *Enterococci* but not both. The permittee must enter NODI Code "9" for DMR reporting for the parameter that is not monitored. If the permittee chooses to monitor for both parameters, the permittee must report both *E. coli* and *Enterococci* data for compliance with effluent limits in this permit.
- f. Geometric mean based on a minimum of five samples collected 3-11 days apart over a calendar month.
- g. Idaho's water quality standards for contact recreation for permitting (IDAPA 58.01.02.251.02.c) include a Statistical Threshold Value (STV), which is represented in the permit as an instantaneous maximum limit.
- h. A grab sample is an individual sample collected over a 15-minute period or less.
- i. Monitoring requirements and effluent limits for chlorine only apply if chlorine is used for disinfection during the reporting month. The permittee must enter NODI Code "9" for DMR reporting during months when chlorine is not used.
- j. This is a final effluent limit. The permit authorizes a compliance schedule. See permit section 3.1 for schedule conditions and the required date of compliance with the final effluent limit.

Table 3. Interim effluent limits for outfall 001.

Parameter	Interim Limit Period	Units	Effluent Limits		Monitoring Requirements		Reporting Period (DMR Months)
			Average Monthly	Weekly Average	Sample Type	Sample Frequency	
Phosphorus, total (as P) February –October	02/01 to 10/31	lb/day	40	87	24-hour composite ^a	3/week	Monthly
					Calculation ^b		

a. 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.

b. Calculation - means figured concurrently with the respective sample, using the following formula: Concentration (in mg/L) x Flow (in mgd) x Conversion Factor (8.34) = lb/day.

1.2.1 Seasonal Average Effluent Limits

The seasonal average limits for CBOD₅, total ammonia, and total phosphorus (TP) at Outfall 001 are as follows:

- The seasonal average CBOD₅ load must not exceed 255 lb/day.
- The permittee must monitor effluent CBOD₅ with 24-hour composite samples once per week at Outfall 001.
- The seasonal average total ammonia load must not exceed 255 lb/day.
- The permittee must monitor effluent total ammonia with 24-hour composite samples once per week at Outfall 001.
- The seasonal average TP load must not exceed 3.19 lb/day.
- The permittee must monitor effluent TP with 24-hour composite samples three times per week at Outfall 001.
- The seasonal average CBOD₅, total ammonia, and TP loads must be calculated as the sum of all daily loads measured during the February – October season, divided by the number of measurements during that period.

- The seasonal average CBOD₅, total ammonia, and TP loads must be reported on the October monitoring period DMR, submitted by November 20th.

1.2.2 Narrative Limits

The permittee's discharge must not result in floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated uses in the receiving water. The permittee's discharge must comply with all narrative criteria at IDAPA 58.01.02.200. The permittee must observe the effluent prior to discharge and at the vicinity of Outfall 001 once per week. The permittee must maintain a log of each observation that includes photos, date, time, and whether there is any floating, suspended, or submerged matter in the effluent or resulting from the discharge. The log must be retained onsite and made available to DEQ upon request.

1.3 Regulatory Mixing Zone

Pursuant to IDAPA 58.01.02.060, DEQ authorizes the mixing zones listed in Table 4.

Table 4. Authorized mixing zones for Outfall 001.

Parameter	Discharge Period	Authorized Mixing Zone (% of Critical Low Flow)	
		Aquatic Life	
		Acute (1Q10)	Chronic (7Q10)
Copper	Year-round	16% of 500 cfs	25% of 500 cfs
Silver	Year-round	3% of 500 cfs	—

This permit requires monitoring for copper and silver to ensure appropriateness of authorized mixing zones. Specific monitoring requirements are in section 2.1.2.

The permittee must submit a Mixing Zone Data Needs Form with the next permit renewal application, found in Appendix B of DEQ's *Idaho Mixing Zone Implementation Guidance* (DEQ 2017)(<https://www2.deq.idaho.gov/admin/LEIA/api/document/download/4832>).

2 Monitoring and Reporting Requirements

For all influent, effluent, and receiving water monitoring; the permittee must use sufficiently sensitive analytical methods:

- To detect and quantify the pollutant to a level of precision that is at or below the level of the applicable water quality criterion for parameters without effluent limits.
- For parameters that have effluent limits the method used must have an ML equal to or below the required limit. When a specific ML for any parameter is prescribed in permit section 2.1.6 the method used must be able to achieve an ML less than or equal to that which is specified.

- The permittee may request different MLs in writing, subject to DEQ approval.

All samples and measurements collected under this permit must be representative of the waste stream or receiving water at the monitoring point in Table 1. In order to verify that the effluent limits set forth in this permit are not violated, the permittee must collect additional samples at times other than when routine samples are taken at the appropriate outfall whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee must analyze the additional samples for those parameters likely to be present in the discharge and limited in section 1.2 of this permit in accordance with section 2.1.6. The permittee must collect such additional samples as soon as any spill, discharge, or bypassed effluent reaches an appropriate monitoring point. The permittee must report all additional monitoring in accordance with section 2.2.

All PCB congeners monitoring must be monitored using method EPA 1668c and must analyze for each of the 209 individual congeners.

PFAS monitoring must be conducted using the most recent draft method EPA 1633, until there is an analytical method in 40 CFR Part 136 for PFAS that is sufficient to yield representative data.

2.1 Monitoring Schedules and Requirements

The permittee must monitor in accordance with the requirements specified in this section.

2.1.1 Influent Monitoring

The permittee must monitor influent at Influent Monitoring Point identified in Table 1 and report results on the appropriate DMRs as listed in Table 5.

Table 5. Influent monitoring.

Item or Parameter	Monitoring Period	Units	Monthly Average	Daily Maximum	Sample Type	Sample Frequency	Reporting Frequency (DMR Months)
Flow	01/01 to 12/31	mgd	Report	Report	Recorded	Continuous ^{a,b}	Monthly
CBOD ₅	01/01 to 12/31	mg/L	Report	—	24-hr composite ^c	1/week	Monthly
TSS	01/01 to 12/31	mg/L	Report	—	24-hr composite ^c	1/week	Monthly
Polychlorinated Biphenyl (PCB), total ^d	01/01 to 12/31	pg/L	—	Report	24-hr composite ^c	1/quarter ^e	Quarterly ^f (May, August, November, February)
Per- and Polyfluoroalkyl Substances (PFAS) ^g	01/01 to 12/31	ng/L	—	Report	Grab ⁱ	1/quarter ^{e,h}	Quarterly ^f (May, August, November, February)

- Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
- DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.
- 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.
- The permittee must use EPA Method 1668c for analysis of samples for PCBs, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668 Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- Quarters are defined as: January 1-March 31; April 1-June 30; July 1-September 30; and October 1-December 31.

- f. PCB congener and PFAS data must be reported on the DMR occurring two months after the last month of quarter in which the sampling took place, and also included with the Toxics Management Practices Plan annual report required in section 3.6.
- g. The permittee must use EPA Draft Method 1633 for analysis of samples for PFAS until there is an analytical method in 40 CFR Part 136 for PFAS that is sufficient to yield representative data.
- h. Monitoring for PFAS is required for 2 years (8 quarters), beginning at the start of the first complete quarter in the third year of the permit term.
- i. A grab sample is an individual sample collected over a 15-minute period or less.

2.1.2 Additional Effluent Monitoring

Pollutants that must be monitored for averaging periods not associated with effluent limits are presented in Table 6. The permittee must monitor effluent at the location specified in Table 1 and report results on appropriate DMRs as identified in Table 6.

Table 6. Additional effluent monitoring for Outfall 001.

Parameter	Monitoring Period	Units	Monthly Average	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Flow	01/01 to 12/31	mgd	Report	Report	Continuous ^{a,b}	Recorded	Monthly
Temperature	01/01 to 12/31	°C	Report	Report	Continuous ^{a,b}	Recorded ^c	Monthly
Ammonia, total (as N)	01/01 to 12/31	mg/L	Report	Report	1/week	24-hour composite ^d	Monthly
		lb/day	Report	Report	1/month	Calculation ^e	
Phosphorus, total (as P)	01/01 to 12/31	mg/L	Report	Report	3/week	24-hour composite ^d	Monthly
		lb/day	Report	Report	1/month	Calculation ^e	
Orthophosphate (as P)	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Total Kjeldahl Nitrogen (TKN)	01/01 to 12/31	mg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Nitrate + Nitrite (as N)	01/01 to 12/31	mg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Lead, total	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Copper, total	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Cadmium, total	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Silver, total	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Alkalinity	01/01 to 12/31	mg/L as CaCO ₃	Report	Report	1/month	24-hour composite ^d	Monthly
Hardness	01/01 to 12/31	mg/L as CaCO ₃	Report	Report	1/month	24-hour composite ^d	Monthly

Table 6. Additional effluent monitoring for Outfall 001.

Parameter	Monitoring Period	Units	Monthly Average	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
PCB, total ^f	01/01 to 12/31	pg/L	—	Report	1/quarter ^g	24-hour composite ^d	Quarterly ^h (May, August, November, February)
TCDD	01/01 to 12/31	pg/L	—	Report	— ⁱ	24-hour composite ^d	^j
PFAS ^k	01/01 to 12/31	ng/L	—	Report	1/quarter ^{g,l}	Grab ^m	Quarterly ^h (May, August, November, February)

- a. Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
- b. DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.
- c. The permittee is required to record temperature data in the discharge pipe as close to the end of the pipe and before discharging as feasible.
- d. 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.
- e. Load (lb/day) = ([Pollutant] mg/L)*(corresponding flow in mgd)*(conversion factor of 8.34)
- f. The permittee must use EPA Method 1668c for analysis of samples for PCBs, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668 Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- g. Quarters are defined as: January-March; April-June; July-September; and October-December.
- h. PCB congener and PFAS monitoring data must be reported on the DMR two months after the last month of quarter in which the sampling took place, and also included with the Toxics Management Practices Plan annual report required in section 3.16.
- i. The monitoring schedule for TCDD must correspond to the monitoring for permit renewal effluent monitoring found in section 2.1.5.
- j. TCDD monitoring results must be included in Toxics Management Practices Plan annual report required in section 3.16.
- k. The permittee must use EPA Draft Method 1633 for analysis of samples for PFAS until there is an analytical method in 40 CFR Part 136 for PFAS that is sufficient to yield representative data.
- l. Monitoring for PFAS is required for 2 years (8 quarters), beginning at the start of the first complete quarter in the third year of the permit term.
- m. A grab sample is an individual sample collected over a 15-minute period or less.

2.1.3 Sewage Sludge Monitoring

The permittee must update and submit a sewage sludge management plan through the E-Permitting System for DEQ review by 06/01/2024. The plan must document how the facility monitors accumulation, removes, treats, and then disposes the material. DEQ will review the plan and determine whether the plan meets the requirements of IDAPA 58.01.16 and 40 CFR 503. If the plan meets the specified requirements, then DEQ will provide written approval. The permittee must either comply with an existing approved plan or delay disposal of sewage sludge until the proposed plan is approved.

Additionally, the permittee must submit a sludge annual report indicating the annual mass generated, stored, reused, and disposed. This report must be submitted through the IPDES E-Permitting System annually by 2/19. This must comply with the facility's approved sewage sludge management plan.

2.1.4 Receiving Water Monitoring

The permittee must conduct receiving water monitoring at the locations and dates in Table 7 for parameters identified for each site in Table 8 and Table 9. Monitoring must begin by the monitoring start dates listed in Table 7. Monitoring must meet the following requirements:

1. Results must be reported on the appropriate DMR as specified in Table 8 and Table 9.
2. A failure to obtain DEQ approval of receiving water monitoring stations does not relieve the permittee of the receiving water monitoring requirements of this permit.
3. To the extent practicable, receiving water sample collection must occur on the same day as effluent sample collection.
4. When flow monitoring is required in Table 8, the flow rate must be measured as near as practicable to the time that other ambient parameters are sampled.
5. Samples must be analyzed for the parameters listed in Table 8 and Table 9.
6. Quality assurance project plans (QAPPs) must address all receiving water monitoring.
7. Samples for metals, pH, ammonia, temperature, dissolved organic carbon, conductivity, and hardness, if applicable, must be collected on the same day (see Table 8 and Table 9).
8. The permittee must submit all receiving water monitoring results for the current permit year for all continuously recorded parameters in the receiving water monitoring report spreadsheet that is uploaded to the IPDES E-Permitting System by 02/20 each year beginning 2024 and continuing until a new permit is issued. The file must be in the format of one analytical result per row and include the following information: name and contact information of laboratory, sample identification number, sample location in latitude and longitude (decimal degrees format), method of location determination (e.g., GPS, survey), date and time of recording, water quality parameter (or characteristic being measured), analytical result, result unit, detection limit and

definition (e.g., method detection limit [MDL]), analytical method, date completed, and any applicable notes.

Table 7. Receiving water monitoring site start date requirements.

Receiving Water	Location	Location Approval Type	Site Name	Lat/ Long	Monitoring Start Date	Monitoring Duration
Spokane River	Upstream PCB	Designated location, or new location approved by DEQ	Spokane River 001	47.703392° -116.947342°	02/01/2024	For the duration of the permit
Spokane River	Upstream	Designated location, or new location approved by DEQ	Spokane River 002	47.710139° -116.967278°	02/01/2024	For the duration of the permit
Spokane River	Downstream	Designated location, or new location approved by DEQ	Spokane River 003	47.702333° -116.990000°	02/01/2024	For the duration of the permit
Spokane River	Downstream PCB	Designated location, or new location approved by DEQ	Spokane River 004	47.702150° -116.990015°	02/01/2024	For the duration of the permit

Table 8. Upstream receiving water monitoring requirements for Spokane River Upstream Monitoring Point.

Parameter	Monitoring Period	Units	Monthly Average	Instantaneous Minimum	Instantaneous Maximum	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Flow	01/01 to 12/31	cfs	Report	Report	—	—	Continuous ^{a,b,c}	Recorded	— ^d
Temperature	01/01 to 12/31	°C	—	—	Report	Report	Continuous ^{a,c}	Recorded ^{e,f}	— ^d
pH	01/01 to 12/31	s.u.	—	Report	Report	—	1/month	Grab ^g	Monthly
CBOD ₅	01/01 to 12/31	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Ammonia, total (as N)	01/01 to 12/31	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Phosphorus, total (as P)	01/01 to 12/31	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Orthophosphate (as P)	01/01 to 12/31	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Nitrate + Nitrite (as N)	01/01 to 12/31	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Dissolved Oxygen	01/01 to 12/31	mg/L	Report	Report	—	—	1/month	Grab ^g	Monthly
Chlorophyll a	01/01 to 12/31	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Lead, dissolved	01/01 to 12/31	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Zinc, dissolved	01/01 to 12/31	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Copper, dissolved	01/01 to 12/31	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly

Hardness, total as CaCO ₃	01/01 to 12/31	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
PCB, total ^h	01/01 to 12/31	pg/L	—	—	—	Report	2/year ⁱ	Grab ^g	— ^d

- a. Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
- b. If the USGS continues to monitor at station 12419000, the permittee may use that data and must report the average monthly and instantaneous minimum flow for compliance. If the USGS monitoring is discontinued, representative flow monitoring data must be sourced from another approved source or collected by the permittee.
- c. DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.
- d. Continuous flow monitoring, continuous temperature monitoring, and PCB data must be reported in the Receiving Water Monitoring annual report required in 2.1.4 (bullet 8). Include individual daily data values available at the time of annual report development, with provisional data indicated.
- e. Continuous monitoring of temperature is not required until 06/01/2024.
- f. Temperature data must be recorded using DEQ-approved temperature monitoring devices set to record at one-hour or more frequent intervals. DEQ's Protocol for Placement and Retrieval of Temperature Data Loggers contains protocols for continuous temperature sampling. This document is available online at: <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/15037>. Report the following temperature monitoring data on the DMR: maximum daily average and maximum daily.
- g. A grab sample is an individual sample collected over a 15-minute period or less.
- h. The permittee must use EPA Method 1668 for analysis of receiving water samples for PCBs, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668 Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- i. The permittee must sample the receiving water at least once during the season of January 1 – June 30 and at least once during the season of July 1 – December 31, and maintain at least 60 days between sampling events.

Table 9. Downstream receiving water monitoring requirements for Spokane River Down Stream Monitoring Point.

Parameter	Monitoring Period	Units	Monthly Average	Instantaneous Minimum	Instantaneous Maximum	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Temperature	01/01 to 12/31	°C	—	—	Report	Report	Continuous ^{a,b}	Recorded ^c	— ^d
Dissolved Oxygen	01/01 to 12/31	mg/L	Report	Report	—	—	1/month	Grab ^e	Monthly (All Months)
Chlorophyll a	01/01 to 12/31	µg/L	Report	Report	—	—	1/month	Grab ^e	Monthly (All Months)
pH ^f	01/01 to 12/31	s.u.	—	Report	Report	—	1/month	Grab ^{e,g,h}	Monthly (All Months)
Dissolved Calcium (Ca ²⁺) ^f	01/01 to 12/31	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Magnesium (Mg ²⁺) ^f	01/01 to 12/31	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Sodium (Na ⁺) ^f	01/01 to 12/31	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Potassium (K ⁺) ^f	01/01 to 12/31	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Copper ^f	01/01 to 12/31	ug/L	Report	—	—	Report	1/month	Grab ^e	Monthly (All Months)
Sulfate (SO ₄ ⁻) ^f	01/01 to 12/31	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Chloride (Cl ⁻) ^f	01/01 to 12/31	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)

Alkalinity ^f	01/01 to 12/31	mg/L as CaCO ₃	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Organic Carbon ^f	01/01 to 12/31	mg C/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
PCB, total ⁱ	01/01 to 12/31	pg/L	—	—	Report	—	2/year ^j	Grab ^e	— ^d

- a. Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 60 minutes.
- b. DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.
- c. Continuous temperature monitoring must begin 06/01/2024.
- d. Continuous flow monitoring, continuous temperature monitoring, and PCB data must be reported in the Receiving Water Monitoring annual report required in 2.1.4 (bullet 8). Include individual daily data values available at the time of annual report development.
- e. Grab means an individual sample collected over a 15 minute period or less.
- f. All monitoring for copper BLM development is required for two years beginning 06/01/2026.
- g. The permittee may choose to collect pH data using a recording device or grab sample. The recording device must be set to record at one-hour or more frequent intervals for a 24-hour period, once per month. pH grab samples must be taken between 5 a.m. and 8 a.m. on the same day as sample collection of other downstream receiving water parameters.
- h. pH must be analyzed within 15 minutes of sample collection.
- i. The permittee must use EPA Method 1668 for analysis of receiving water samples for PCBs, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668 Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- j. The permittee must sample the receiving water at least once during the season of January 1 – June 30 and at least once during the season of July 1 – December 31, and maintain at least 60 days between sampling events.

Downstream receiving water monitoring is required to adequately implement the copper biotic ligand model (BLM). Parameters in Table 9 must be sampled using the frequency and methodology requirements indicated in *Implementation Guidance for the Idaho Copper Criteria for Aquatic Life Using the Biotic Ligand Model* (DEQ 2017)

2.1.4.1 Receiving Water Continuous Monitoring

The permittee must collect continuously recorded data for pollutants that have a sample frequency of 'continuous' in the receiving water monitoring table(s) above. Data collection must meet the following minimum requirements:

1. Monitoring in the receiving water must be adequately addressed in the QAPP.
2. Begin monitoring on or before the specified start listed in Table 7 for each receiving water monitoring site.
3. Continuous receiving water temperature monitoring is required to begin 06/01/2024.
4. Recording devices must be set to record at the specified interval in the receiving water monitoring requirements in Table 8 and Table 9 above.
5. Submitted continuous monitoring data must include the following information for both deployment and retrieval:
 - a. Date
 - b. Time
 - c. Device manufacturer ID
 - d. Location
 - e. Depth
 - f. Parameter measured
 - g. Any other details that may explain data anomalies
6. DEQ-approved temperature monitoring devices must be used. DEQ's *Protocol for Placement and Retrieval of Temperature Data Loggers* contains protocols for continuous temperature sampling. This document is available online at <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/15037>

2.1.5 Permit Renewal Effluent Monitoring

The renewal application for this permit requires data collection to characterize the effect of the effluent on Spokane River (section 2.1.4). The permittee must collect samples of the final wastewater effluent for the parameters listed in Table 10, Table 11, and Table 12 so that DEQ can assess the surface water impacts. For parameters requiring a 24-hour composite sample, only one analysis of the composite of aliquots (samples) is required for each sample. All 24-hour composite samples collected for permit renewal monitoring must be flow-based and composed of eight aliquots (samples). Monitoring results collected to achieve other permit conditions may be used to meet permit renewal effluent monitoring requirements. The permittee must include any representative data collected to achieve other permit conditions and enter summary data in their permit renewal application.

The permittee must also upload a permit renewal effluent individual sample results spreadsheet to the IPDES E-Permitting System by 07/04/2028.

The permittee must conduct sampling of the final effluent according to the following schedule:

- 2025: 3rd Quarter (July 1—September 30)
- 2026: 4th Quarter (October 1- December 31)
- 2028: 1st Quarter (January 1—March 31)

In addition, the permittee must continue permit renewal effluent monitoring at a frequency of once every fifth quarter after the last sampling event listed in the schedule above until a new permit is issued.

Table 10. Effluent testing required for all permit renewals.

Parameter	Units	Sample Type ^a	Report
pH	s.u.	Grab	Minimum and maximum value
Flow	mgd	Recorded	Maximum daily value, average daily value, number of samples
Temperature	°C	Recorded	
CBOD ₅	mg/L	24-hour composite	Maximum daily value, average daily value, analytical method and ML or MDL
TSS	mg/L	24-hour composite	
<i>E. coli</i>	#/100 mL	Grab	

- a. Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

The facility has a design flow greater than or equal to 0.1 mgd and must also conduct three sampling events of effluent testing for the parameters in Table 11.

Table 11. Effluent testing required for permit renewals of facilities with flow greater than or equal to 0.1 mgd.

Parameter	Units	Sample Type ^a	Report
Ammonia, Total as N	mg/L	24-hour composite	Maximum daily value, average daily value, analytical method and ML or MDL ^a
Total residual chlorine ^b	mg/L	Grab	
Dissolved oxygen	mg/L	Grab	
Total Kjeldahl nitrogen	mg/L as N	24-hour composite	
Nitrate plus nitrite	mg/L as N	24-hour composite	
Oil and grease	mg/L	Grab	
Phosphorus, Total as P	mg/L	24-hour composite	
Total dissolved solids	mg/L	24-hour composite	

- a. Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).
- b. Facilities that do not use chlorine for disinfection, do not use chlorine elsewhere in the treatment process, and have no reasonable potential to discharge chlorine in their effluent are not required to report data for chlorine.

The facility has a design flow greater than or equal to 1 mgd or an approved pretreatment program and must also conduct three sampling events of expanded effluent testing for the

parameters in Table 12. The complete listing for metals, volatile organic compounds, acid extractable compounds, and base neutral compounds is in 40 CFR 122, Appendix J, Table 2.

Table 12. Expanded effluent testing required for permit renewal of facilities with flow greater than or equal to 1 mgd or an approved pretreatment program.

Parameter	Units	Sample Type Type ^a	Report
Metals (total recoverable)	µg/L	24-hour composite	Units, maximum daily value, average daily value, analytical method and ML or MDL
Cyanide, Weak Acid Dissociable (WAD)	µg/L	Grab	
Mercury (total recoverable)	µg/L	24-hour composite	
Total Phenols	µg/L	Grab	
Hardness (as CaCO ₃)	mg/L	24-hour composite	
Volatile organic compounds	µg/L	Grab	
Acid-extractable compounds	µg/L	24-hour composite	
Base-neutral compounds	µg/L	24-hour composite	

- a. Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

2.1.6 Analytical and Sampling Procedures

Required monitoring must be completed using sufficiently sensitive methods and conducted according to test procedures approved under 40 CFR 136, unless:

- Another method is required under 40 CFR subchapters N or O; or
- This permit requires the use of a specific EPA approved method for a particular parameter.

For parameters with effluent limits, the permittee must use methods that can achieve a minimum level (ML) less than the current applicable effluent limit. For parameters that do not have effluent limits, or have effluent limits that are less than the most sensitive 40 CFR 136 approved method, and DEQ has not specified a ML in Table 13 for that parameter, the permittee must use sufficiently sensitive methods.

Table 13 lists the maximum ML for specified parameters. The permittee may request different MLs. The request must be in writing and must be approved by DEQ. If the permittee is unable to attain the required ML in its effluent due to matrix effects, the permittee must submit a matrix-specific detection limit and a ML to DEQ with appropriate laboratory documentation.

Table 13. Required minimum levels for applicable parameters.

Parameter	Units	Minimum Level
Chlorine, Total Residual	µg/L	50

Laboratory Quality Assurance and Quality Control

The permittee must develop and implement a QAPP that conforms to the quality assurance and quality control requirements of 40 CFR 136.7. The requirements for a QAPP are in section 4.1.1 of this permit.

If a sample or measurement (analysis) does not meet the QAPP requirements, the permittee must reanalyze the sample. If the original sample cannot be reanalyzed, the permittee must resample and analyze at the earliest possible opportunity. All samples/measurements results not meeting the QAPP requirements must still be maintained by the permittee along with a notation (data qualifier) and explanation of unmet QAPP requirements. The permittee must not use this result in any calculation required by this permit unless authorized by the DEQ.

2.2 Recording and Reporting Requirements

The permittee must record and report information to DEQ as specified in the following subsections.

2.2.1 Recording of Results

For each measurement or sample taken, the permittee must record the following information:

1. The date, exact place, and time of sampling or measurements
2. The names of the individuals who performed the sampling or measurements
3. The dates analyses were performed
4. The names of the individuals who performed the analyses
5. The analytical techniques or methods used
6. The results of all analyses (including all QA/QC analyses required of the analytical method used)
7. The record of the information collected in 1 - 6 of this section must be maintained and made available to DEQ upon request.

2.2.2 Reporting Procedures

1. If the permittee did not discharge wastewater, the permittee must enter the no data indicator (NODI) code "C" that indicates no discharge for the outfall DMR during a given reporting period. Receiving water monitoring and reporting may be required during months with no effluent discharge.
2. If the permittee did not discharge wastewater for all days of a reporting period:
 - a. Calculate values using the actual number of samples collected and include a comment on the DMR indicating the shortened discharge time and sample results obtained.
 - b. When the days with discharge are insufficient to calculate a geometric mean for *E. coli* according to IDAPA 58.01.02.251, the permittee must enter the NODI

Code “F” (that indicates insufficient flow for sampling and include collected sample values in a comment on the reporting period DMR.

3. For parameters continuously monitored in the effluent, influent, and receiving water, the permittee must submit all monitoring results and sample collection dates electronically in an Excel spreadsheet through the IPDES E-Permitting System concurrently with the permit renewal application, unless annual reports are required to be submitted in this permit. The file must be in the format of one analytical result per row and include the following information, when applicable:
 - Name and contact information of laboratory
 - Sample identification number
 - Sample location in latitude and longitude (decimal degrees format)
 - Method of location determination (e.g., GPS, survey)
 - Date and time of sample collection
 - Water quality parameter (or characteristic being measured)
 - Analytical result
 - Result unit
 - Detection limit and definition (e.g., method detection limit [MDL])
 - Analytical method
 - Date completed
 - Any applicable notes
4. The permittee must report, at least, the same level of precision (and significant figures, when applicable) as the permit limit for a given parameter. Level of precision of a permit limit refers to the place value of the last significant digit in the permit limit for a given parameter. Regardless of the rounding conventions used by the permittee, the permittee must use the conventions consistently.
5. To calculate average pollutant concentrations, assign zero for each individual lab result that is less than the MDL, and use the numeric value of the MDL for each individual lab result that is between the MDL and the ML. When concentration data are equal to or greater than the ML, use the laboratory reported value to calculate the average pollutant concentration. The resulting average value must be compared to the permit limit in assessing compliance.
6. For reporting on the DMR for a single sample or average concentration, if a value is less than the MDL, the permittee must report “< {numeric value of the MDL}.” If a value is less than the ML but greater than the MDL, the permittee must report “< {numeric value of the ML}.” If a value is equal to or greater than the ML, report and use the actual value. For example, if the MDL is 1.0 µg/L and the result is ND (not detected), report “<1.0 µg/L” on the DMR.
7. To calculate the geometric mean pollutant concentration when an individual result is reported as:
 - a. ‘< {numeric value}’, use the {numeric value} to calculate the geometric mean concentration. On the DMR, the permittee must report the geometric mean as ‘< {calculated geometric mean}’.

- b. ' $\{ \text{numeric value} \}$ ', use the $\{ \text{numeric value} \}$ to calculate the geometric mean concentration. On the DMR, the permittee must report the geometric mean as ' $\{ \text{calculated geometric mean} \}$ '.
 - c. If there are individual results ' $\{ \text{numeric value} \}$ ' and ' $\{ \text{numeric value} \}$ ', on the DMR the permittee must report the geometric mean as ' $\{ \text{calculated geometric mean} \}$ '.
8. The permittee must calculate mass loads on each day the parameter is monitored using the following equation:

$$\text{Flow (mgd)} * \text{Concentration} \left(\frac{\text{mg}}{\text{L}} \right) * 8.34 \left(\frac{\text{lb} * \text{L}}{\text{mg} * \text{MG}} \right) = \text{lb per day}$$

Calculating and reporting mass loads must consider the following:

- a. When concentration data are greater than or equal to the MDL but less than the ML: Use the ML to calculate the mass load, then report as less than ($<$) the calculated mass load. For example, if flow is 2 mgd and the reported sample result is <0.0050 mg/L (<5.0 $\mu\text{g/L}$), for mass load on the DMR: $2 \text{ mgd} * 0.0050 \text{ mg/L} * 8.34$ (conversion factor) = 0.0834 lb/day, round to 0.08 lb/day), and report " <0.08 lb/day."
 - b. For reporting the load on the DMR for a single sample when concentration data are less than the MDL: Use '0' to calculate the mass load, then report the mass load as '0'.
 - c. For reporting the load on the DMR for multiple samples when at least one sample is $>$ MDL, but concentration data are less than the MDL for one or more individual results: Use 0 as the concentration to calculate the mass load for any individual result $<$ MDL. Add all individual loads and divide by the number of calculated loads, then report the calculated mass load. For example, for these measured flows and concentrations:
 - 2.0 mgd and <0.010 mg/L
 - 2.1 mgd and 0.03 mg/L
 - 2.2 mgd and 0.01 mg/L
 Calculate average mass: $((2.0 \text{ mgd} \times 0 \text{ mg/L}) + (2.1 \text{ mgd} \times 0.030 \text{ mg/L}) + (2.2 \text{ mgd} \times 0.010 \text{ mg/L})) / 3 \times 8.34 = 0.2363$ (lb/day). Round the result and report 0.24 lb/day.
 - d. To report a "daily maximum" load, use the day's parameter concentration and the corresponding day's average flow in equation from item #6 above. Compare each day's calculation and report the maximum of the daily loads for the month. The maximum daily load reported may not necessarily occur on the same day as the maximum daily parameter concentration.
9. To calculate monthly averages, add all individual lab results or calculated mass loadings, adjusted as necessary per section 2.2.2, item 4 or 6, for the entire calendar month being reported and divide by the number of analytical results.

10. To calculate weekly averages, add all individual results for each week (Sunday-Saturday per 2.2.2 item 3 or item 6) and divide by the number of samples in the calendar week. Partial weeks at the end of a calendar month (one to six days) must be included in the following month's weekly average calculation. Assess the resulting averages and report the maximum value for the reporting period.
11. The reported minimum daily value on the DMR is the smallest individual result for the reporting period.
12. The reported maximum daily value on the DMR is the largest individual result for the reporting period.
13. The mean weekly maximum temperature (MWMT) is the mean of the daily maximum temperatures measured over a period of seven consecutive days (Sunday-Saturday). The reported value on the DMR is the maximum of these calculated seven-day values for the reporting period.

2.2.3 Discharge Monitoring Report

NetDMR Submittal—The permittee must submit influent, effluent and receiving water monitoring data electronically using NetDMR, an EPA web-based tool that allows permittees to electronically submit DMRs. All other reports must be submitted electronically to DEQ through the IPDES E-Permitting System.

Monitoring data must be submitted electronically using NetDMR no later than the 20th of the month following the completed reporting period. All other reports required under this permit must be submitted as a legible electronic document using the IPDES E-Permitting System. The permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of section 4.2.11.

2.2.4 Permit Submittals and Schedules

The permittee must use the IPDES E-Permitting System (unless otherwise specified in the permit) to submit all other written reports by the date specified in the permit.

2.2.5 Notice of New Introduction of Toxic Pollutants

The permittee must provide adequate notice per IDAPA 58.01.25.301.02 to DEQ through the IPDES E-Permitting system as soon as the permittee becomes aware of the following:

1. Any new introduction of pollutants into the POTW from an industrial user or other indirect discharger that would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants.
2. Any substantial change in the volume or character of pollutants being introduced into the POTW by an authorized source at the time of issuance of the permit.

For the purposes of this section, adequate notice must include the following:

1. The quality and quantity of effluent to be introduced into the POTW;

2. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW; and
3. Any anticipated impact of the change on the quantity or quality of sewage sludge accumulated at the POTW.

2.2.6 Elective Monitoring by Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the permittee must include the results of this monitoring in the calculation and reporting of data submitted in the DMR. If requested by DEQ, the permittee must submit results of any sampling, regardless of the parameter monitored or test method used.

2.2.7 24-Hour Notice of Noncompliance Reporting

The permittee must report the following occurrences of noncompliance by telephone within 24 hours of the time the permittee becomes aware of the circumstances:

1. Any noncompliance that may endanger public health or the environment;
2. Any unanticipated bypass which exceeds any permit effluent limit;
3. Any upset which exceeds any permit effluent limit;
4. Any violation of a maximum daily effluent limit for toxic pollutants identified in Table 2; or
5. Any overflow prior to the treatment works over which the permittee has ownership or operational control; or an overflow from a contributing collection system that affected or was affected by the permittee's operation or infrastructure. An overflow is any spill, release, or diversion of municipal sewage including:
 - a. An overflow that results in a discharge to waters of the United States; or
 - b. An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a building service line), or discharged to the soil's surface that does not reach waters of the United States.

The permittee must report these occurrences to DEQ at 1-833 IPDES24 (473-3724) or speak directly with the regional IPDES compliance officer.

Additionally, for any sanitary sewer overflow (SSO) that discharges to a municipal separate storm sewer system (MS4), the permittee must notify the appropriate MS4 owner or operator.

2.2.8 5-Day Written Submission for Noncompliance

For any event requiring 24-hour notification as specified in section 2.2.7, the permittee must provide a written submission within 5 days of the time the permittee becomes aware of an event. Computation of the 5-day period must comply with the computation of time in IDAPA 58.01.25.050.

The submission must contain:

1. A description of the noncompliance and its cause;
2. The period of noncompliance, including exact dates and times to the extent such information is available;
3. The estimated time noncompliance is expected to continue if it has not been corrected; and
4. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

Five-day written reports must be submitted through the IPDES E-Permitting System.

When the occurrence is a noncompliance event that may endanger human health or the environment, an unanticipated bypass, an upset, or an overflow, the permittee must complete and submit the 5-day Written Report form through the IPDES E-Permitting System within 5 days of the time the permittee becomes aware of the event.

2.2.9 Other Noncompliance Reporting

The permittee must report all instances of noncompliance not required to be reported under 2.2.7 or 2.2.8 concurrently with the DMR submittal and must be submitted through the IPDES E-Permitting System. The permittee must immediately take action to stop, contain, and clean up unauthorized discharges or otherwise stop the noncompliance and correct the problem.

2.3 Permit Renewal

Submit permit renewal application including required monitoring data in Section 2.1.5 through the IPDES E-Permitting System as required in section 4.2.2.

If the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to DEQ, it must submit the correct facts or information promptly as required in IDAPA 58.01.25.300.12.h.

3 Special Conditions

3.1 Compliance Schedule

The permittee must comply with all effluent limits and monitoring requirements identified in this permit beginning on the effective date of this permit, except those for which a compliance schedule is hereby authorized. The permittee cannot immediately achieve effluent limits for the pollutant(s) identified in this section upon issuance of this permit. DEQ is authorizing a compliance schedule for these permit conditions consistent with IDAPA 58.01.25.305. Until compliance with the final effluent limits is achieved, at a minimum, the permittee must meet

interim effluent limits in Table 3, and complete the tasks and reports listed in Table 14. There is no penalty for completing tasks or submitting deliverables in advance of the due dates.

3.1.1 Total Phosphorus

The permittee must achieve compliance with the final effluent limits for total phosphorus as set forth in Table 2 of this permit no later than 11/30/2025.

Table 14. Tasks required under the compliance schedule for total phosphorus.

Task Number	2014 Permit Due Dates	New Due Dates	Task Activity
1	11/30/2022	03/29/2024	Complete Required Work or On-Site Construction The permittee must submit written notice that treatment improvement construction is substantially complete. Deliverable: The permittee must submit written notice through the IPDES E-Permitting System that treatment improvement project construction has been substantially completed.
2	11/30/2024	11/30/2025	Comply With Permit Limits The permittee must begin complying with final phosphorus limit in permit. Deliverable: The permittee must provide DEQ through the IPDES E-Permitting system with written notice that the facility has achieved compliance with the final effluent limits.

Written notice of compliance or noncompliance with each scheduled task must be submitted through the IPDES E-Permitting System within 14 days following each task due date in the Table 14.

3.2 Facility Capacity

NA

3.3 Whole Effluent Toxicity Testing

3.3.1 Sample Frequency, Test Species, and Methods

The permittee must conduct effluent monitoring at Outfall 001 for chronic toxicity using the species, sample method, frequency, and sample type identified in Table 15.

For annual WET testing, the schedule is defined as follows:

- 2024: 1st Quarter (January 1—March 31)
- 2025: 2nd Quarter (April 1—June 30)
- 2026: 3rd Quarter (July 1—September 30)
- 2027: 4th Quarter (October 1—December 31)

Fifth calendar year and thereafter: repeat rotating quarterly schedule (every 5th quarter), starting with annual testing during 1st quarter.

A split of each WET sample collected must be analyzed for the chemical and physical parameters required in section 1.2 and section 2.1.2, using the approved analytical methods of 40 CFR 136 or other approved methods. These samples can be used to satisfy the required sampling in those permit sections. For parameters for which grab samples are required, grab samples must be taken during the same period as the chronic toxicity sample used for the toxicity tests.

The permittee must follow all test procedure requirements and recommendations in EPA/821-R-02-013 and the most recent promulgated method for each required species unless otherwise specified in this permit. The toxicity testing on each organism must include a series of five test dilutions and a control. The dilution series must include 100%, 50%, 25%, 1.6%, and 0.8% effluent.

Table 15. Whole effluent toxicity (WET) testing and accelerated testing trigger values.

Test Type	Monitoring Period	Units	Species	WET Test Method No.	Sample Type	Sample Frequency	Test Endpoints	Toxicity Trigger (TU _c)	Report	Reporting Period (DMR Months)
Chronic Static Renewal	01/01 to 12/31	TU _c	<i>Pimephales promelas</i> (Fathead minnow)	1000.0 ^a	24-hr composite ^{b,c}	annually	IC25	16.5 ^{d,e}	Monthly Average, Daily Maximum	Quarterly ^{f,g} (May, August, November, February)
Chronic Static Renewal	01/01 to 12/31	TU _c	<i>Ceriodaphnia dubia</i> (Water flea)	1002.0 ^a	24-hr composite ^{b,c}	annually	IC25	16.5 ^{d,e}	Monthly Average, Daily Maximum	Quarterly ^{f,g} (May, August, November, February)

- Use of most recent promulgated WET test method from 40 CFR 136.3 is required.
- 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.
- Samples for monitoring required in section 1.2 and section 2.1.2 of this permit must be taken concurrently with the initiation of WET sample collection and can be used to satisfy the required sampling in those sections.
- If toxicity is detected above the toxicity trigger in this table, the permittee must begin accelerated testing and evaluate the cause of toxicity as described in sections 3.3.5 and 3.3.6.
- Exceedance of the toxicity trigger requires 24-hour and 5-day reporting in accordance with 2.2.7 and 2.2.8.
- The permittee must monitor WET on a rotating quarterly schedule as described in permit section 3.3.1. The permittee must enter NODI Code "9" for DMR reporting during quarters when WET is not required.
- See Part IV for additional requirements for reporting Whole Effluent Toxicity (WET). Complete all fields in the DMR. Submit a lab report through the IPDES E-Permitting System that follows the report preparation instructions in Section 12 of EPA-821-R-02-013, or most recent guidance.

3.3.2 Quality Assurance

All quality assurance criteria and statistical analyses used for WET tests and reference toxicant tests must be in accordance with Section 10 of EPA/821-R-02-013 and individual test protocols. If either the reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the 40 CFR Part 136.3 approved WET methods, then the test is invalid. The permittee must re-sample and re-test within 14 days of receipt of the invalid test results. The re-sampling and re-testing requirements include laboratory induced error in performing the test method.

In addition to those quality assurance measures specified in the methodology, the following quality assurance procedures must be followed:

- Unless the samples are used in an on-site toxicity test the day of collection (or hand delivered to the testing laboratory for use on the day of collection), the samples must be held at $0^{\circ}\text{C} < T \leq 6^{\circ}\text{C}$ until used to inhibit microbial degradation, chemical transformations, and loss of highly volatile toxic substances.
- The holding time from sample collection to first use of each sample must not exceed 36 hours.
- If organisms are not cultured in-house, concurrent testing with reference toxicants must be conducted. If organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests must be conducted using the same test conditions as the effluent toxicity tests.
- If either the reference toxicant tests or effluent tests do not meet all test acceptability criteria as specified in the test methods manual, the permittee must re-sample and re-test within 14 calendar days of receipt of the test results.
- Water used in the control and dilution series must be lab water with equivalent hardness to receiving water, as described in the test methods manual. If the dilution water used is different than water used for culture, the permittee must include a second control (using culture water). In no case shall water that has not met test acceptability criteria be used for either dilution or control.

The chronic reference toxicant and effluent tests must meet the upper and lower bounds on test sensitivity as determined by calculating the percent minimum significant difference (PMSD) for No Observed Effect Concentration (NOEC) hypothesis test results. The test sensitivity bound is specified for each chronic test method (see Section 10, Table 6 in EPA/821-R-02-013). There are five possible outcomes based on the PMSD result.

- Unqualified Pass- The test's PMSD is within bounds and there is no significant difference between the means for the control and the effluent and indicates there is no toxicity.
- Unqualified Fail- The test's PMSD is larger than the lower bound (but not greater than the upper bound) and there is a significant difference between the means for the control and the effluent and indicates there is toxicity.

- No Significant Difference in Test Controls – The test’s PMSD exceeds the upper bound and there is no significant difference between the means for the control and the effluent. The test is considered invalid. An effluent sample must be collected and another toxicity test must be conducted within 14 days of receipt of the test results.
- Significant Difference in Test Controls – The test’s PMSD exceeds the upper and there is a significant difference between the means for the control and the effluent. The test is considered valid and indicates there is toxicity.
- Very Small but Significant Difference- The relative difference between the means for the control and effluent is smaller than the lower bound and this difference is statistically significant. The test is acceptable and the NOEC should be determined.

3.3.3 Reporting

The permittee must submit the IC25 TU_c results of all toxicity tests that meet quality assurance criteria in section 3.3.2, including accelerated tests required in section 3.3.5, on the DMR specified in Table 15.

Exceedance of a toxicity trigger or maximum daily effluent limit requires 24-hour and 5-day reporting in accordance with 2.2.7 and 2.2.8.

In addition, the permittee must submit each laboratory report and all associated QA/QC information through the IPDES E-Permitting System within 30 days of receipt. The required report elements include: testing methods, QA/QC requirements, data analysis, report preparation and test review procedures and the NOAEC or NOEC, LOEC, IC25, and LC50 results for each test. They are outlined in each WET test method and in Sections 9 and 10, of EPA/821-R-02-013 or Section 11 and 12 of EPA/821-R-02-012. Use of the most recent promulgated test method is required. The permittee must collect WET effluent samples concurrently with monitoring required in section 1.2 and 2.1.2.

For each test endpoint report the result of the ratio. Net DMR allows for ratio or toxicity units depending on the species, test type, and test endpoint. DEQ considers ratio and TU values the same because the equations below calculate TU_a or TU_c as the ratio of 100 over the endpoint.

Chronic toxicity test results must be reported as ratios in TU_c (chronic toxic units), where:

$$TU_c = \frac{100}{IC25}$$

IC25 is the 25% inhibition concentration. The IC25 is a point estimate of the toxicant concentration, expressed in percent effluent, that causes a 25% reduction in in mean young per female or in growth for the test population.

All valid toxicity tests for each species during the annual monitoring period, including those required by section 3.3.5, must be included in DMR and IPDES E-Permitting System reporting.

For each test species and specific endpoint, all calculated TU_c values from whole effluent toxicity testing including accelerated tests are summed and then divided by the number of chronic toxicity endpoint values. The resulting chronic toxicity, in TU_c , is reported on the DMR as the Monthly Average Value for that species and endpoint. The highest chronic toxicity value, in TU_c , calculated from any required species and endpoint in Table 15. is reported on the DMR as the Daily Maximum Value for that species.

If the laboratory determines a test result is anomalous, the permittee should contact the assigned IPDES compliance officer to determine whether changes are appropriate for the accelerated test schedule. If a permittee/lab presents DEQ with an anomalous result, and DEQ agrees, the permittee could retest. If that retest result is less than the TU_c value in section 3.3.5 DEQ will respond in writing that the permittee does not have to proceed with accelerated testing. Until DEQ notifies the permittee in writing that the changes are appropriate, the permittee must maintain the accelerated test schedule.

3.3.4 Preparation of Initial Toxicity Reduction Evaluation Strategy

The permittee must submit a copy of the permittee's initial Toxicity Reduction Evaluation (TRE) strategy through the IPDES E-Permitting System by 06/01/2024.

This strategy must describe the steps the permittee intends to follow in the event toxicity is detected at levels greater than the trigger in section 3.3.5 and must include at a minimum the following:

- A description of the investigation and evaluation techniques that would be used to identify potential causes/sources of toxicity, effluent variability, treatment system efficiency
- A description of the facility's method of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in operation of the facility
- If a toxicity identification evaluation (TIE) is necessary, who will conduct it (i.e., in-house or other)

3.3.5 Accelerated Testing

The permittee must implement accelerated testing and the initial TRE strategy if toxicity is detected above the toxicity trigger in any test.

The Outfall 001 toxicity trigger is:

16.5 value TU_c year round

Accelerated testing requires the permittee to conduct four more tests, Testing must occur biweekly (every 2 weeks), over an 8-week period. Testing shall commence within 10 calendar days of receipt of the sample results of the exceedance.

If any accelerated test exceeds the permit toxicity trigger, the permittee must submit 24-hour and 5-day notification through the IPDES E-permitting System according to permit section 2.2.7 and 2.2.8. The notification must include the following information:

- A status report on any actions required by the permit, with a schedule for actions not yet completed.
- A description of any additional actions the permittee has taken or will take to investigate and correct the cause(s) of the toxicity.
- Where no actions have been taken, a discussion of the reasons for not taking action.

If implementing the Initial TRE Strategy clearly identifies the source of toxicity to the satisfaction of the DEQ (e.g., a temporary plant upset), or none of the four accelerated chronic toxicity tests required under section 3.3.5 are above the permit toxicity trigger, the permittee can return to the regular chronic toxicity testing cycle specified in section 3.3.1.

If implementing the Initial TRE Strategy does not clearly identify the source of toxicity to the satisfaction of the DEQ, or any of the four accelerated chronic toxicity tests indicate toxicity above the permit toxicity trigger, then the permittee must begin implementation of the Toxicity Reduction Evaluation (TRE) requirements in section 3.3.6. The TRE requirements must be implemented within 10 days of receipt of the accelerated chronic toxicity testing results that exceed the trigger, or when the source of toxicity is not identified, after completion of accelerated tests required in this section.

3.3.6 Toxicity Reduction Evaluation

If toxicity is detected above the trigger in section 3.3.5 in any of the four additional tests required under accelerated testing, then the permittee must develop and implement a toxicity reduction evaluation (TRE). The permittee will develop as expeditiously as possible a TRE plan in accordance with the EPA manual EPA 833-B-99-002, which includes the following:

- Further actions to investigate and identify the cause of toxicity
- Actions the permittee will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity
- A schedule for these actions

The permittee must continue accelerated testing at the same frequency throughout TRE plan development and implementation.

The permittee may initiate a TIE as part of the overall TRE process described in the EPA acute and chronic TIE manuals: EPA/600/6-91/005F, EPA/600/R-92/080, and EPA/600/R-92/081.

If after testing required under section 3.3.5 is complete and two additional consecutive tests do not exceed the permit toxicity trigger, then the permittee may return to the testing frequency required in section 3.3.1 but must complete development of the TRE plan.

3.3.7 Inconclusive TRE/TIE

If the detailed TRE described in section 3.3.6 is inconclusive, the permittee must conduct one chronic toxicity test every other week for eight weeks (four tests, total). This accelerated testing shall be initiated within 10 calendar days of completing the detailed TRE/TIE.

- If none of the additional four required accelerated chronic toxicity tests exceed the applicable permit toxicity trigger value in section 3.3.5 of this permit, the permittee may return to the regular chronic toxicity testing cycle specified in section 3.3.1.
- If any of the four accelerated chronic toxicity tests exceed the applicable permit toxicity trigger value in section 3.3.5 of this permit, then the permittee must repeat the TRE/TIE process described in section 3.3.6.

3.4 Nondomestic Waste Management

NA

3.5 Pretreatment Program Application

NA

3.6 Pretreatment Program Control Authority

NA

3.7 Pretreatment Requirements

The permittee must require any nondomestic user of its treatment works to comply with the applicable requirements in 40 CFR 403 through 471 and the POTW's pretreatment program.

The permittee must implement its pretreatment program in accordance with the legal authorities, policies, procedures, staffing levels, and financial provisions described in its original approved pretreatment program submission titled City of Post Falls Pretreatment Program 19-10 submitted October 2019, any program amendments submitted thereafter and approved by DEQ, and the general pretreatment regulations (40 CFR 403) and any amendments thereof.

3.7.1 Implementation

At a minimum, the permittee must carry out the following activities:

1. Enforce general pretreatment program prohibitions as set forth in 40 CFR 403.5(a) and (b), categorical pretreatment standards promulgated pursuant to Section 307(b) and (c) of the Clean Water Act (where applicable), and local limits and best management practices (BMPs) developed by the permittee in accordance with 40 CFR 403.5(c), whichever are more stringent and are applicable to nondomestic users discharging

wastewater into the permittee's collection system. Locally derived limits must be defined as pretreatment standards under Section 307(d) of the Clean Water Act.

2. Implement and enforce the requirements of the most recent local law and regulations (e.g. municipal code, sewer use ordinance) addressing the regulation of nondomestic users.
3. Update its master list of nondomestic users at a frequency and diligence adequate to ensure proper identification of nondomestic users subject to pretreatment standards, but no less than once per year. The master list must be submitted with the pretreatment annual report. The permittee must notify these users of applicable pretreatment standards in accordance with 40 CFR 403.8(f)(2)(iii).
4. Issue, reissue, and modify, in a timely manner, industrial wastewater discharge permits to at least all SIUs and categorical industrial users (CIUs). These documents must contain, at a minimum, conditions identified in 40 CFR 403.8(f)(1)(iii), including BMPs, if applicable. The permittee must follow the methods described in its implementation procedures for issuance of individual permits.
5. Develop and maintain a data management system designed to track the status of the permittee's nondomestic user inventory, wastewater characteristics, and their compliance with applicable pretreatment standards and requirements. The permittee must retain all records relating to its pretreatment program activities for a minimum of 5 years, as required by 40 CFR 403.12(o) and must make such records available to DEQ upon request.
6. Establish, where necessary, legally binding agreements with contributing jurisdictions to ensure compliance with applicable pretreatment requirements in 40 CFR 403 by industrial users within these jurisdictions. These legally binding agreements must identify the agency responsible for the various pretreatment implementation and enforcement activities in the contributing jurisdiction and outline the specific roles, responsibilities and pretreatment activities of each jurisdiction.
7. Carry out inspections, surveillance, and monitoring of nondomestic users to determine compliance with applicable pretreatment standards and requirements. A complete inspection of all SIUs and sampling of all SIUs' effluent must be conducted at least annually.
8. Require SIUs to conduct wastewater sampling as specified in 40 CFR 403.12(e) or (h). Frequency of wastewater sampling by the SIUs must be appropriate for the character and volume of the wastewater but no less than twice per year. Sample collection and analysis must be performed in accordance with 40 CFR 403.12(b)(5)(ii) through (v) and 40 CFR 136. In cases where the pretreatment standard requires compliance with a BMP or pollution prevention alternatives, the permittee must require the SIU to submit documentation to determine compliance with the standard. If the permittee elects to conduct all nondomestic user monitoring for any SIU instead of requiring self-monitoring, the permittee must conduct sampling in accordance with the requirements of this bullet, and the requirements of 40 CFR 403.12(g).

9. Enforce and obtain remedies for any industrial user noncompliance with applicable pretreatment standards and requirements. This must include timely and appropriate reviews of reports to identify all violations of the user's permit, the local ordinance, and federal pretreatment standards and requirements. Once violations have been identified, the permittee must take timely and appropriate action to address the noncompliance. The permittee's enforcement actions must follow its DEQ-approved enforcement response procedures.
10. Publish, at least annually, in a newspaper (or newspapers) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW, a list of all nondomestic users that, at any time in the previous 12 months, were in significant noncompliance as defined in 40 CFR 403.8 (f)(2)(viii). A copy of these publications must be submitted in the pretreatment annual report.
11. Maintain adequate staff, funds, and equipment to implement its pretreatment program.
12. Conduct an analysis annually to determine whether influent pollutant loadings are approaching the maximum allowable headworks loadings calculated in the permittee's most recent local limits calculations. Any local limits found to be inadequate by this analysis must be revised.

3.7.2 General Pretreatment Program Prohibitions

The permittee must not allow introduction of the following pollutants into the POTW:

1. Pollutants that will create a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than 60 °C (140 °F) using the test methods specified in 40 CFR 261.21;
2. Pollutants that may cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0, unless the treatment facilities are designed to accommodate such discharges;
3. Solid or viscous pollutants in amounts that may cause obstruction to the flow in the POTW (including the collection system) resulting in interference;
4. Any pollutant, including oxygen-demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration that may cause interference with the POTW
5. Heat in amounts that may inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 °C (104 °F) unless DEQ, upon request of the POTW, approves alternate temperature limits;
6. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that may cause interference or pass-through;
7. Pollutants that may result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and
8. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

3.7.3 Accidental Spill Prevention and Slug Discharges

The permittee must implement an accidental spill prevention program to reduce and prevent spills and slug discharges of pollutants from nondomestic users.

1. Control mechanisms for SIUs must contain requirements to control slug discharges if determined by the POTW to be necessary [40 CFR 403.8(f)(1)(iii)(B)(6)].
2. SIUs must be evaluated for the need for a plan or other action to control slug discharges within 1 year of being designated an SIU [40 CFR 403.8(f)(2)(vi)].
3. SIUs must notify the POTW immediately of any changes at their facilities affecting the potential for a slug discharge [40 CFR 403.8(f)(2)(vi)].

3.7.4 Enforcement Requirement

Whenever DEQ finds, on the basis of any available information, that the owner or operator of any source is introducing a pollutant into the POTW in violation of national pretreatment standards, including prohibited discharges, local limits, or categorical standards, or has caused interference or pass-through, DEQ may notify the owner or operator of the POTW of such violation. If, within 30 days after such notification has been sent by DEQ to the POTW, the POTW fails to commence appropriate enforcement action to correct the violation, DEQ may take appropriate enforcement action under the authority provided in Section 309(f) of the Clean Water Act.

3.7.5 Modification of the Pretreatment Program

If the permittee elects to modify any components of its pretreatment program, it must comply with the requirements of 40 CFR 403.18. No substantial program modification, as defined in 40 CFR 403.18(b), may be implemented prior to receiving written authorization from DEQ. The permittee must submit program modification requests to the IPDES Pretreatment Coordinator via the DEQ E-Permitting System.

3.7.6 Local Limits Evaluation

The permittee must submit a complete local limits evaluation pursuant to 40 CFR 403.5 in conjunction with optimization phase of the upgrades required for the total phosphorus compliance schedule. The local limits evaluation is required by 11/30/2025, and every 5 years thereafter, or sooner if any of the following occur:

- A new industrial user(s) begins a discharge that may significantly impact the POTW, including, but not limited to:
 - the flow is $\geq 5\%$ of the average dry weather hydraulic or organic capacity of the POTW treatment plant, or
 - the flow represents a 25% or greater increase in total industrial flow to the POTW, or
 - the discharge contains elevated levels of pollutants for which there are established local limits or permit limits, or
 - the discharge contains a pollutant(s) of concern new to the POTW

- An existing industrial user(s) modifies their discharge in a manner that may significantly impact the POTW as above,
- Changes or upgrades occur to the POTW's operations or treatment capacities.

For additional guidance regarding when a local limits evaluation is required, contact the IPDES Pretreatment Coordinator. The evaluation must take into account water quality in the receiving stream, inhibition levels for biological processes in the treatment plant, and sludge quality goals. The evaluation must address the following pollutants if present in the discharge: arsenic, BOD₅, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, TSS, zinc, and any other pollutant of concern. The permittee must address total ammonia as N if the POTW accepts indirect discharges of ammonia. Submitted results of the evaluation must include proposed local limits, maximum allowable headworks loadings, all supporting calculations, and all assumptions.

Upon submission of the local limits evaluation, the pretreatment coordinator will review the submission in accordance with 40 CFR 403.18. Non-substantial modifications to local limits may be implemented after 45 days unless DEQ notifies the permittee that the modification is disapproved or determines that the modification is substantial. Substantial modifications include, but are not limited to, less stringent local limits or decreases in the maximum allowable headworks or industrial loadings.

Local limits evaluations resulting in substantial modifications to the permittee's pretreatment program may be submitted to the pretreatment coordinator for review prior to official submission of the local limits evaluation or pretreatment program modification request through the IPDES E-Permitting System.

3.7.7 Pretreatment Monitoring

The permittee's pretreatment program requires monitoring influent and effluent at the locations described in Table 1. The permittee must sample the influent and effluent for the pollutants, frequency, and sample type in Table 16 and report the results on an annual basis in the pretreatment report. To the extent that the timing of sampling coincides with sampling required for influent or effluent testing required by Table 2, Table 3, Table 5, and Table 6. These results will satisfy the requirements of effluent parameter testing.

Table 16. Pretreatment monitoring for influent and effluent.

Pollutant ^a	CAS Number.	Sample Frequency	Sample Type	Report
Arsenic (total) ^b	7440382	Twice per year in April and October, on three consecutive days between Monday and Friday, inclusive.	24-hour composite ^d	Daily values
Cadmium ^b	7440439			
Chromium (total) ^b	7440473			
Copper ^b	7440508			
Lead ^b	7439921			
Mercury ^b	7439976			
Molybdenum	7439987			
Nickel ^b	7440020			
Selenium	7782492			
Silver ^b	7440224			
Zinc ^b	7440666			
Cyanide (total) ^{b,c}	57125			
Ammonia (as N)	7664417			
CBOD				
Phosphorus	7723140			
TSS				

Notes: CAS = Chemical Abstracts Service

- All metals must be analyzed for total concentration unless otherwise specified.
- For influent and effluent pretreatment sampling of arsenic, cadmium, chromium, copper, cyanide, lead, mercury, nickel, silver, and zinc, the permittee must use EPA-approved analytical methods that are sufficiently sensitive.
- When sampling for cyanide, eight discrete grab samples must be collected over the operating day with samples collected no less than one hour apart. Each sample must be at least 100 mL. Each sample must be checked for the presence of chlorine and/or sulfides prior to preserving and compositing (Standard Method 4500-CN B). If chlorine and/or sulfides are detected, the sample must be treated to remove any trace of these parameters. After testing and treating for the interference compounds, the pH of each sample must be adjusted, using sodium hydroxide, as specified in 40CFR 136. Each sample can then be composited into a larger container that is kept chilled to $\leq 6^{\circ}\text{C}$, to allow for one analysis for the day.
- 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.

In addition to the monitoring specified in Table 16, once during each monitoring period, the permittee must perform chemical analyses of its influent for all specific toxic organic pollutants listed in Table II of Appendix D of 40 CFR 122. The analysis must align with the following:

- Sample type—The samples must be 24-hour composites, except when sampling volatiles.
- Volatile organic compounds sampling—Eight discrete samples must be collected over a 24-hour day using 40-mL volatile organic analysis (VOA) vials with Teflon septa. During sampling, the flow from the discharge will be controlled to produce smooth laminar flow to prevent agitation and aeration of the sample. The VOA vials will be filled to the top such that there is a meniscus present. There must be no visible air space or air bubbles in the VOA vials when capped. A single analysis for volatile pollutants may be run for each monitoring day by compositing equal volumes of the individual discrete VOA vials (at the analytical laboratory using extreme care not to introduce air/air bubbles) directly into the gas chromatograph (GC) purge and trap apparatus, with no

less than 1 mL of each grab included in the composite. The composite sample must be analyzed immediately.

3. If the sum of the concentrations for each toxic organic pollutant listed in Table II of Appendix D of 40 CFR 122, found in the influent at a concentration greater than 10 micrograms per liter, is greater than 1000 micrograms per liter, then the effluent and sludge must also be analyzed for each toxic organic pollutant listed in Table II of Appendix D of 40 CFR 122 during the next pretreatment monitoring period. This requirement also becomes effective if, from one monitoring period to the next, the sum of the toxic organic pollutants in the influent increases by an order of magnitude from the previous sample. This increased monitoring must continue until the triggering condition no longer applies, or upon approval of DEQ.
4. Gas chromatograph/mass spectrometer (GC/MS) analysis—In addition to analyzing for pollutants listed in Table II of Appendix D of 40 CFR 122, the permittee must make a reasonable attempt using GC/MS analytical techniques to identify and quantify the 10 most abundant constituents of each effluent extract (excluding toxic organic pollutants and unsubstituted aliphatic compounds) shown to be present by peaks on the total ion plots (reconstructed gas chromatograms). Identification must be attempted through the use of EPA and NIST/EPA/NIH Mass Spectral Library, with visual confirmation by an experienced analyst. Quantification may be an order-of-magnitude estimate based upon comparison with an internal standard.
5. Sample handling—All samples must be prepared, preserved, shipped, and analyzed in accordance with the QAPP and section a.
6. Phenols and sulfide sampling—Eight discrete samples must be collected over 24 hours. Each aliquot must be at least 100 mL and composited into a larger container.

The permittee must sample sludge according to Table 17 as the sludge leaves the dewatering device or digesters and report the results on an annual basis in the pretreatment report.

Table 17. Pretreatment monitoring for sludge.

Pollutant ^a	CAS Number	Sample Frequency	Sample Type	Report
Arsenic (total) ^b	7440382	Twice per year in April and October, on three consecutive days between Monday and Friday, inclusive.	Grab ^c	Daily values
Cadmium ^b	7440439			
Copper ^b	7440508			
Lead ^b	7439921			
Mercury ^b	7439976			
Molybdenum ^b	7439987			
Nickel ^b	7440020			
Selenium ^b	7782492			
Zinc ^b	7440666			
Percent Solids	N/A			
PFAS ^d		1/quarter ^{e,f}		

Notes: CAS = Chemical Abstracts Service; N/A = not applicable

- a. Metals concentrations in sludge must be reported in mg/kg, dry weight.
- b. All metals must be analyzed for total concentration unless otherwise specified.
- c. A grab sample is an individual sample collected over a 15-minute period or less.
- d. Draft method 1633 must be used to analyze biosolids for PFAS.
- e. Quarters are defined as: January 1-March 31; April 1-June 30; July 1-September 30; and October 1-December 31.
- f. Monitoring for PFAS chemicals is required for 2 years (8 quarters), beginning at the start of the first complete quarter in the third year of the permit term.

3.7.8 Pretreatment Annual Report

The permittee must submit a pretreatment annual report pursuant to 40 CFR 403.12(i) by January 31, each year that describes the permittee's program activities over the period January 1 to December 31 of the previous year. This report must be submitted through the IPDES E-Permitting System.

The pretreatment report must include the following:

1. User Inventory—An updated nondomestic user inventory, including names and addresses, a list of those facilities that are no longer discharging (with explanation), and new indirect dischargers appropriately categorized and characterized. CIUs should have the applicable category noted as well as cases where more stringent local limits apply instead of the categorical standard. The list must also identify users subject to reduced reporting requirements and those that are nonsignificant CIUs, if applicable.
 - a. Listing of nondomestic users whose permits have been issued, reissued, or modified during the report year along with current permit expiration dates.
2. Wastewater and Sludge Sampling Results—Collected at the POTW as specified in section 3.7.7.
 - b. Calculations of removal rates for each pollutant for each day of sampling.
 - c. Analysis and discussion of whether the existing local limits in the permittee's sewer use ordinance continue to be appropriate to prevent treatment plant

interference and pass-through of pollutants that could affect water quality or sludge quality. This should include a comparison between influent loadings and the most recent relevant maximum allowable headworks loadings calculated for the treatment plant. If existing local limits are inadequate to prevent treatment plant interference or pass-through, the permittee must complete a local limits evaluation and revise local limits sufficient to prevent treatment plant interference or pass-through.

3. Compliance and Inspection Activities

- a. Listing of nondomestic users inspected and/or monitored during the report year with dates and an indication of compliance status.
- b. Listing of nondomestic users planned for inspection and/or monitoring for the coming year along with associated frequencies.

4. Treatment Plant Upsets—A description of any interference, pass-through, upset, or IPDES permit violations experienced at the POTW that were directly or indirectly attributable to nondomestic users, including the following:

- a. Date and time of incident;
- b. Description of the effect on the POTW's operation;
- c. Effects on the POTW's effluent and biosolids quality;
- d. Identification of suspected or known sources of the discharge causing the upset; and
- e. Steps taken to remedy the situation and to prevent recurrence.

5. Status of Enforcement Activities— including:

- a. Listing of nondomestic users who failed to comply with applicable pretreatment standards and requirements, including the following:
 - i. Summary of the violation(s).
 - ii. Enforcement action taken or planned by the permittee.
 - iii. Present compliance status as of the date of preparation of the pretreatment report.

6. Significant Noncompliance—Listing of those users in significant noncompliance during the report year as defined in 40 CFR 403.8(f)(2)(viii) and a copy of the newspaper publication of those users' names.

- a. DEQ may require more frequent reporting on those dischargers determined to be in significant noncompliance.

7. Status of Program Implementation

- a. Any planned modifications to the pretreatment program that have been approved by DEQ, including staffing and funding updates.
- b. Listing of nondomestic users notified of promulgated pretreatment standards and/or local standards during the report year as required in 40 CFR 403.8(f)(2)(iii).

- c. Listing of nondomestic users notified of promulgated pretreatment standards or applicable local standards who are on compliance schedules. The listing must include the final date of compliance for each facility.

3.8 Mercury Minimization Plan

NA

3.9 Methylmercury Fish Tissue Monitoring Plan

NA

3.10 Phosphorus Management Plan

The permittee must continue to implement the phosphorus management plan submitted to DEQ December of 2015, until the permittee is capable of consistently meeting the final limits for total phosphorus in Table 2.

The permittee must revise and submit the phosphorus management plan to DEQ within 180 days whenever the following occurs:

- The plan is unable to assess phosphorus reduction potential;
- There are changes to the treatment process that affect the total phosphorus reduction potential of the treatment plant; or
- The plan is found to be ineffective in reaching the phosphorus reduction goals.

The permittee must submit a phosphorus management annual report to DEQ through the IPDES E-Permitting System. The report must include the POTWs total phosphorus reduction potential and any reductions achieved through the phosphorus management plan. The next annual report is due December 20, 2024, and subsequent reports are due annually thereafter, until the permittee complies with final limits for total phosphorus as required in section 3.1.1.

3.11 Inflow and Infiltration Evaluation

NA

3.12 Spill Control Plan

NA

3.13 Lagoon Seepage Testing

NA

3.14 Biosolids

NA

3.15 Combined Sewer Systems

NA

3.16 Best Management Practices Plan

3.16.1 Toxics Management Plan

By June 01, 2024, the permittee must submit an updated Toxics Management Plan (TMP) to DEQ through the IPDES E-Permitting System. By one year after the effective date of the final permit, the permittee must submit written notification that the updated plan has been implemented. The goal of the TMP update must be to consider tertiary treatment control operations for PCB removal, while retaining all requirements of the original 2015 TMP as outlined below.

Immediately upon the effective date of the permit the permittee must continue to implement the TMP for control of PCBs and 2,3,7,8 TCDD submitted June 10, 2015. The TMP was developed as required in the 2014 permit, and DEQ has determined that the current plan is sufficient to address source control and treatment of PCBs and 2,3,7,8 TCDD, until the plan is updated to include the additional source control and treatment requirements in parts 3, 10 f, and 11 below:

1. From contaminated soils, sediments, storm water and groundwater entering the POTW collection system via inflow and infiltration.
2. From industrial and commercial sources.
 - a. If any industrial user's indirect discharges of PCBs and/or 2,3,7,8 TCDD to the POTW cause pass through or interference, the permittee must require the industrial user to reduce or eliminate such indirect discharges in compliance with 40 CFR 403.
3. The permittee must not allow any person to discharge to the POTW PCBs in excess of any pretreatment local limit or prohibited discharge standard established by the POTW, or 0.5 µg/L, whichever is less.
4. By means of eliminating existing sources that are within the direct control of the permittee including but not limited to:
 - a. Machinery manufactured prior to May 31, 1979.
 - b. Electrical equipment and components containing insulating or dielectric oil manufactured prior to May 31, 1979, including but not limited to transformers, capacitors, regulators, reactors, circuit breakers, switch gear and fluorescent lighting ballasts.

- c. Construction material including but not limited to paints and caulking.
 - d. Commercial materials including but not limited to ink, dyes, and lubricants.
- 5. By means of changing the permittee's procurement practices, control and minimize the future generation and release of PCBs and 2,3,7,8 TCDD that is within the direct control of the permittee, including preferential use of PCB-free substitutes for those products containing PCBs below the regulated level of 50 ppm, in sources including but not limited to:
 - a. Electrical equipment and components containing insulating or dielectric oil, including but not limited to transformers, capacitors, regulators, reactors, circuit breakers, switch gear and fluorescent lighting ballasts.
 - b. Construction materials including but not limited to paints and caulking,
 - c. Commercial materials including but not limited to ink, dyes, and lubricants.
 - d. Soaps and cleaners.
- 6. Continue, either individually or in collaboration with other dischargers to the Spokane River, to implement a public education program to educate the public about the following:
 - a. The difference between products free of PCBs and those labeled non-PCB, but which contain PCBs below the TSCA regulatory threshold of 50 ppm.
 - b. Proper disposal of waste products that may contain PCBs including those containing PCBs below the TSCA regulatory threshold of 50 ppm and the hazards associated with improper disposal.
- 7. The education program must include distribution of appropriate educational materials to the target audiences at least once per year.
- 8. At least once per year, the permittee must prepare and distribute appropriate information relevant to the TMP to newspapers of general circulation within the jurisdictions served by the POTW that provides meaningful public notice.
- 9. The permittee must make all relevant TMP documents available to the public.
- 10. By December 20, 2023, the permittee must submit an annual report to DEQ. Each annual report must contain the following information:
 - a. Monitoring results for PCBs and 2,3,7,8 TCDD for the previous 12-month period, including laboratory data sheets
 - b. Copies of education materials, ordinances (or other regulatory mechanisms), inventories, guidance materials, or other products produced as part of the TMP

- c. A description and schedule for implementation of additional actions that may be necessary, based on monitoring results, to ensure compliance with applicable water quality standards
 - d. A summary of the actions the permittee plans to undertake to reduce discharges of PCBs and 2,3,7,8 TCDD during the next reporting cycle
 - e. A summary of the actions taken to reduce discharges of PCBs and 2,3,7,8 TCDD during the previous 12-month period
 - f. A summary of facility treatment upgrades that have been completed during the previous 12-month period. Include a description of how those upgrades are considered to reduce PCBs and 2,3,7,8TCDD quantities discharged
11. Once the tertiary treatment upgrades are operational the permittee must operate this technology year round to the extent possible without compromising equipment integrity or surpassing design specifications.

3.17 Water Quality Trading

NA

3.18 Intake Credit

NA

3.19 Variance

NA

3.20 Waiver

NA

3.21 Insert Title of Other Special Condition

NA

4 Standard Conditions

4.1 Documents Applicable to all Permits

4.1.1 Quality Assurance Project Plan

The permittee must develop a Quality Assurance Project Plan (QAPP) for all monitoring required by this permit. The permittee must submit the QAPP Notification (upload signature page) to DEQ through the IPDES E-Permitting System that the plan has been developed and implemented by 06/01/2024. Any existing QAPPs may be modified for compliance with this section.

1. The QAPP must be designed to assist in planning for the collection and analysis of effluent, influent, and receiving water samples in support of this permit and handling data anomalies when they occur.
2. Throughout all sample collection and analysis procedures, the permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in *EPA Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAPP must be prepared in the format that is specified in these documents.
3. At a minimum, the QAPP must include the following:
 - a. Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples (e.g. blanks, spikes), precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements.
 - b. Maps indicating the location of each sampling point.
 - c. Qualification, training, and licensure of personnel.
 - d. Names, addresses and telephone numbers of the laboratories used by or proposed to be used by the permittee.
4. Any changes to the monitoring or laboratory operations must be concurrently reflected within the QAPP.
5. Copies of the QAPP must be retained on site and made available to DEQ upon request.

4.1.2 Operation and Maintenance Manual

In addition to the requirements specified in section 4.2.5, the permittee must submit an Operation and Maintenance (O&M) Manual Notification to DEQ through the IPDES E-Permitting System by 06/01/2024 certifying that an O&M manual for the current wastewater treatment facility has been developed and implemented. The manual must be consistent with IDAPA 58.01.16.425. The manual must be retained on site and made available to DEQ upon request. Any significant changes occurring in the daily operation of the plant must be concurrently reflected within the O&M manual.

The manual must be consistent with IDAPA 58.01.16.425. The manual must be retained on site and made available to DEQ upon request. Any significant changes occurring in the daily operation of the plant must be concurrently reflected within the O&M manual.

4.1.3 Emergency Response Plan

The permittee must develop and implement an emergency response plan that identifies measures to protect public health and the environment. At a minimum, the plan must include mechanisms for the following:

1. Ensure that the permittee is aware (to the greatest extent possible) of all overflows from portions of the collection system over which the permittee has ownership or operational control as well as any unanticipated treatment unit bypass or upset that may exceed any effluent limit in the permit.
2. Ensure that reports of an overflow or of an unanticipated bypass or upset that may exceed any effluent limit in this permit are immediately dispatched to appropriate personnel for investigation and response as required in sections 2.2.7 and 2.2.8.
3. Ensure immediate notification to DEQ of any noncompliance that may endanger public health or the environment and identify the public health district and other officials who will receive immediate notification for items that require 24-hour reporting in section 2.2.7.
4. Ensure that appropriate personnel understand, are appropriately trained on, and follow the Emergency Response Plan; and
5. Provide emergency facility operation.

The permittee must submit an Emergency Response Plan Notification to DEQ through the IPDES E-Permitting System that the plan has been developed and implemented by 06/01/2024. The plan must be available at the facility for DEQ review.

4.2 Conditions Applicable to All Permits

The following conditions apply to all IPDES permits. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

4.2.1 Duty to Comply

The permittee must comply with all permit requirements. Any permit noncompliance constitutes a violation of this permit and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

The permittee shall comply with standards for sewage sludge use or disposal established in 40 CFR 503 within the time provided in those regulations, even if the permit has not yet been modified to incorporate the requirement.

4.2.2 Duty to Reapply

If the permittee intends to continue an activity regulated by this permit after the expiration date, the permittee must apply for a new permit by the permit renewal application due date. In accordance with IDAPA 58.01.25.105, and unless DEQ authorizes the permittee to submit the application at a later date, the permittee must submit a new, complete application on or before permit renewal application due date. If the permittee complies with the application date requirements of IDAPA 58.01.25.105, and a permit is not issued prior to the permit's expiration date, the permit shall remain in force as stipulated in IDAPA 58.01.25.101.02.

4.2.3 Need to Halt or Reduce Activity Not a Defense

The permittee cannot assert as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

4.2.4 Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

4.2.5 Proper Operation and Maintenance

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. In order to attain proper operation and maintenance, facility operations must be overseen by an appropriately licensed operator per IDAPA 58.01.16.203. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. The O&M manual required in section 4.1.2 describes how the facility will ensure proper operation and maintenance. The permittee must operate backup or auxiliary facilities or similar systems that are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

4.2.6 Permit Actions

This permit may be modified, revoked, and reissued or terminated for cause as specified in IDAPA 58.01.25.201 and 58.01.25.203. The filing of a request by the permittee for a permit modification, revocation, and reissuance, termination, or notification of planned changes or anticipated noncompliance does not stay any permit condition.

4.2.7 Property Rights

The issuance of, or coverage under, an IPDES permit does not convey any property rights or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local laws or regulations. The issuance of, or coverage under, an IPDES permit does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity, and does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

4.2.8 Duty to Provide Information

The permittee must furnish to DEQ, within the time specified in the request, any information that DEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to DEQ, upon request, copies of records this permit requires. The permittee should submit the total population served or Annual Equivalent Dwelling Unit (EDU) Report to DEQ through the IPDES E-Permitting System by May 31 each year. This information is used to calculate the facility's annual fee.

4.2.9 Inspection and Entry

Pursuant to Idaho Code §39-108, the permittee shall allow DEQ's compliance, inspection, and enforcement (CIE) personnel, or authorized representative (including an authorized contractor acting as a representative of DEQ), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access at reasonable times to and copy any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise required by the Clean Water Act, any substances or parameters at any location.

4.2.10 Retention of Records

The permittee must retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, electronic data files for continuous monitoring instruments, copies of all reports required by this permit, copies of DMRs, a copy of the IPDES permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. The permittee's sewage sludge use and disposal activities shall be retained for a period of at least five (5) years or longer as required by 40 CFR 503. The retention period may be extended at DEQ's request at any time.

4.2.11 Signatory Requirements

All applications, reports, or information submitted to DEQ must be signed and certified by a certifying official as follows:

1. All permit applications must be signed as follows:
 - a. For a corporation, by a responsible corporate officer as specified in IDAPA 58.01.25.090.
 - b. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.
 - c. For a municipality, or other public agency, by either a principal executive officer or ranking elected official
2. Any report or information required by this permit, a notice of intent, monitoring and reporting provisions, and any other information requested by DEQ must be signed by a person described in item 1 or by a duly authorized representative of that person. A person is a duly authorized representative only if the following is true:
 - a. The authorization is made in writing by a person described in item 1 above;
 - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and
 - c. The written authorization is submitted to DEQ.
3. Changes to authorization. If an authorization is no longer accurate due to a change in staffing or personnel for the overall operation of the facility, a new authorization satisfying the requirements of IDAPA 58.01.25.090.01 must be submitted to DEQ before or together with any report, information, or application to be signed by an authorized representative.
4. Certification. Any person signing a document under this section must make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. The permittee must ensure that any electronic submission of any report or information required by this permit, notice of intent, monitoring and reporting provisions, and information requested by DEQ satisfies all of the relevant requirements of 40 CFR 3 (Cross-Media Electronic Reporting) and 40 CFR 127 (NPDES Electronic Reporting Requirements).

4.2.12 Bypass of Treatment Facilities

Bypass of primary treatment, nitrification process, secondary clarifiers, or disinfectant treatment units is prohibited. DEQ may take enforcement action against a permittee for a bypass unless:

1. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss caused by delays in production;
2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
3. The permittee submitted notices as required under sections 2.2.7 and 2.2.8 of this permit if the bypass was unanticipated.

If the permittee knows in advance of the need for a bypass, it must submit a prior written anticipated bypass notification through the IPDES E-Permitting System, if possible at least ten (10) days before the date of the bypass. DEQ may approve an anticipated bypass, after considering its adverse effects, if the director determines that it will meet the conditions in this permit.

A bypass that does not cause effluent limits to be exceeded is allowed to occur and is not subject to the notice requirements in section 2.2.7 and 2.2.8, but only if it also is for essential maintenance to assure efficient operation.

4.2.13 Upset Terms and Conditions

An upset is an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. Effect of an upset -- An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence the following:
 - a. An upset occurred and the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;

- c. The permittee submitted notice of the upset as required under section 2.2.7 and 2.2.8; and
 - d. The permittee timely complied with any remedial measures required under section 4.2.4.
2. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
3. Burden of proof—In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

4.2.14 Penalties for Violations of Permit Conditions

If the permittee violates any permit condition, filing or reporting requirement, duty to allow or carry out inspections, entry or monitoring requirements, or any other provision in this permit the permittee is subject to administrative, civil, or criminal enforcement.

Pursuant to Idaho Code §39-175E and §39-108, any person who violates any rule, permit or order related to the IPDES program shall be liable for a civil penalty not more than \$10,000 per violation or \$5,000 for each day of a continuing violation, whichever is greater.

Pursuant to Idaho Code §39-175E, §39-108 and §39-117, any person who willfully or negligently violates any IPDES standard or limit, permit condition or filing requirement shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not more than \$10,000 per violation or for each day of a continuing violation.

Pursuant to Idaho Code §39-175E, §39-108 and §39-117, any person who knowingly makes any false statement, representation or certification in any IPDES form, in any notice or report required by an IPDES permit, or who knowingly renders inaccurate any monitoring device or method required to be maintained shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not more than \$5,000 per violation or for each day of a continuing violation.

Pursuant to Idaho Code §18-113, a misdemeanor violation of the IPDES program requirements as set forth in §39-117, is also punishable by imprisonment in a county jail not exceeding 6 months.

In addition to civil penalties as described above, pursuant to Idaho Code §39-175E and §39-108, any person who has been determined to have violated any provision of the rules, permits or orders relating to the IPDES program shall be liable for any expense incurred by the state in enforcing the program requirements, or in enforcing or terminating any nuisance, source of environmental degradation, cause of sickness or health hazard.

4.2.15 Planned Changes

The permittee must give written notice to DEQ through the IPDES E-Permitting System as soon as possible of any planned physical alterations or additions to the permitted facility whenever any of the following occurs:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in IDAPA 58.01.25.101 and 58.01.25.120.
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limits in this permit.
3. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application site or sludge management plan.

4.2.16 Anticipated Noncompliance

The permittee must give written advance notice to DEQ through the IPDES E-Permitting System of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

4.2.17 Toxic Pollutants

The permittee must comply with effluent standards or prohibitions established under Section 307(a) for toxic pollutants and with standards for sewage sludge use or disposal established under Clean Water Act Section 405(d), IDAPA 58.01.25.380 (Sewage Sludge), and IDAPA 58.01.16.650 "Wastewater Rules", within the time provided in the regulations that establish those standards or prohibitions, or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

4.2.18 Permit Modification

4.2.18.1 Causes to Modify Permits

This permit may be modified either at the request of any interested person, including the permittee, or by DEQ's initiative for reasons specified in IDAPA 58.01.25.201.02. Only those conditions being modified shall be reopened when a draft permit is prepared (IDAPA 58.01.25.201.01). The request for permit modification or a notification of planned changes to the permit does not stay any permit condition (IDAPA 58.01.25.300.06).

4.2.18.2 Sewage Sludge Standard Changes

This permit may be reopened to include any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act. DEQ may modify or revoke and reissue this permit if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

4.2.19 Omitted/Erroneous Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to DEQ, it must promptly submit the omitted facts or corrected information in writing.

4.2.20 Availability of Reports

In accordance with IDAPA 58.01.21, "Rules Governing the Protection and Disclosure of Records in the Possession of the Department of Environmental Quality," information submitted to DEQ pursuant to this permit may be claimed as confidential by the permittee. In accordance with IDAPA 58.01.25.002, permit applications, permits, and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words "trade secret," "proprietary," or "confidential" on each page containing such information. If no claim is made at the time of submission, DEQ may make the information available to the public without further notice to the permittee. If a claim is asserted, the information will be treated in accordance with the procedures in IDAPA 58.01.21.

4.2.21 Transfers

This permit is not transferable to any person except as specified in IDAPA 58.01.25.202. DEQ may require modification, or revocation and reissuance of this permit to change the name of the permittee, and may incorporate such other requirements as may be necessary under IDAPA 58.01.25.202.

4.2.22 State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act. This includes, but is not limited to, IDAPA 58.01.02, 58.01.16, and 58.01.17.

5 Definitions

8-hour composite sample	A combination of discrete sample aliquots of at least 100 milliliters, collected over periodic intervals from the same location, during the operating hours of a facility over an 8 hour period. The permit may specify the number of aliquots and/or the time between aliquots that the facility must composite. Samples may be acquired using an auto-sampler or directly collected from the sampling location by an operator. Composite of samples can be based on flow or time.
24-hour composite sample	A combination of discrete sample aliquots of at least 100 milliliters, collected over periodic intervals from the same location over a 24-hour period. The composite may be flow or time proportional. The sample aliquots must be collected and stored in accordance with 40 CFR 136.
acute toxic unit (TU _a)	A measure of acute toxicity. TU _a is the reciprocal of the effluent concentration that causes 50% of the organisms to die by the end on the acute exposure period (i.e., 100/LC50).
aliquot	A sample taken as a portion of a larger whole sample for chemical analysis.
annual average	The annual average is the sum of all individual data points collected over a calendar year, divided by the number of data points.
best management practices (BMPs)	Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.
biosolids	Organic materials resulting from the treatment of domestic sewage in a treatment facility.
bypass	The intentional diversion of waste streams from any portion of a treatment facility
chronic toxic unit (TU _c)	A measure of chronic toxicity. TU _c is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/NOEC).
composite sample	A sample derived from two or more discrete aliquots (samples) collected at equal time intervals or collected proportional to the flow rate over the compositing period. See also "24-hour composite sample" and "8-hour composite sample".
daily average	An average of all continuously monitored data recorded in one calendar day.
daily discharge	The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limits expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limits expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.
daily maximum (maximum daily)	The highest allowable "daily discharge"
Idaho Department of Environmental Quality (DEQ)	The entity responsible for implementing the Idaho Pollutant Discharge Elimination System program.

director	The director of DEQ, or an authorized representative
Discharge Monitoring Report (DMR)	The facility or activity report containing monitoring and discharge quality and quantity information and data required to be submitted periodically, as defined in the discharge permit.
DMR Month	The final month of a completed reporting period
United States Environmental Protection Agency (EPA)	The Agency responsible for implementation of the clean water act (CWA) and oversight of state NPDES programs.
geometric mean	The n^{th} root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values
grab sample	An individual sample collected over a period of time not exceeding 15 minutes
hailed waste	Waste transported by haulers and discharged to a publicly owned treatment works (POTW) by a conveyance other than a pipe (e.g., by truck or rail).
Idaho Pollutant Discharge Elimination System (IPDES)	The Idaho program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and enforcing pretreatment requirements, under IDAPA 58.01.25 and the Clean Water Act Sections 307, 402, 318, and 405
inhibition concentration (IC)	A point estimate of the toxicant concentration that causes a given percent reduction (p) in a nonquantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., interpolation method)
indirect discharge	The introduction of pollutants into a POTW from any nondomestic source regulated under Section 307(b), (c), or (d) of the Clean Water Act
indirect discharger	A nondomestic discharger introducing pollutants to a publically or privately owned treatment works
industrial user (IU)	A source of "indirect discharge" to a publically or privately owned treatment works
instantaneous maximum	The maximum allowable concentration or other measure of a pollutant determined from the analysis of any discrete or composite sample collected, independent of the flow rate and the duration of the sampling event.
instantaneous minimum	The minimum allowable concentration or other measure of a pollutant determined from the analysis of any discrete or composite sample collected, independent of the flow rate and the duration of the sampling event.
interference	A discharge that, alone or in conjunction with a discharge or discharges from other sources, both (1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal and (2) therefore, is a cause of a violation of any requirement of the POTW's IPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

LC50	The concentration of toxicant (e.g., effluent) that is lethal to 50% of the test organisms exposed in the time period prescribed by the test.
maximum daily average	The maximum of the daily averages for the reporting period.
maximum weekly average	The maximum of the weekly average of all data collected/recorded during a calendar week.
maximum weekly maximum temperature (MWMT)	The reported MWMT is the single highest weekly maximum temperature (WMT) that occurs during a given year or reporting period of interest. The WMT is the mean of daily maximum temperatures measured over a consecutive seven (7) day period ending on the day of calculation.
method detection limit (MDL)	The minimum concentration of a substance (analyte) that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.
minimum level (ML)	Either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published by method; they may be the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor of 3.
monthly average (average monthly) effluent limit (AML)	Monthly average effluent limit is the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
monthly total	The total of all waste accepted in a calendar month.
National Pollutant Discharge Elimination System (NPDES)	The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the Clean Water Act
new discharger	Any building, structure, facility, or installation: a. From which there is or may be a discharge of pollutants; b. That did not commence the discharge of pollutants at a particular site prior to August 13, 1979; c. Which is not a new source; and d. Which has never received a finally effective NPDES or IPDES permit for discharges at that site.
new source	Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced: a. After promulgation of standards of performance under the Clean Water Act section 306 which are applicable to such source; or After proposal of standards of performance in accordance with the Clean Water Act section 306 which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within one hundred twenty (120) days of their proposal.
no observed effect concentration (NOEC)	No observed effect concentration. The NOEC is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest

	concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).
pass-through	A discharge that exits the POTW into waters of the United States in quantities or concentrations that, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's IPDES permit (including an increase in the magnitude or duration of a violation).
quality assurance project plan (QAPP)	The QAPP documents the results of a project's technical planning process, providing in one place a clear, concise, and complete plan for the environmental data operation and its quality objectives and identifying key project personnel.
receiving water concentration (RWC)	The concentration of a toxicant or effluent in the receiving water after mixing. The RWC is the inverse of the dilution factor. It is sometimes referred to as the instream waste concentration (IWC).
recorded	A recorded parameter can be collected using an automated recording device (data logger, SCADA, pressure transducer, etc.) or can be manually recorded in a log reading from another measurement device (stage gage, float valve visual, or any other permanently installed equipment that does not record automatically).
reporting period	Frequency that monitoring results are required to be reported (see DMR Month definition).
seasonal average	The seasonal average is the highest allowable average of "daily discharges" over a defined season, calculated as the sum of all "daily discharges" measured during a defined season divided by the number of "daily discharges" measured during that season.
sewage sludge	Any solid, semisolid, or liquid residue removed during the treatment of wastewater. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 CFR 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.
sufficiently sensitive	• The method minimum level is at or below the level of the applicable water quality criterion or permit limit for the measured pollutant or pollutant parameter; or • In the case of permit applications, the method minimum level is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or • The method has the lowest minimum level of the EPA-approved analytical methods for the parameter.
upset	An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

weekly average (average weekly) effluent limit (AWL)	Weekly average effluent limit is the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.
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Appendix A. Significant Figures and Place Values

The table below lists the significant figures for effluent limits in this permit and the minimum place value for DMR reporting and IPDES E-Permitting system submissions. Significant figure reporting conventions can be found in the IPDES User's Guide to Permitting and Compliance Volume 1 – General information (DEQ 2017).

Parameter	Limit Set	Significant Figures	Minimum place value (X)	Units
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	Monthly Average Concentration	2	0X.00	mg/L
	Weekly Average Concentration	2	0X.00	mg/L
	Monthly Average Load (February - October)	3	00X.0	lbs/day
	Weekly Average Load (February - October)	3	00X.0	lbs/day
	Annual Average Load (February - October)	3	00X.0	lbs/day
	Monthly Average Load (November – January)	4	0,00X.0	lbs/day
	Weekly Average Load (November – January)	4	0,00X.0	lbs/day
	Percent Removal	2	0X.0	%
Total Suspended Solids (TSS)	Monthly Average Concentration	2	0X.00	mg/L
	Weekly Average Concentration	2	0X.00	mg/L
	Monthly Average Load	4	0,00X.0	lbs/day
	Weekly Average Load	4	0,00X.0	lbs/day
	Percent Removal	2	0X.0	%
<i>E. coli</i>	Monthly Geometric Mean	3	00X	#/100mL
pH	Instantaneous Maximum	2	0.X	s.u.
	Instantaneous Minimum	2	0.X	s.u.
Chlorine, Total Residual	Monthly Average Concentration	3	00X.0	µg/L
	Maximum Daily Concentration	3	00X.0	µg/L
	Monthly Average Load	2	0.X	lbs/day
	Maximum Daily Load	3	0.X	lbs/day
Total Ammonia (as N)	Annual Average Load	3	00X.0	lbs/day
Total Phosphorus (as N)	Annual Average Load	3	0.0X	lbs/day
Total Phosphorus (as N) (Interim limits)	Monthly Average Load	2	0X	lbs/day
	Weekly Average Load	2	0X	lbs/day
Zinc	Monthly Average Concentration	4	00.0X	µg/L
	Maximum Daily Concentration	5	000.0X	µg/L
	Monthly Average Load	3	0.0X	lbs/day
	Maximum Daily Load	3	0.0X	lbs/day

Fact Sheet for IPDES Permit No. ID0025852

Insert date of this draft fact sheet when issued for public notice or final fact sheet

Idaho Department of Environmental Quality (DEQ) proposes to reissue an Idaho Pollutant Discharge Elimination System (IPDES) Permit to discharge pollutants under the provisions of IDAPA 58.01.25 to:

**City of Post Falls
Water Reclamation Facility
Post Falls, ID 83854meeting**

Public Comment Start Date: 07/28/2023

Public Comment Expiration Date: 08/28/2023

Second Public Comment Start Date: 09/25/2023

Second Public Comment Expiration Date: 10/24/2023

Technical Contact: Matt Stutzman
208-373-0502
Matthew.stutzman@deq.idaho.gov

Purpose of this Fact Sheet

This fact sheet explains and documents the decisions the Idaho Department of Environmental Quality (DEQ) made in writing the draft Idaho Pollutant Discharge Elimination System (IPDES) permit for City of Post Falls.

This fact sheet complies with IDAPA 58.01.25.108.02 of the Idaho Administrative Code, which requires DEQ to prepare a draft permit and accompanying fact sheet for public evaluation before issuing an IPDES permit.

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Acronyms

1Q10	1-day, 10 year low flow
1B3	Biologically-based and indicates an allowable exceedance of once every 3 years.
4B3	Biologically-based and indicates an allowable exceedance for 4 consecutive days once every 3 years.
7Q10	7-day, 10 year low flow
30B3	Biologically-based design flow intended to ensure an excursion frequency of less than once every three years, for a 30-day average flow.
30Q5	30-day, 5 year low flow
30Q10	30-day, 10 year low flow
AML	Average Monthly Limit
BMP	Best Management Practices
BNR	Biological Nutrient Reduction
BPR	Biological Phosphorus Reduction
BOD ₅	Biochemical Oxygen Demand, five-day
°C	Degrees Celsius
CBOD ₅	Carbonaceous Biochemical Oxygen Demand, five-day
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CV	Coefficient of Variation
CWA	Clean Water Act
CWAL	Cold Water Aquatic Life
DEQ	Idaho Department of Environmental Quality
DMR	Discharge Monitoring Report
ELDG	Effluent Limit Development Guidance
EPA	U.S. Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
IDAPA	Refers to citations of Idaho administrative rules
IDWR	Idaho Department of Water Resources
I/I	Inflow and Infiltration
IPDES	Idaho Pollutant Discharge Elimination System
IWC	Instream Waste Concentration
lb/day	Pounds per day

LD ₅₀	Dose at which 50% of test organisms die in a specified time period
LTA	Long Term Average
MDL	Maximum Daily Limit or Method Detection Limit
mgd	Million gallons per day
mg/L	Milligrams per liter
mL	Milliliters
ML	Reportable Level
O&M	Operations and maintenance
PCB	Polychlorinated Biphenyl
PFAS	Perfluoroalkyl and Polyfluoroalkyl Substances
POC	Pollutant(s) of Concern
POTW	Publicly Owned Treatment Works
QAPP	Quality Assurance Project Plan
RPA	Reasonable Potential Analysis
RPMF	Reasonable Potential Multiplication Factor
RPTE	Reasonable Potential To Exceed
SIU	Significant Industrial User
STV	Statistical Threshold Value
s.u.	Standard Units
TBEL	Technology Based Effluent Limits
TCDD	2,3,7,8 Tetrachloro-Dibenzop-Dioxin
TES	Treatment Equivalent to Secondary
TMDL	Total Maximum Daily Load
TRC	Total Residual Chlorine
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
TU _c	Toxic Units, Chronic
TWTDS	Treatment Works Treating Domestic Sewage
USGS	United States Geological Survey
WET	Whole Effluent Toxicity

WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQC	Water Quality Criteria
WQS	Water Quality Standards

2023 IPDES Permit Draft Revision for Public Comment

After the initial public comment period commenced for the City of Post Falls 2023 IPDES permit renewal DEQ discovered a mistake in the reasonable potential analysis (RPA) for lead. DEQ determined that due to the revisions necessary to correct the mistake reopening the public comment period is warranted before issuing a final permit. Pursuant to 40 CFR 124.14(c), at this time, DEQ is only accepting comments on aspects of the revised draft permit that are different from those in the draft permit that was issued for public comment on July 28, 2023. The scope for public comment is limited to the revisions described below.

The revisions in this draft are based on changing the effluent lead concentration used in the RPA (Table 26) from 1,000 µg/L to 1.04 µg/L, which is the 95th percentile value of reported values from 2017 through 2022, as reflected in the fact sheet Table 3. After making the correction in the RPA, DEQ determined the discharge has no reasonable potential to exceed (RPTE) cold water aquatic life (CWAL) water quality criteria for lead. This change in (RPTE) determination resulted in the following revisions:

- The removal of the lead effluent limits as explained in section 3.3.3.6 of this fact sheet and reflected in Table 2 of the permit.
- The antidegradation evaluation in section 3.5.2 was updated to account for the removal of the lead limits in the 2023 permit.
- The Antibacksliding section 3.6 has been updated to account for the removal of the lead limits in the 2023 permit.
- Section 2.1.2 of the permit has been revised to include monthly lead monitoring (Table 6 of the permit)

For information on the public comment period procedures see section 1 of this fact sheet.

1 Introduction

This fact sheet provides information on the permit for the Idaho Department of Environmental Quality (DEQ) Idaho Pollutant Discharge Elimination System (IPDES) permit for the City of Post Falls Water Reclamation Facility (herein referenced as, Post Falls POTW). This fact sheet complies with the Rules Regulating the Idaho Pollutant Discharge Elimination System Program (IDAPA 58.01.25), which requires DEQ to prepare a draft permit and accompanying fact sheet for public evaluation before issuing an IPDES permit.

DEQ proposes to reissue the IPDES permit for the Post Falls POTW. To ensure protection of water quality and human health, the permit places conditions on the type, volume, and concentration of pollutants discharged from the facility to waters of the United States.

This fact sheet includes:

- a map and description of the discharge location;
- a listing of draft effluent limits and other conditions to which the facility must comply;
- documentation supporting the draft effluent limits;
- technical material supporting the conditions in the permit; and
- information on public comment, public hearing, and appeal procedures.

Terms used in this fact sheet are defined in Section 5, Definitions, of the permit.

Public Comment

The permit application, draft permit, and fact sheet describing the terms and conditions applicable to the permit are available for public review and comment during a public comment period. The public is provided at least 30 days to provide comments to DEQ (IDAPA 58.01.25.109.01.c). Persons wishing to request a public meeting for this facility's draft permit must do so in writing within 14 calendar days of public notice being published that a draft permit has been prepared; requests for public meetings must be submitted to DEQ by insert date. Requests for extending a public comment period must be provided to DEQ in writing before the last day of the comment period (IDAPA 58.01.25.10.02). For more details on preparing and filing comments about these documents, please see the IPDES guidance *Public Participation in the Permitting Process* at "<https://www.deq.idaho.gov/public-information/laws-guidance-and-orders/guidance/>". For more information, please contact the permit writer.

After the close of the public comment period, DEQ considers information provided by the public, prepares a document describing and responding to all significant public comments received, and may make changes to the draft permit in response to the significant public comments (IDAPA 58.01.25.109.03). DEQ will include the summary and responses to comments in Appendix F of the final fact sheet. DEQ may request more information from the applicant in order to respond to public comments (IDAPA 58.01.25.109.02.h.). After the public comment period and prior to issuing the final permit decision, DEQ will also provide the applicant an opportunity to submit additional information to address proposed changes and support the

response to public comments. DEQ will assess the public comment in conjunction with any additional information received from the applicant and develop a proposed permit.

The Environmental Protection Agency (EPA) may take up to 90 days from the publication of public notice of the draft permit to develop and document specific grounds for objections to a proposed permit. If EPA objects to a proposed permit DEQ must satisfactorily address the objections within the time period specified in the memorandum of agreement between EPA and DEQ (40 CFR123.44). Otherwise, EPA may issue a permit in accordance with 40 CFR 121, 122, 124. If EPA issues the permit, any state, interstate agency, or interested person may request EPA hold a public hearing regarding the objection.

Permit Issuance

Following the public comment period(s) on a draft permit and after receipt of any comments on the proposed permit from EPA, DEQ will issue a final permit decision, the final permit, and the fact sheet. All comments received will be addressed in Appendix F of the final fact sheet and any resulting changes to the permit or fact sheet documented. A final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit (IDAPA 58.01.25.107.04.). The final permit and final fact sheet will be posted on the DEQ webpage. Response to comments will be located in the final fact sheet as an appendix.

The permit holder or applicant and any person or entity who filed comments or who participated in a public meeting on the draft permit may file a petition for review of a permit decision as outlined in Appendix F. The petition for review must be filed with DEQ's hearing coordinator within 28 days after DEQ serves notice of the final permit decision (IDAPA 58.01.25.204.01). Any party that participated in the petition for review that is still aggrieved by the final IPDES action or determination has a right to file a petition for judicial review (IDAPA 58.01.25.204.26).

Documents are Available for Review

The IPDES permit and fact sheet can be reviewed or obtained by visiting or contacting the DEQ State office between 8:00 a.m. and 5:00 p.m., Monday through Friday at the address below.

The permit and fact sheet can also be found by visiting the DEQ website at "<https://www.deq.idaho.gov/public-information/public-comment-opportunities/>."

DEQ
1410 N. Hilton St.
Boise, ID 83706
208-373-0502

The fact sheet and permits are also available at the DEQ Regional Office:

Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
208-769-1422

Disability Reasonable Accommodation Notice

For technical questions regarding the permit or fact sheet, contact the permit writer at the phone number or e-mail address at the beginning of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 (ask to be connected to the permit writer at the above phone number). Additional services can be made available to a person with disabilities by contacting the permit writer.

2 Background Information**2.1 Facility Description**

This fact sheet provides information on the draft IPDES permit for the following entity:

Table 1. Facility information.

Permittee	City of Post Falls
Facility Physical Address	2002 W. Seltice Way Post Falls, ID 83854
Facility Mailing Address	City of Post Falls Water Reclamation Facility 408 N Spokane Street Post Falls, ID 83854
Facility Contacts	John Beacham, Director, Department of Public Works (208) 457-3374 jbeacham@postfalls.gov
	Craig Borrenpohl, Utilities Manager (208) 777- 9857 cborrenpohl@postfalls.gov
Responsible Official	Mayor Ronald Jacobson rjacobson@postfalls.gov
Facility Location	Latitude: 47.716000 Longitude: -116.975000
Receiving Water Name	Spokane River
Outfall Location	Latitude: 47.709520 Longitude: -116.969420
Permit Status	
Application Submittal Date	5/28/2019
Date Application Deemed Complete	5/29/2019

The City of Post Falls (City) owns and operates the Post Falls Publicly Owned Treatment Works (POTW) located in Post Falls, Idaho. The collection system has no combined sewers. The facility serves the City of Post Falls and the City of Rathdrum with an estimated combined resident

population of 52,833 based on the permittee information . There are three categorical industries discharging to the facility. No hauled waste is accepted at the facility.

2.1.1 Facility Information

The design flow of the facility is 5.21 mgd. The treatment process consists of a fine screen, influent flow equalization basin, activated sludge-oxidation ditch (with biological nutrient reduction), secondary clarifiers, and disinfection (chlorine and UV). Details about the wastewater treatment process are provided in Section 2.1.2, and a map showing the location of the treatment facility and discharge are included in Appendix A. Because the facility has a design flow greater than 1 mgd and serves more than 10,000 people the facility is considered a major facility.

2.1.2 Treatment Process

The current facility consists of influent flow monitoring, screening, and grit removal in the headworks before being split into two treatment trains. Flow equalization normalizes flows prior to secondary treatment. Secondary treatment is designed for biological nutrient reduction via anerobic and anoxic basins, activated sludge oxidation ditches, and circular clarifiers. Disinfection is provided by Ultraviolet (UV) light before discharging through a Parshall flume with continuous flow measurement. Disinfection via chlorination/dechlorination is also possible in case of emergency.

The facility is currently constructing upgrades to replace the UV disinfection system and build new tertiary treatment facilities. Seasonally, auxiliary tertiary treatment is necessary to meet the final effluent limits for phosphorus and CBOD₅ included in the 2014 NPDES permit. A compliance schedule to install this technology was provided. Tertiary treatment technologies were studied in the required pilot study, completed in 2018. The study informed a design which includes tertiary clarification and tertiary membrane filtration. Expected phosphorus reduction through each unit process was also reported in the study. Unit sizing and operational scenarios were studied in the required preliminary engineering report (PER), completed in 2019. The PER outlined operational strategies to meet seasonal phosphorus effluent limits through a variety of secondary treatment performance scenarios.

System optimization will further inform these strategies. The facility design allows for routing secondary and tertiary clarified effluent either through or around the tertiary filtration process to facilitate efficient phosphorus removal and/or completion of essential maintenance on each unit process. Final completion and optimization of the upgrades is anticipated for November 30, 2025.

2.1.3 Permit History

The most recent NPDES permit was issued to the facility on December 1, 2014, and included an expiration date of November 30, 2019. The permittee submitted a timely and complete application for renewal of its NPDES permit, which DEQ received on May 28, 2019. The 2014

permit has been administratively continued under 40 CFR 122.6 and remains fully effective and enforceable until the permit can be reissued.

2.1.4 Compliance History

DEQ conducted inspections of the facility on December 8, 2017, August 14, 2019, and completed a pretreatment compliance inspection July 15, 2021. The only issue the 2017 report identified was the lack of flow-proportional influent monitoring as required in the 2014 NPDES permit. This issue was resolved. The 2019 inspection encompassed a review of monitoring activities, records and reports, and visual inspections of the wastewater treatment unit processes, general operation and maintenance, and self-monitoring of the system. The 2019 inspection identified nine effluent exceedances related to phosphorus and all occurred within a four-month timeframe from June 2015 to September 2015. The report describes the cause of this upset as a process upset and stated “The biomass took several weeks to recover. Since the upset, the WRF has had no phosphorous exceedances”. One other effluent exceedance was for total zinc during April of 2019.

The City received delegated authority to administer the pretreatment program from DEQ on January 6, 2020, and the 2021 pretreatment compliance inspection was the facility’s first pretreatment inspection. The inspection identified multiple violations and issues that can be viewed in the 2021 Pretreatment Inspection Report cover letter included as Appendix C.

Additional compliance information for this facility, including compliance with other environmental statutes, is available in EPA’s enforcement and compliance history online (ECHO) database. The ECHO web address for this facility is: <https://echo.epa.gov/detailed-facility-report?fid=110064635220>.

2.1.5 Sludge/Biosolids

The IPDES program gained authority of sludge/biosolids in July 2021. Sludge management plans must be submitted to DEQ and must follow the procedures in IDAPA 58.01.16.

The facility stores sludge in two holding tanks before dewatering using two belt filter presses. Dewatered sludge is hauled to a contracted facility which further processes the sludge into biosolids for beneficial reuse. Sludge filtrate is introduced back into the treatment process after the grit chambers.

Flow diagrams and maps showing the location of the treatment facility and discharge are included in Appendix A.

The permittee must update and submit a sludge management plan through the E-Permitting System for DEQ review by 06/01/2024. The plan must document how the facility monitors accumulation, removes, treats, and then disposes of the material. 40 CFR 503 has monitoring and recordkeeping requirements that must be met depending on the intended use or disposal of the sludge (biosolids). DEQ will review the plan and determine whether the plan meets the requirements of IDAPA 58.01.16 and 40 CFR 503. If the plan meets the specified requirements,

then DEQ will provide written approval. The permittee must either comply with an existing approved plan or delay disposal of sewage sludge until the proposed plan is approved. Also prior to sludge removal, IDAPA 58.01.25.105 requires the permittee to submit a “Discharging TWTDS (Treatment Works Treating Domestic Sewage)” application through the IPDES E-Permitting system.

Additionally, the permittee must submit a sludge annual report indicating the annual mass generated, stored, reused, and disposed. This report must be submitted through the IPDES E-Permitting System annually by February 19. This must comply with the facility’s approved sludge management plan.

2.1.6 Outfall Description

This facility discharges to the Spokane River approximately 0.4 miles downstream of the Post Falls Dam and approximately 4.5 miles upstream of the Washington state line at river mile 100.5. The discharge occurs approximately 50 feet from the shore, approximately 6 inches above the riverbed, and a diffuser was added in 2022. The diffuser is a 2 port 24 inch duck-billed style elastomer system that enhances initial mixing through increased effluent flow velocity.

2.1.7 Wastewater Influent Characterization

The facility reported the concentration of influent pollutants in discharge monitoring reports (DMRs) and results are characterized in Table 2. The tabulated data represents the quality of the influent wastewater received from DMRs January 2017 through January 2022, unless otherwise noted in the table.

Table 2. Wastewater influent characterization (2017 – 2022).

Parameter	Average	Maximum	Minimum	# of samples	Data Source
CBOD, 5-day [mg/L]	239	259	208	43	DMR
Solids, total suspended [mg/L]	270	294	226	65	DMR
Phosphorus, total [mg/L]	7.1	7.62	6.46	27	DMR [2/2017 – 10/2019]
Polychlorinated Biphenyls (PCBs) [pg/L]	5846	8447	2774	15	Raw data [2018 – 2022] with 10x blank correction
2,3,7,8 tetrachloro-dibenzo- p-dioxin (TCDD) [pg/L]	<5	<5	<5	19	DMR [3/2017 – 9/2021]

2.1.8 Wastewater Effluent Characterization

To characterize the effluent, DEQ evaluated the facility’s application form, DMR data, and raw data (2017-2022) supplied by the permittee. The effluent quality is summarized in Table 3.

Table 3. Effluent characterization (2017 – 2022).

Parameter	95 th percentile	Average	Maximum	Minimum	# of samples	Data Source
Flow, [mgd]	—	2.8	3.1	2.5	65	DMR monthly averages
CBOD, 5-day [mg/L]	9.0	5.0	15	1	844	2017-2022 raw
CBOD, 5-day [lb/day]	165.7	112.0	247	65	43	DMR monthly averages
CBOD % removal	—	98	99	96.2	43	DMR
Solids, total suspended [mg/L]	18.1	8.2	116	1	859	2017-2022 raw
Solids, total suspended [lb/day]	418.2	196.5	704	80	65	DMR monthly averages
Solids, suspended percent removal %	—	97.0	99.2	90.2	65	DMR
E. coli, MTEC-MF [# /100 mL]	—	20.6	121	1	65	DMR monthly geometric means
pH [s.u.]	—	—	7.9	6.9	65	DMR
Nitrogen, ammonia total [as N] [mg/L]	0.67	0.19	6.52	0.03	851	2017-2022 raw
Nitrogen, ammonia total [as N] [lb/day]	6.45	3.26	24.59	1.18	35	DMR monthly averages
Phosphorus, total [as P] [mg/L]	1.07	0.48	4.18	0.14	862	2017-2022 raw
Phosphorus, total [as P] [lb/day]	32.92	12.11	39.9	4.2	27	DMR monthly averages
Nitrite + Nitrate total [as N] [mg/L]	19.18	15.2	19.6	7.8	65	DMR monthly averages
Oxygen, dissolved [DO] [mg/L]	4.38	3.54	4.64	1.03	65	DMR monthly minimum
Cadmium, total recoverable [µg/L]	0.03	0.47	30.3	<0.001	65	DMR monthly averages
Copper, total recoverable [µg/L]	6.78	4.51	18.8	0.096	65	DMR monthly averages
Lead, total recoverable [µg/L]	1.04	0.52	1.58	<0.003	65	DMR

Parameter	95 th percentile	Average	Maximum	Minimum	# of samples	Data Source
						monthly averages
Zinc, total recoverable [µg/L]	74.6	52.9	95.0	26.0	65	DMR monthly averages
Chlorine, total residual [µg/L]	<50	<50	54	<50	12	DMR monthly averages
Polychlorinated Biphenyls (PCBs) [pg/L]	360	46.3 (50 th percentile)	565	14.1	15	Raw data [2018 – 2022] with 10x blank correction
2,3,7,8 tetrachloro-dibenzo- p-dioxin (TCDD) [pg/L]	<5	<5	<5	<5	19	DMR monthly averages
Silver, total recoverable [µg/L]	0.69	0.2	0.87	<0.003	65	DMR monthly averages
Ortho Phosphate [µg/L]	1298	244	3650	<100	65	DMR monthly averages
Temperature (°C)	22.8	16.3	23.4	10.4	65	DMR monthly averages
Temperature (°C)	23.9	17.7	27.9	11.0	65	DMR Max Daily

2.2 Description of Receiving Water

The permittee's discharge is to the Spokane River in the Panhandle Basin, Upper Spokane subbasin. Water Body Assessment Unit (AU) ID17010305PN004_04. At the point of discharge, the receiving water is protected for the following designated uses (IDAPA 58.01.02.110.12 and support statuses as reported in the 2022 Integrated Report (DEQ 2022a):

- Cold water aquatic life (CWAL) (not supporting; cause listed as lead, total phosphorus, and zinc) (Cadmium, arsenic, nickel, and selenium are listed as parameters that are meeting criteria)
- Salmonid spawning (Unassessed, not supporting based on CWAL status)
- Primary contact recreation (Fully Supporting)
- Domestic water supply (Fully Supporting)

In addition, Idaho Water Quality Standards state that all waters of the State of Idaho are protected for industrial and agricultural water supply, wildlife habitats and aesthetics (IDAPA58.01.02.100.03.b and c, 100.04 and 100.05). The permit must include any effluent limits necessary to meet the water quality standards.

DEQ has defined existing uses as “those beneficial uses actually attained in waters on or after November 28, 1975, whether or not they are designated for those waters in Idaho Department of Environmental Quality Rules, IDAPA 58.01.02, ‘Water Quality Standards. (IDAPA 58.01.02.010.38). Existing uses in the area associated with the Post Falls POTW outfall include the aforementioned designated uses.

The ambient background data used for this permit includes the following from upstream data collected by the permittee and others as indicated in Table 4.

Table 4. Ambient background data.

Parameter	Units	Measure	Value	Source (dates)
CBOD, 5-day	mg/L	Average	0.14	Permittee collected data reports 2018- 2021
Ammonia, Total as (N)	mg/L	95 th percentile	0.01	
pH	Standard units	5 th – 95 th , percentile	7.2 – 7.7	
Nitrate + Nitrite (N)	mg/L	95 th percentile	0.20	
Phosphorus, Total as P	mg/L	95 th percentile	0.04	
Orthophosphate	mg/L	95 th percentile	0.009	
Dissolved Oxygen (DO)	mg/L	5 th percentile	6.6	
Chlorophyll A	µg/L	95 th percentile	2.6	
PCBs	pg/L	Minimum	0.20	
		Maximum	96.00	
		Average	19.10	
Hardness	mg/L as CaCO ₃	5 th percentile	16.4	DEQ 2013-2015 collected @ North Idaho College
Lead (dissolved)	µg/L	95 th percentile	1.5	
Zinc (dissolved)	µg/L	95 th percentile	59.0	
Cadmium (dissolved)	µg/L	95 th percentile	0.22	
Temperature	°C	95 th percentile	24.6	2010-2014 summer temps USGS 12419000
<i>E. coli</i>	#/100mL	recorded	43	DEQ 6/13/2017
			21	DEQ 10/16/2014

2.2.1 Water Quality Impairments

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment (IDAPA 58.01.02.055.02). A central purpose of TMDLs is to establish wasteload allocations (WLAs) for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limits that are consistent with the assumptions and requirements of WLAs that have been assigned to the discharge in an EPA-approved TMDL IDAPA 58.01.25.302.06.vii(2).

Idaho:

The Spokane River is listed in DEQ's 2022 *Integrated Report* (DEQ 2022a) as not supporting the cold water aquatic life (CWAL) beneficial use and the listed cause is total phosphorus. The water quality-based effluent limits for total phosphorus in the draft permit will ensure compliance with Idaho's narrative water quality criterion for nutrients (IDAPA 58.01.02.200.06).

The Spokane River is listed in DEQ's 2022 *Integrated Report* as not supporting the CWAL beneficial use and the listed causes are the metals lead, and zinc. EPA approved a TMDL submitted by the State of Idaho for lead and zinc in the Coeur d'Alene River Basin, which included this segment of the Spokane River.

The EPA-approved *Spokane River Total Maximum Daily Load* Lead and Zinc (DEQ 2022b) establishes waste load allocations (WLAs) for lead and zinc for point source discharges to the Spokane River. These WLAs are designed to meet narrative and numeric criteria and help restore the water body to a condition that supports existing and designated beneficial uses. The effluent limits and associated requirements contained in the 2023 permit are set at levels consistent with the TMDL, which includes meeting Washington lead and zinc criteria at the Idaho and Washington state line.

Washington:

In 2014, EPA issued NPDES permits to Idaho dischargers discharging to the Spokane River. In developing those permits EPA determined discharges of oxygen-demanding pollution from those sources have the reasonable potential to cause or contribute to excursions below Washington's water quality criterion for dissolved oxygen in Lake Spokane. Additionally, EPA has approved the State of Washington's *Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load: Water Quality Improvement Report* (2010), hereinafter referred to as the Spokane DO TMDL. Based on the Spokane DO TMDL and to ensure compliance with Washington's dissolved oxygen criterion for lakes and reservoirs, the 2014 Post Falls permit included effluent limits for phosphorus, ammonia, and five-day carbonaceous biochemical oxygen demand. DEQ agrees with EPA's 2014 limit development process as it reflects Idaho's water quality standards (WQS) regarding protection of downstream water quality (IDAPA 58.01.02.070.08 and IDAPA 58.01.25.103.03). In the 2023 IPDES permit DEQ has retained those limits for phosphorus, ammonia, and five-day carbonaceous biochemical oxygen demand.

2.2.2 Critical Conditions

The low flow conditions of a water body are used to determine water quality-based effluent limits (WQBELs). In general, the Idaho Water Quality Standards (WQS) require that WQBELs be based on low flow design conditions (see IDAPA 58.01.02.210.03) as defined in Table 5. The 1Q10 represents the lowest one-day flow with a recurrence frequency of once in 10 years while the 1B3 is biologically based and indicates an allowable exceedance of once every three years (IDAPA 58.01.02.210.03.b.i). The 7Q10 represents the lowest average seven consecutive day flow with a recurrence frequency of once in 10 years (IDAPA 58.01.02.210.03.b.iii). The 30Q5 represents the lowest average 30 consecutive day flow with a recurrence frequency of once in five years. The harmonic mean is a long-term mean flow value calculated by dividing the number of daily flow measurements by the sum of the reciprocals of the flows (IDAPA 58.01.02.210.03.b.v).

For this permit, DEQ used critical low flows downstream of the discharge from the USGS gage station #12419000 Spokane River near Post Falls, ID, which is located approximately 0.69 miles downstream of Outfall 001. USGS's SWToolbox program was used to calculate the critical low flows using data from 1/1/2011 through 12/31/2021. The annual low flows are presented in Table 5.

DEQ has retained the flow seasons from the 2014 permit when evaluating critical flows of the Spokane River. The low flow season is from July through September and the high flow season is

from October through June. The 1Q10 and 7Q10 flow rates over all months and during the low flow season are less than the minimum flow rates specified in the Federal Energy Regulatory Commission (FERC) license for the Post Falls Dam. DEQ has used the FERC minimum flows for effluent limit calculations in lieu of 1Q10 and 7Q10 flow rates during these periods.

Because the 1Q10 and 7Q10 flows are the same (FERC minimum flows) for the low-flow season and the annual period, DEQ has conducted all reasonable potential analyses (RPA) using the annual flow period and determined seasonal flow periods are unnecessary in the 2023 permit for all parameters when conducting reasonable potential analyses.

Table 5. Flow seasons critical flows

Seasonal Critical Flows in Spokane River				
Season	1Q10 (cfs)	7Q10 (cfs)	30Q10 (cfs)	harmonic mean flow
All months	468	476	524	2030
Oct - June	611	637	1120	2030
July - September	467	474	509	1910
FERC license minimum flow	500			

2.3 Pollutants of Concern

DEQ may identify pollutants of concern (POC) for the discharge based on, but not limited to, those which:

- Have a technology-based limit (TBEL)
- Have an assigned WLA from a TMDL
- Had an effluent limit in the previous permit
- Are present in the effluent monitoring data reported in the application, DMRs, or special studies
- Are expected to be in the discharge based on the nature of the discharge
- Are impairing the beneficial uses of the receiving water

To determine POCs for further analysis, DEQ evaluated all pertinent and available information such as the permit application and TMDL. The wastewater treatment process for this facility includes oxidation ditches, secondary clarifiers, and disinfection by UV. Pollutants expected in the discharge are:

- | | |
|-------------------------------|--------------------------------------|
| • CBOD | • Cadmium |
| • TSS | • Silver |
| • Fecal coliform/E. coli etc. | • Temperature |
| • pH | • PCBs |
| • Chlorine | • Perfluoroalkyl and Polyfluoroalkyl |
| • Ammonia | Substances (PFAS) |
| • Phosphorus | • WET |
| • Copper | |
| • Lead | |
| • Zinc | |

3 Effluent Limits and Monitoring

Table 6 presents the effluent limits and monitoring requirements in the 2014 Permit. Table 7 presents the draft effluent limits and monitoring requirements in the 2023 permit.

Table 6. 2014 Permit - Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent limits			Monitoring Requirements		
		Average Monthly Limit	Average Weekly Limit	Max. Daily Limit	Location	Frequency	Sample Type
Flow	mgd	Report	—	Report	Effluent	Continuous	Recording
Five-day carbonaceous biochemical oxygen demand (CBOD ₅) November – January	mg/L	25	40	—	Influent and Effluent	1/week	24-Hour Composite
	lb/day	1043	1668	—			Calculation ²
	% removal	85% (min.)	—	—	% removal	1/month	Calculation ³
CBOD ₅ 1 February – October	mg/L	25	40	—	Influent and Effluent	3/week	24-Hr. Comp.
	lb/day	Seasonal Average Limit: 255 lb/day. See I.B.10.					Calculation ²
	% removal	85% (min.)	—	—			Calculation ³
Total Suspended Solids	mg/L	30	45	—	Influent and Effluent	1/week	24-Hr. Comp.
	lb/day	1251	1877	—			Calculation ²
	% removal	85% (min.)	—	—	% removal	1/month	Calculation ³
pH October – June	s.u.	6.3 – 9.0 at all times			Effluent	5/week	Grab
pH July – September	s.u.	6.4 – 9.0 at all times			Effluent	5/week	Grab
E. coli	#/100 ml	126 ⁴ (geometric mean)	—	406 (inst. max.)	Effluent	5/month	Grab
Total Residual Chlorine (July – September) if chlorine is used for disinfection or elsewhere in the treatment process	µg/L	127	—	294	Effluent	2/day	Grab
	lb/day	5.30	—	13.6			Calculation ²
Total Residual Chlorine (October – June) if chlorine is used for disinfection or elsewhere in the treatment process	µg/L	244	—	565	Effluent	1/day	Grab
	lb/day	10.2	—	23.6			Calculation ²
Total Residual Chlorine If chlorine is not used for disinfection or elsewhere in the treatment process	No monitoring or reporting required.						

Parameter	Units	Effluent limits			Monitoring Requirements		
		Average Monthly Limit	Average Weekly Limit	Max. Daily Limit	Location	Frequency	Sample Type
Chlorine Usage	lb/day	—	—	Report	Chlorine contact chamber	1/day	Measure
Total Ammonia as N (February –October)	mg/L	Report	—	Report	Effluent	3/week	24-Hr. Comp.
	lb/day	Seasonal Average Limit: 255 lb/day. See I.B.10.					Calculation ²
Total Ammonia as N (July – September)	mg/L	8.2	—	29.5	Effluent	3/week	24-Hr. Comp.
	lb/day	342	—	1230			Calculation ²
Total Ammonia as N (November – January)	mg/L	25.4	—	91.7	Effluent	1/month	24-Hr. Comp.
	lb/day	1059	—	3824			Calculation ²
Total Phosphorus as P (February – October)	µg/L	Report	Report	—	Effluent	3/week	24-Hr. Comp.
	lb/day	Report	Report	—			Calculation ²
	lb/day	Seasonal Average Limit: 3.19 lb/day. See I.B.10.					
Total Phosphorus as P (November – January)	µg/L	Report	Report	—	Effluent	1/week	24-Hr. Comp.
Copper (July – September)	µg/L	13.8	—	27.7	Effluent	1/month	24-Hr. Comp.
	lb/day	0.58	—	1.16			Calculation ²
Copper (Oct. – June)	µg/L	Report	—	Report	Effluent	1/month	24-Hr. Comp.
Lead	µg/L	2.05	—	3.79	Effluent	1/month	24-Hr. Comp.
	lb/day	0.0855	—	0.158			Calculation ²
Zinc	µg/L	84.3	—	115	Effluent	1/month	24-Hr. Comp.
	lb/day	3.52	—	4.80			Calculation ²
Temperature	°C	Report	—	Report	Effluent	5/week	Grab
Cadmium	µg/L	Report	—	Report	Effluent	1/month	24-Hr. Comp.
Silver	µg/L	Report	—	Report	Effluent	1/month	24-Hr. Comp.
Alkalinity	mg/L as CaCO ₃	Report	—	Report	Effluent	1/month	24-Hr. Comp.

Parameter	Units	Effluent limits			Monitoring Requirements		
		Average Monthly Limit	Average Weekly Limit	Max. Daily Limit	Location	Frequency	Sample Type
Hardness	mg/L as CaCO ₃	Report	—	Report	Effluent	1/month	24-Hr. Comp.
Oil and Grease	mg/L	Report	—	Report	Effluent	1/quarter ⁷	Grab
Total Dissolved Solids	mg/L	Report	—	Report	Effluent	1/quarter ⁷	24-Hr. Comp.
Polychlorinated Biphenyl (PCB) Congeners ⁵	pg/L	Report	—	Report	Influent	1/2 months ⁸	24-Hr. Comp.
PCB Congeners ⁵	pg/L	Report	—	Report	Effluent	1/quarter ⁷	24-Hr. Comp.
2,3,7,8 tetrachloro-dibenzop-dioxin (TCDD) ⁶	pg/L	Report	—	Report	Influent and Effluent	1/quarter ⁷	24-Hr. Comp.
Orthophosphate as P	µg/L	Report	—	Report	Effluent	1/month	24-Hr. Comp.
Total Kjeldahl Nitrogen	mg/L	Report	—	Report	Effluent	1/month	24-Hr. Comp.
Nitrate + Nitrite as N	mg/L	Report	—	Report	Effluent	1/month	24-Hr. Comp.
Whole Effluent Toxicity	TU _c	See I.E.			Effluent	2/year	24-Hr. Comp.

1. These effluent limits are subject to a compliance schedule. See I.C and I.D.

2. Loading is calculated by multiplying the concentration in mg/L by the corresponding flow (in mgd) for the day of sampling and a conversion factor of 8.34. For more information on calculating, averaging, and reporting loads and concentrations see the *NPDES Self-Monitoring System User Guide* (EPA 833-B-85-100, March 1985).

3. Percent removal is calculated using the following equation: (average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration.

4. The average monthly E. coli bacteria counts must not exceed a geometric mean of 126/100 ml based on a minimum of five samples taken every 3-7 days within a calendar month. See Part VI for a definition of geometric mean.

5. See I.B.11.

6. See I.B.12.

7. Quarters are defined as January – March, April – June, July – September, and October – December.

8. Two-month reporting periods are defined as January – February, March – April, May – June, July – August, September – October, and November – December.

Table 6 (continued): 2014 Interim Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Units	Effluent limits		Monitoring Requirements		
		Average Monthly Limit	Average Weekly Limit	Location	Frequency	Sample Type
CBOD₅ February – October	mg/L	25	40	Influent and Effluent	3/week	24-Hr. Comp.
	lb/day	726	1161			Calculation
	% removal	85% (min.)	—		1/month	Calculation
Total Phosphorus as P February – October	mg/L	Report	Report	Influent and Effluent	3/week	24-Hr. Comp.
	lb/day	68.5	110			Calculation
	% removal	70% (min.)	—		1/month	Calculation

Table 7. 2023 Permit – Effluent Limits and Monitoring Requirements

Parameter	Units	Effluent Limits				Monitoring Requirements		Reporting Frequency (DMR Months)
		Monthly Average	Weekly Average	Monthly Geometric Mean	Daily Maximum	Sample Type	Sample Frequency	
Flow	mgd	Report	—	—	Report	Recorded	Continuous ^{a,b}	Monthly
Five-day Carbonaceous Biochemical Oxygen Demand (CBOD ₅) (year-round)	mg/L	25	40	—	—	24-hour composite ^c	1/week	Monthly
CBOD ₅ percent removal (year-round)	% removal	85 (min.)	—	—	—	Calculation ^d	1/month	Monthly
CBOD ₅ (February - October)	lb/day	369	679	—	—	Calculation ^e	1/week	Monthly
		Seasonal Average Limit: 255				Calculation ^e	1/year	Annually (October)
CBOD ₅ (November - January)	lb/day	1,086	1,738	—	—	Calculation ^e	1/week	Monthly
Total Suspended Solids (TSS)	mg/L	30	45	—	—	24-hour composite ^c	1/week	Monthly
	lb/day	1,303	1,955	—	—	Calculation ^e	1/month	Monthly
TSS Percent Removal	%	85 (min.)	—	—	—	Calculation ^d	1/month	Monthly
<i>E. coli</i> ^{f,g}	#/100ml	—	—	126 ^h	406 ⁱ	Grab ^j	5/month	Monthly
<i>Enterococci</i> ^{f,g}	#/100ml	—	—	35 ^h	130 ⁱ	Grab ^j	5/month	Monthly
pH	SU	6.5 – 9.0				Grab ^j	5/week	Monthly
Temperature	°C	Report	—	—	Report	Recorded	Continuous ^{a,b}	Monthly

Chlorine, total residual (July – September) ^{f,k}	µg/L	127	—	—	294	Grab ^j	2/day	Monthly
	lb/day	5.30	—	—	13.6	Calculation ^e	1/month	
Chlorine, total residual (October – June) ^{f,k}	µg/L	244	—	—	565	Grab ^j	2/day	Monthly
	lb/day	10.2	—	—	23.6	Calculation ^e	1/month	
Ammonia, total (as N) year round	mg/L	Report	—	—	Report	24-hour composite ^c	1/week	Monthly
	lb/day	Report	—	—	Report	Calculation ^e		
Ammonia, total (as N) February –October	lb/day	Seasonal Average Limit: 255				Calculation ^e	1/year	Annually (October)
Phosphorus, total (as P) Year round	mg/L	Report	—	—	Report	24-hour composite ^c	3/week	Monthly
	lb/day	Report	—	—	Report	Calculation ^e	1/month	
Phosphorus, total (as P) February –October	lb/day	Seasonal Average Limit: 3.19				Calculation ^e	1/year	Annually (October)
Lead, total	µg/L	Report	—	—	Report	24-hour composite ^c	1/month	Monthly
	lb/day	Report	—	—	Report	Calculation ^e		
Zinc, total ^f	µg/L	82.39	—	—	120.23	24-hour composite ^c	1/month	Monthly
	lb/day	3.58	—	—	5.22	Calculation ^e		
Copper, total	µg/L	Report	—	—	Report	24-hour composite ^c	1/month	Monthly
Cadmium, total	µg/L	Report	—	—	Report	24-hour composite ^c	1/month	Monthly
Silver, total	µg/L	Report	—	—	Report	24-hour composite ^c	1/month	Monthly

Alkalinity	mg/L as CaCO ₃	Report	—	—	Report	24-hour composite ^c	1/month	Monthly
Hardness	mg/L as CaCO ₃	Report	—	—	Report	24-hour composite ^c	1/month	Monthly
Polychlorinated Biphenyl (PCB), total ⁱ	pg/L	—	—	—	Report	24-hour composite ^c	1/quarter ^m	Quarterly ⁿ (May, August, November, February)
Orthophosphate (as P)	µg/L	Report	—	—	Report	24-hour composite ^c	1/month	Monthly
Total Kjeldahl Nitrogen (TKN)	mg/L	Report	—	—	Report	24-hour composite ^c	1/month	Monthly
2,3,7,8 tetrachloro-dibenzop-dioxin (TCDD)	pg/L	—	—	—	Report	24-hour composite ^c	— ^o	— ^p
Per- and Polyfluoroalkyl Substances (PFAS)	ng/L	—	—	—	Report	Grab ^j	1/quarter ^{m,q}	Quarterly ⁿ (May, August, November, February)
Whole Effluent Toxicity (WET)	TU _c	Trigger value = 16.5				24-hour composite ^c	1/year ^r	Annually ^s

- Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
- DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.
- 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.
- $\% \text{ Removal} = ([\text{Average Monthly Influent}] \text{mg/L} - [\text{Average Monthly Effluent}] \text{mg/L}) / ([\text{Average Monthly Influent}] \text{mg/L}) \times 100\%$; Brackets “[]” indicate concentration of the attribute contained inside.
- $\text{Load (lb/day)} = ([\text{Pollutant}] \text{mg/L}) * (\text{corresponding flow in mgd}) * (\text{conversion factor of } 8.34)$
- Exceedance of a maximum daily limit, instantaneous maximum limit, or instantaneous minimum limit, for this parameter requires 24-hour reporting in accordance with 2.2.7 of the permit. For *E. coli*, the maximum daily threshold that triggers 24-hour reporting is 406 organisms/100mL. Please see section 2.2.7 of the permit for additional 24-hour reporting requirements.
- The permittee is required to monitor for and meet the applicable limits for *E. coli* or *Enterococci* but not both. The permittee must enter NODI Code “9” for DMR reporting for the parameter that is not monitored.
- Geometric mean of five or more samples collected 3-11 days apart over a calendar month.

- i. Idaho's water quality standards for contact recreation for permitting (IDAPA 58.01.02.251.02.c) include a Statistical Threshold Value (STV), which is represented in the permit as an instantaneous maximum limit.
- j. A grab sample is an individual sample collected over a 15-minute period or less.
- k. Monitoring requirements and effluent limits for chlorine only apply if chlorine is used for disinfection during the reporting month. The permittee must enter NODI Code "9" for DMR reporting during months when chlorine is not used.
- l. The permittee must use EPA Method 1668c for analysis of PCB congeners, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668c Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- m. Quarters are defined as: January 1-March 31; April 1-June 30; July 1-September 30; and October 1-December 31.
- n. PCB congener and PFAS data must be reported on the DMR occurring two months after the last month of quarter in which the sampling took place, and also included with the Toxics Management Practices Plan annual report required in permit section 3.16.
- o. The monitoring schedule for TCDD must correspond to the monitoring for permit renewal effluent monitoring found in permit section 2.1.5.
- p. TCDD monitoring results must be included in the Toxics Management Practices Plan annual report required in permit section 3.16.
- q. Monitoring for PFAS chemicals is required for 2 years (8 quarters), beginning at the start of the first complete quarter in the third year of the permit term.
- r. The permittee is required to monitor WET on a rotating quarterly schedule as described in permit section 3.3.
- s. The permittee must enter NODI Code "9" for DMR reporting during quarters when WET is not required.

Seasonal average limit for CBOD₅, total phosphorus and ammonia:

- The February – October seasonal average CBOD₅, total phosphorus, and ammonia loading limits are 255 lb/day, 3.19 lb/day and 255 lb/day, respectively.
- The seasonal average CBOD₅, total phosphorus, and ammonia loads must be calculated as the sum of all daily loads calculated during a calendar year, divided by the number of days sampled for CBOD₅, total phosphorus, and ammonia respectively during that year.
- The seasonal average CBOD₅, total phosphorus, and ammonia loads must be reported on the October monitoring period DMR submitted by November 20th, regardless of whether a discharge of pollutants occurs during the month of October.
- The permittee must report the monthly average, maximum weekly average, and/or daily maximum total phosphorus, CBOD₅ and ammonia loads and concentrations on the monthly DMRs year-round, as required in the 2023 permit.

Effluent Limit Changes from the Previous Permit:

- CBOD₅ November through January (TBELs) monthly loading limit changed from 1,043 lb/day to 1,086 lb/day and the weekly average loading limit changed from 1,668 lb/day to 1,738 lb/day.
- CBOD₅ February through October (WQBELs) monthly average and weekly average loading limits have been added. The monthly average limit is 369 lb/day and the weekly average limit is 679 lb/day.
- TSS monthly loading limit changed from 1,251 lb/day to 1,303 lb/day and the weekly average loading limit changed from 1,877 lb/day to 1,955 lb/day.
- The total ammonia monthly average and daily maximum limits have been discontinued.
- pH instantaneous minimum limit changed from 6.3 s.u. October through June and 6.4 s.u. July through September, to 6.5 s.u. year-round.
- The copper monthly average and daily maximum limits have been discontinued.
- Lead monthly average and daily maximum limits have been discontinued.
- Zinc monthly average and daily maximum limits changed from 84.3 µg/L (3.52 lb/day) and 115 µg/L (4.80 lb/day) respectively to 82.39 µg/L (3.58 lb/day) and 120.23 µg/L (5.22 lb/day).

Table 8 presents the interim effluent limits and monitoring requirements in the 2023 permit.

Table 8. Interim limits in the 2023 permit

Parameter	Units	Effluent Limits		DMR Reporting Period (DMR Reporting Months)		
		Monthly Average	Weekly Average	Sample Type	Sample Frequency	DMR Reporting Period
Total Phosphorus (as P) February - October	mg/L	Report	Report	24-hour composite ^a	3/week	Monthly
	lb/day	40	87	Calculation ^b		

a. 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.

b. Load (lb/day) = ([Pollutant] mg/L)*(corresponding flow in mgd)*(conversion factor of 8.34)

Interim Effluent Limit Changes from the Previous Permit:

- CBOD₅ interim limits have been discontinued and the final CBOD₅ limits are effective in the 2023 permit.
- Total phosphorus monthly average and weekly average limits changed from 68.5 lb/day and 110 lb/day respectively to 40 lb/day and 87 lb/day.

3.1 Basis for Effluent Limits

Regulations require that effluent limits in an IPDES permit must be either technology-based or water quality-based.

TBELs are set according to the level of treatment that is achievable using available technology. TBELs are based upon the treatment processes used to reduce specific pollutants. TBELs are set by the EPA and published as a regulation. DEQ may develop a TBEL on a case-by-case basis (40 CFR 125.3, IDAPA 58.01.25.302, and IDAPA 58.01.25.303).

WQBELs are calculated so the effluent will comply with the Surface Water Quality Standards (IDAPA 58.01.02) or the National Toxics Rule (40 CFR 131.36) applicable to the receiving water.

DEQ must apply the most stringent of the TBEL and WQBEL limits to each POC (IDAPA 58.01.25.302.06). These limits are described below.

3.2 Technology-Based Effluent Limits

IDAPA 58.01.25.302 requires that IPDES permits include applicable TBELs and standards, while 40 CFR 125.3(a)(1) states that TBELs for POTWs must be based on secondary treatment standards or as specified in 40 CFR 133. The following section explains secondary treatment effluent limits for the conventional pollutants discharged by POTWs: 5-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), and pH. These effluent limits are given in 40 CFR 133 and are outlined in Table 9.

Table 9. Secondary treatment effluent limits (40 CFR § 133).

Parameter	30-day average	7-day average
BOD ₅	30 mg/L	45 mg/L
CBOD ₅	25 mg/L	40 mg/L
TSS	30 mg/L	45 mg/L
Removal for BOD ₅ /cBOD ₅ and TSS (concentration)	85% (minimum)	
pH	within the limits of 6.0 - 9.0 s.u.	

DEQ recognizes that the CBOD₅ test can provide accurate information on treatment plant performance and, in 40 CFR Part 133 (IDAPA 58.01.25.003.02.v), allows permit writers to use CBOD₅ limitations in place of BOD₅ limitations to minimize false indications of poor facility performance as a result of nitrogenous oxygen demand. The 2023 permit will retain replacing BOD₅ limits with CBOD₅ limits as was required in the 2014 NPDES permit.

In addition, Idaho rules and federal regulations include special considerations to allow treatment equivalent to secondary (TES) for treatment facilities with waste stabilization ponds (lagoons) and trickling filters. The Post Falls POTW does not qualify for equivalent to secondary

treatment because the facility as designed is capable of meeting all necessary secondary standards.

3.2.1 Mass-Based Limits

IDAPA 58.01.25.303.06 requires that effluent limits be expressed in terms of mass, except under certain conditions. IDAPA 58.01.25.303.02 requires that effluent limits for POTWs be calculated based on the design flow of the facility. The mass-based limits are expressed in pounds per day and are calculated as follows:

$$\text{Mass based limit (lb/day)} = \text{concentration limit (mg/l)} \times \text{design flow (mgd)} \times 8.34^i$$

Since the design flow for this facility is 5.21 mgd, the technology-based mass limits for:

CBOD₅

$$\text{Average Monthly Limit} = 25 \text{ mg/l} \times 5.21 \text{ mgd} \times 8.34 = 1,086 \text{ lb/day}$$

$$\text{Average Weekly Limit} = 40 \text{ mg/l} \times 5.21 \text{ mgd} \times 8.34 = 1,738 \text{ lb/day}$$

TSS

$$\text{Average Monthly Limit} = 30 \text{ mg/l} \times 5.21 \text{ mgd} \times 8.34 = 1,303 \text{ lb/day}$$

$$\text{Average Weekly Limit} = 45 \text{ mg/l} \times 5.21 \text{ mgd} \times 8.34 = 1,955 \text{ lb/day}$$

3.3 Water Quality-Based Effluent Limits

3.3.1 Statutory and Regulatory Basis

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limits in permits necessary to meet WQS. The IPDES regulation IDAPA 58.01.25.302.06 implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters that are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any WQS including narrative criteria for water quality. Effluent limits must also meet the applicable water quality requirements of affected States other than the State in which the discharge originates, which may include downstream States (IDAPA 58.01.25.103.03, IDAPA 58.01.25.302.06).

The regulations require the permitting authority to make this evaluation using procedures that account for existing controls on point and non-point sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the

ⁱ 8.34 is a conversion factor with units (lb × L)/(mg × gallon × 10⁶)ⁱⁱ Site specific translators were calculated as geometric mean of all the dissolved to total ratios as described in EPA guidance (EPA 1996). “The most direct procedure for determining a site-specific metal translator is simply to determine *f* *D* by measuring *CT* and *CD* and to develop the dissolved fraction as the ratio *CD*/*CT*. ... The translator is calculated as the geometric mean of the dissolved fractions.”

receiving water (IDAPA 58.01.25.302.06.a.ii). The limits must be stringent enough to ensure that WQS are met and must be consistent with any available TMDL WLA for the discharge (IDAPA 58.01.25.302.06.a.vii). If there are no approved TMDLs that specify WLAs for this discharge, all of the WQBELs are calculated directly from the applicable WQS.

3.3.2 Reasonable Potential Analysis (RPA) and Need for Water Quality-Based Effluent Limits

DEQ uses the process described in the *Effluent Limit Development Guidance* (DEQ 2017) to determine whether there is reasonable potential for the discharge to cause or contribute to an exceedance of water quality criteria (WQC). To determine if there is reasonable potential for a given pollutant, DEQ compares the maximum projected receiving water concentration to the WQC for that pollutant. If the projected receiving water concentration exceeds the criterion, there is reasonable potential, and a WQBEL must be included in the permit.

In some cases, a dilution allowance or mixing zone is permitted. A mixing zone is a limited area or volume of water where initial dilution of a discharge takes place and within which certain water quality criteria may be exceeded (IDAPA 58.01.02.060). While the criteria may be exceeded within the mixing zone, the use and size of the mixing zone must be limited such that the waterbody as a whole will not be impaired, all designated uses are maintained, and acutely toxic conditions are prevented.

The mixing zones for this facility's pollutants are summarized in Table 10. The calculated limits based on the size of the mixing zones do not impede receiving water beneficial uses.

Water quality-based effluent limits intended to protect aquatic life uses are typically based on the lowest seven-day average flow rate expected to occur once every ten years (7Q10) for chronic criteria and the lowest one-day average flow rate expected to occur once every ten years (1Q10) for acute criteria.

The chronic criterion for ammonia is a 30-day average concentration not to be exceeded more than once every three years. To complement the timing of the criteria DEQ has used the 30Q5 for the chronic ammonia criterion instead of the 7Q10. The 30Q5 represents the lowest average 30 consecutive day flow with an average recurrence frequency of once in five years and is employed to ensure an excursion frequency of no more than once every five years for a 30-day average flow rate.

Table 10. Authorized mixing zones for Post Falls POTW

Pollutant	Discharge Period	Authorized Mixing Zone (% of Critical Low Flow)	
		Aquatic Life	
		Acute (1Q10)	Chronic (7Q10, 30Q5)
Copper	Year-round	16% of 500 cfs	25% of 500 cfs
Silver	Year-round	3% of 500 cfs	—

All dilution factors are calculated with the effluent flow rate set equal to the design flow of 5.21 mgd.

The RPA and WQBEL calculations were based on the mixing zones for copper and silver shown in Table 10. The equations used to conduct the RPA and calculate the WQBELs are provided in Appendix B (Table 26).

To support the authorization of the mixing zones, DEQ developed a CORMIX model with available data to visualize the mixing process at the point of discharge during critical flows. The copper mixing zone is the largest authorized mixing zone in the 2023 permit therefore the copper plume was chosen to discuss in this section. The 1Q10 model (Figure 1) predicts a plume that does not contact the shore and exists in less than 25% of stream width. The red dashed (pink box) represents 25% of the Spokane River width. At the 500cfs minimum flow the model predicts the acute criteria is realized directly after discharging (orange line) and the chronic criteria within 0.3 meters (green line)(Figure 2). This model was developed using conservative estimates from best available input data (Table 4 and Table 5).

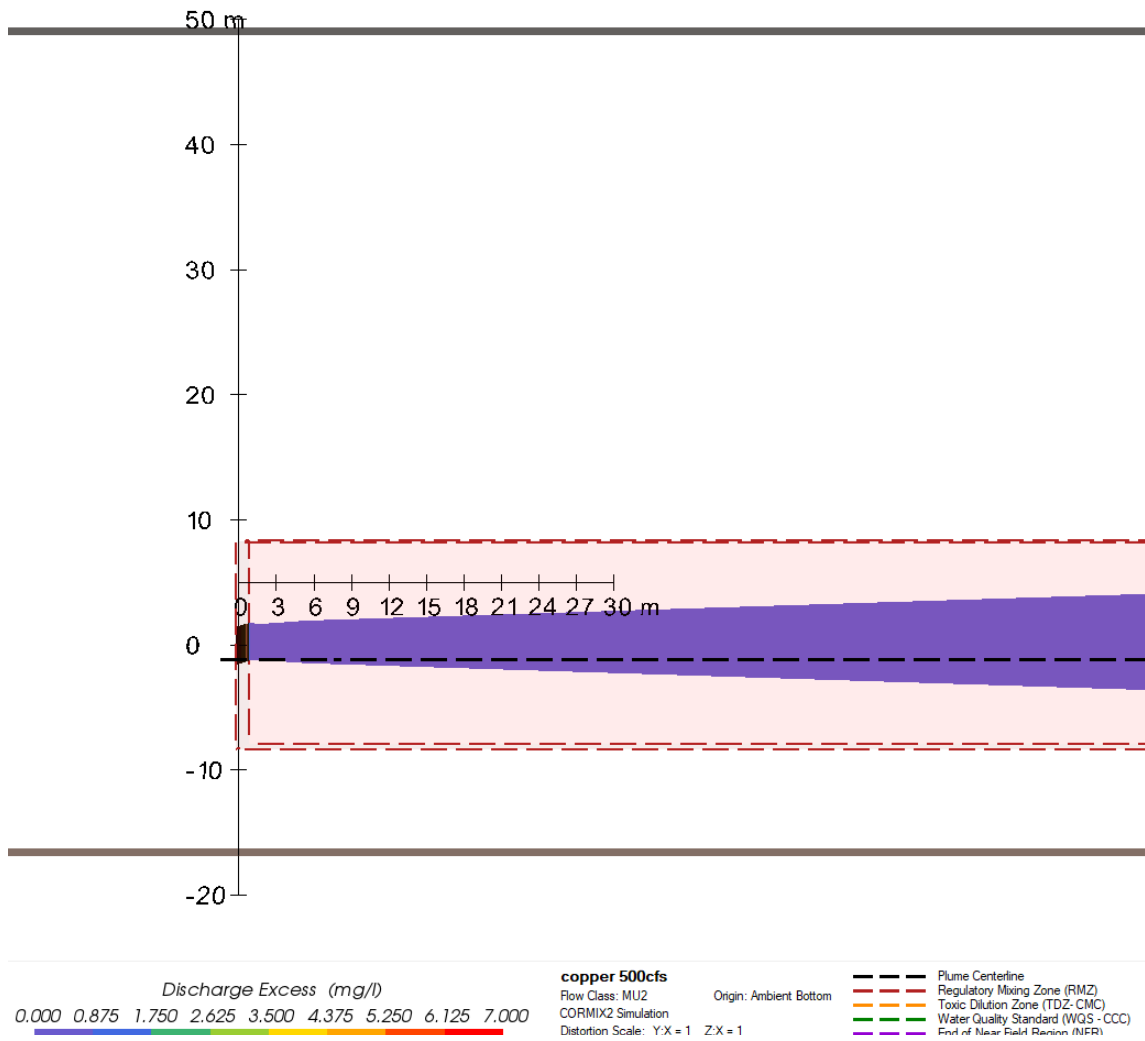


Figure. 1 Copper plume at 500cfs

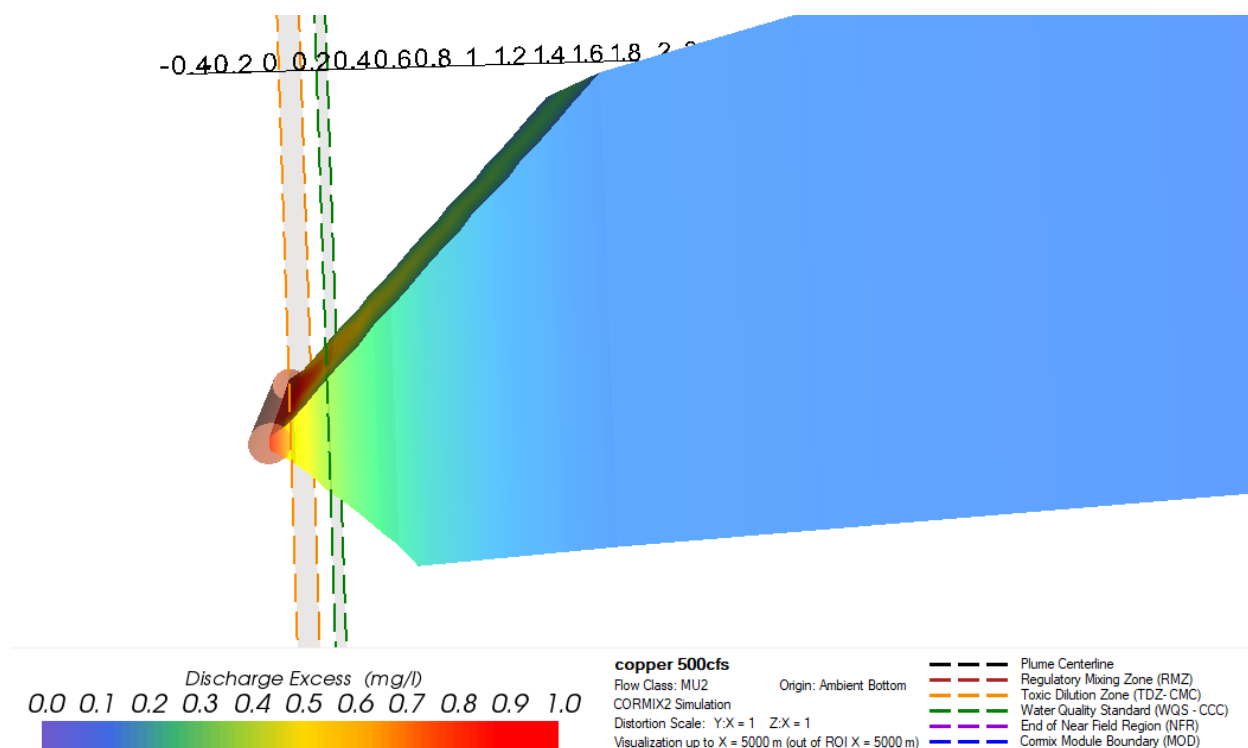


Figure 2. Copper plume at 500cfs Close-up

DEQ determined that mixing zones provided in the 2023 permit do not unreasonably interfere with, or cause danger to beneficial uses. The permittee is required to submit a Mixing Zone Data Needs Form with the next permit renewal application, found in Appendix B of DEQ's *Idaho Mixing Zone Implementation Guidance* (DEQ 2017b).

3.3.3 Reasonable Potential and Water Quality-Based Effluent Limits

The reasonable potential and WQBELs for specific parameters are summarized below. The calculations are provided in Appendix B.

3.3.3.1 Ammonia, Total as N

Ammonia criteria are based on a formula that relies on the pH and temperature of the receiving water. Because the fraction of ammonia present as the toxic, un-ionized form increases with increasing pH and temperature, the criteria become more stringent as pH and temperature increase. The table below details the equations used to determine WQC for ammonia.

Table 11. Ammonia criteria.

Total ammonia nitrogen criteria (mg N/L): Annual Basis Based on IDAPA 58.01.02			
INPUT		Acute Criteria Equation: Cold Water	$CMC = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$
1. Receiving Water Temperature (deg C):	24.6		
2. Receiving Water pH:	7.69	Acute Criteria Equation: Warm Water	$CMC = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$
3. Is the receiving water a cold water designated use?	Yes		
4. Are non-salmonid early life stages present or absent?	Present		
OUTPUT			
Total ammonia nitrogen criteria (mg N/L):		Chronic Criteria: Cold Water, Early Life Stages Present	$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \cdot MIN(2.85, 1.45 \cdot 10^{0.028(25-T)})$
Acute Criterion (CMC)	9.81		
Chronic Criterion (CCC)	1.89	Chronic Criteria: Cold Water, Early Life Stages Absent	$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \cdot 1.45 \cdot 10^{0.028(25-T)}$

Idaho WQS includes site-specific WQC in the Spokane River for ammonia (IDAPA 58.01.02.283). The site-specific criteria reflect the same ammonia criteria designated for cold water aquatic life when early life stages of fish are present (IDAPA 58.01.02.250.02.d.).

The RPA used the 95th percentile pH and temperature upstream data. The permittee collected 851 ammonia data points from January 2017 – May 2022 that were used to conduct an RPA. The RPA showed that the facility's discharge would not have reasonable potential to cause or contribute to a violation of the Idaho water quality criteria for ammonia during critical conditions with no mixing zone. Based on the improved treatment capabilities of the facility and the current data DEQ determined retaining 2014 effluent limits for ammonia in the 2023 permit would be superfluous. However, the 2023 permit requires a February through October seasonal average ammonia limits to assure the State of Washington's downstream water quality for dissolved oxygen are met. Section 3.3.3.8.3 discusses ammonia limitations in the 2023 permit in greater detail. Section 3.6.3 discusses antibacksliding regulations as they pertain to ammonia.

3.3.3.2 Fecal Coliform

Idaho WQS uses *E. coli* and *Enterococci* as indicator bacteria of fecal contamination in water designated for recreation. The criteria includes both geometric mean and a statistical threshold value (STV) for each indicator bacteria. IDAPA 58.01.02.251.02.c requires IPDES permits to

apply the geometric mean criteria and STV to a 30-day averaging period based on a minimum of 5 samples.

The Idaho WQS states that waters of the State of Idaho that are designated for recreation are not to contain *E. coli* bacteria in concentrations exceeding a geometric mean of 126 organisms per 100 ml based on a minimum of five samples taken every three to eleven days over a 45-day period. Alternatively, waters of the State of Idaho are not to contain Enterococci bacteria in concentrations exceeding a geometric mean of 35 organisms per 100 ml based on a minimum of five samples taken every three to eleven days over a 45-day period. A mixing zone is not appropriate for bacteria for waters designated for contact recreation. Therefore, the permit contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 ml or a monthly geometric mean effluent limit for Enterococci of 35 organisms per 100 ml (IDAPA 58.01.02.251.02). The permit requires the permittee to monitor for either indicator bacteria but not both (IDAPA 58.01.02.251.02.).

The Idaho WQS also state that waters designated for recreation are not to exceed a “statistical threshold value” (STV) of fecal indicators (IDAPA 58.01.02.251.02.). STVs are counts of *E. coli* or Enterococci per one hundred (100) mL in more than 10% of samples collected over a 45-day period. The STV for *E. coli* is 410 and the STV for Enterococci is 130.

Effluent monitoring is required at a minimum of five times per month to ensure compliance with the geomean criterion can be assessed. If a single sample exceeds the STV, additional samples may be collected to verify the exceedance constitutes less than 10% of monthly samples, and WQS have been met. However, the STV is represented in the 2023 permit as an instantaneous maximum limit to protect public health. If the instantaneous maximum limit is exceeded, the permittee must provide 24-hour notice of noncompliance consistent with permit section 2.2.7. The maximum value of all samples recorded over the month must be reported on the DMR as the instantaneous maximum.

The *E. coli* bacteria effluent limit in the 2014 permit of 406 is more stringent than the revised WQS STV of 410. Therefore, the 2023 permit retains the more stringent 406 organisms per 100 mL as the instantaneous maximum effluent limit.

3.3.3.3 pH

The Idaho WQS at IDAPA 58.01.02.250.01.a, require pH values of the receiving water to be within the range of 6.5 to 9.0. Mixing zones are generally not granted for pH; therefore the most stringent WQC must be met before the effluent is discharged to the receiving water.

The 2014 permit included a mixing zone for pH that is discontinued in the 2023 permit. The mixing zone was used to lower the instantaneous minimum limit from 6.5 s.u. to 6.3 s.u. October through June and 6.4 s.u. July through September. The 2017 through January 2022 DMR data reveals the lowest reported pH value as 6.9 s.u. which indicated that a mixing zone for pH is unnecessary, and end of pipe pH limits apply to the 2023 permit.

3.3.3.4 Chlorine

The Post Falls POTW uses UV as its primary means of disinfection and has retained chlorine treatment capabilities for emergency disinfection. The facility has been consistently incorporating treatment upgrades throughout the treatment process that improve UV treatment capabilities, including a UV control system which will automatically adjust the UV output in each channel in relation to variations in plant flow, UV transmittance, and UV intensity.

The facility has used chlorine for disinfection five months since January 2018; the last month was February 2021. Because the facility has retained chlorine disinfection capabilities chlorine is a POC when used. The Idaho WQC for chlorine is lower than the quantifiable level provided by EPA approved methods and any measurable chlorine level will have RPTE WQC without a mixing zone. The RPA using the previous 5 years of data revealed the discharge will have RPTE when chlorine is used for disinfection with a 25% mixing zone authorized (see Appendix B). Because ongoing facility improvements have diminished the need for chlorine disinfection the available data is minimal and likely not representative of current conditions. However, because RPTE WQC exists if chlorine is used, DEQ must include limits in the 2023 permit. DEQ determined that retaining the 2014 chlorine effluent limits in the 2023 permit will protect WQC and does not rely on data that may no longer be representative of current conditions to develop new limits.

3.3.3.5 Temperature

The Spokane River is designated for CWAL and salmonid spawning beneficial uses, and these uses are existing uses of this assessment unit. The salmonid spawning beneficial use applies “in areas used for spawning and during the time spawning and incubation occurs” (IDAPA 58.01.02.250.f.ii). To determine if the area associated with this discharge is used for spawning DEQ consulted the *Geography and Timing of Salmonid Spawning in Idaho* (BioAnalysts, 2014). In this report they defined large rivers as those with a Strahler Order greater than 4 and excluded all large rivers as potential spawning areas:

In effect, the mapping rules eliminated large rivers used as adult rearing and migration and tributary stream reaches that had sustained gradients greater than five percent as potential spawning habitat. This is not to say these less suitable areas could not see pockets of spawning use on occasion, but we do not expect them to support significant spawning as a primary use.

The Spokane River is classified as Strahler Order 7 in the area associated with the discharge and therefore would not be expected “to support significant spawning as a primary use” according to this source. A 2003 study (Avista 2003) characterized rainbow trout spawning habitat in the Spokane River downstream of the Post Falls dam as primarily associated with; “...river bends or islands, eddies, inundated or submerged vegetation (where reduced velocities can produce depositional areas), side channels, instream structures along shoreline (e.g., large boulders or bridge piers), and any visible gravel deposits”. Based on this information DEQ determined significant spawning for the trout species found in the Spokane River is particularly unlikely in the deep mid channel area directly associated with the Post Falls outfall.

The following are salmonids species residing in the Spokane River near the Post Falls Discharge: (Dates in parenthesis reflect potential spawning periods)

- Mountain Whitefish *Prosopium williamsoni* (December – April)
- Brown Trout *Salmo trutta* (October through mid-December)
- Rainbow Trout *Oncorhynchus mykiss* (mid-March through first week of June)
- Westslope Cutthroat Trout *Oncorhynchus clarki lewisi* (April - May)

According to DEQ's Water Body assessment Guidance (DEQ 2016), mountain whitefish spawning and egg incubation occurs from October 15 through March 15. *Fishes of Idaho: A Natural History Survey* explains that mountain whitefish spawning is initiated at temperatures 0°C and 11°C (Zaroban 2018).

A study of westslope cutthroat trout spawning in Coeur d' Alene basin found spawning primarily occurred between mid-April and early May, and consisted of fast migrations to spawning areas, adults quickly spawned, and returned to the main stem river system (Dupont, 2008).

DEQ focused on rainbow trout to represent all salmonids when determining the potential for the thermal impact of discharge to impact spawning, because their spawning period occurs in the spring when the ambient water temperature is rising, and flows are decreasing. This spring spawning period is considered the most critical of the applicable spawning periods and when it is reasonable to consider the effluent to have the greatest thermal impact. Additionally, spawning of the rainbow trout population between the Post Falls dam and Long Lake Washington has been investigated extensively to understand how hydroelectric projects in this reach impact this species. The Avista 2003 study identified 232 spawning redds in the upper reach of this area, between the downstream Monroe Street dam and the upstream Post Falls dam, where the Post Falls outfall is located. Of those 232 redds 88% were found in reference areas between river mile (RM) 92.1 and RM 95.1 in Washington. The furthest upstream redd was located at McGuire Street (RM 100.7) which is approximately 465 meters downstream of the Post Falls outfall. However, no spawning activity was recorded at the McGuire Street redd during the spawning period studied. The spawning period for this study started in early April when the flows in river were between 7,700 cfs to 15,600 cfs. Fry emergence in the upper reach was observed beginning in late May when flows were between 5,065 and 5,175 cfs, but no fry were observed at the McGuire reach at this time.

Figure 3 reflects the critical conditions associated with the month of May as the lowest flow month associated with rainbow trout spawning in the Spokane River. The critical conditions modeled are the May 1Q10 (4,452 cfs) river flow, the permittee's design flow discharge at the May maximum average daily effluent temperature (17.8 °C), and the receiving water is 12 °C. Under these input conditions the modeled thermal plume (0.2 °C above ambient) is less than 4 meters wide (width of diffuser) at its maximum width or approximately 6.1% of the stream channel width and dissipates 4.7 meters downstream. Based on this model output DEQ determined that any potential far field impact on the temperature of the Spokane River would be negligible and near field impacts would be limited to a small area near the outfall.

Figure 4 provides a satellite visualization of this area of the Spokane River including the outfall location and the McGuire Street redd area. The 2023 permit requires continuous temperature monitoring upstream and downstream in the river and also of the effluent to assess potential thermal impact of the discharge.

The continuous receiving water temperature data currently available is limited to 2010 – 2014, July through August collected upstream at USGS site 12419000. This data provides evidence that CWAL WQC in this portion of Spokane River may be exceeded in July, August, and September. However, long-term continuous data representing current conditions is needed to determine the frequency and duration of criteria exceedance, whether exceedance is extensive enough to result in use impairment, whether the discharge causes or contributes to exceedances, and if and when assimilative capacity for thermal loads exists.

In order to predict the potential for the discharge to have a measurable impact on the RW under critical annual conditions a CORVUE model was developed using the data available and conservative estimates for missing input values (depth at discharge and wind speed). The output visualization (Figure 5) indicates that under critical conditions the thermal plume is buoyant and mixes rapidly with ambient flow. The indigo colored portion of the plume reflects temperatures less than 0.2°C. The value of 0.2 °C is used because this increase represents the precision of common ambient river temperature monitoring equipment. Therefore, DEQ considers temperature differences of ± 0.2 °C to be negligible.

When the annual river conditions are modeled, ambient flow is the annual 1Q10 (500 cfs) at 22 °C. The thermal plume (Figure 5) greater than 0.2°C above ambient temperature associated with the 95th percentile maximum daily effluent temperature (23.9) dissipates within 4 meters in all but the very surface layer where it is unlikely to impact aquatic life. . Based on this model output DEQ determined that any potential far field impact on the temperature of the Spokane River would be negligible and near field impacts would be limited to a small area near the outfall. However, DEQ acknowledges that this model is developed using less than ideal data and the 2023 permit will require additional data collection for this assessment.

The 2023 permit requires continuous receiving water both upstream and downstream to assess support of the temperature criteria and replaces 5/week effluent grab samples in the 2014 permit with continuously recorded effluent temperature monitoring. Additionally, the facility transports treated effluent approximately 0.3 mile underground before discharging to the river. Currently, the effluent temperature is collected at the facility before being piped underground. Because the process of piping the effluent underground has potential to affect the thermal load of the effluent before being discharged, the 2023 permit requires the effluent temperature to be monitored as near to the end of pipe as feasible.

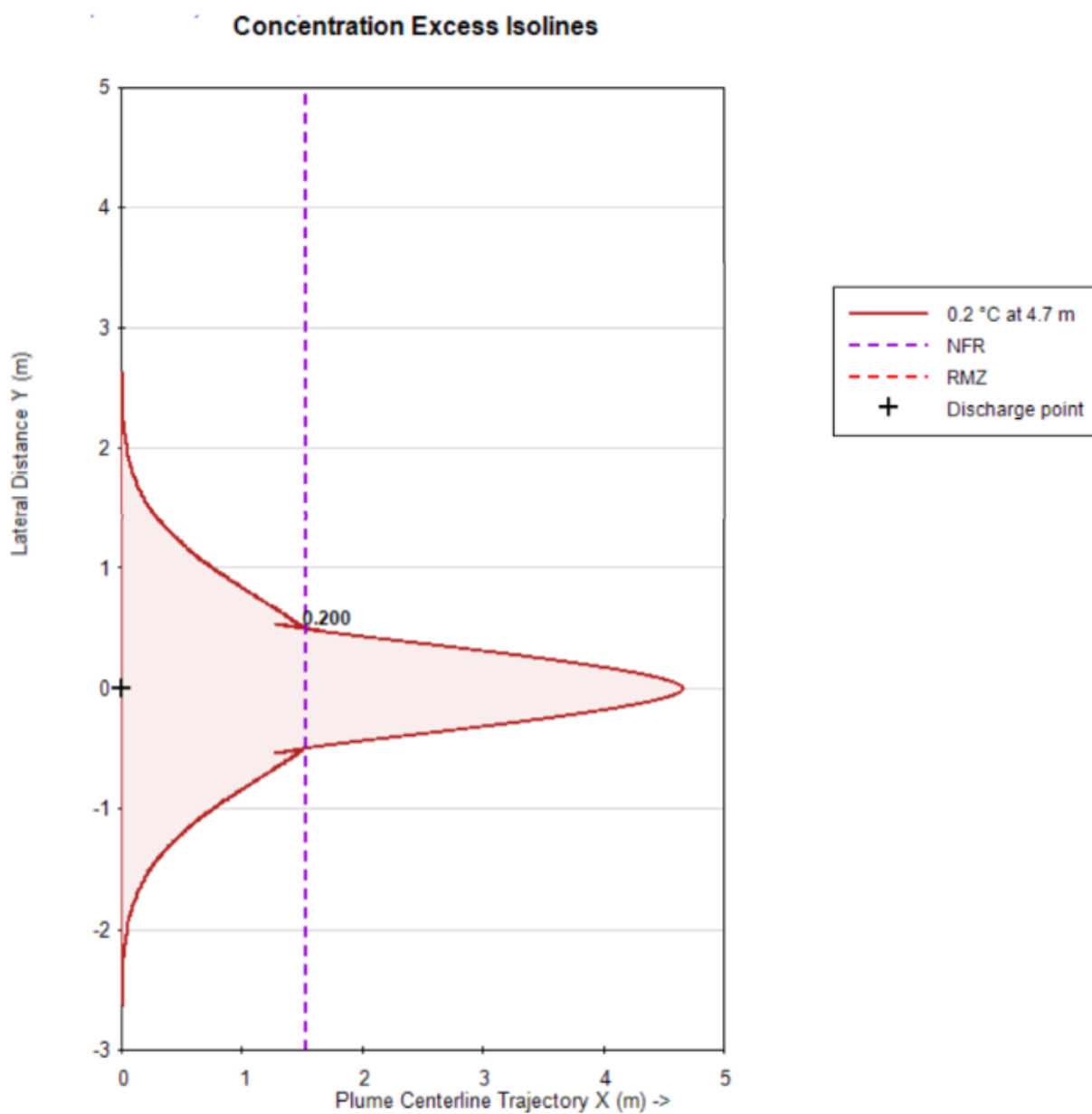


Figure 3. CorVue Isoline 0.2 °C May (critical conditions) [X = Y scale]



Figure 4. Outfall to visualized trout redd site

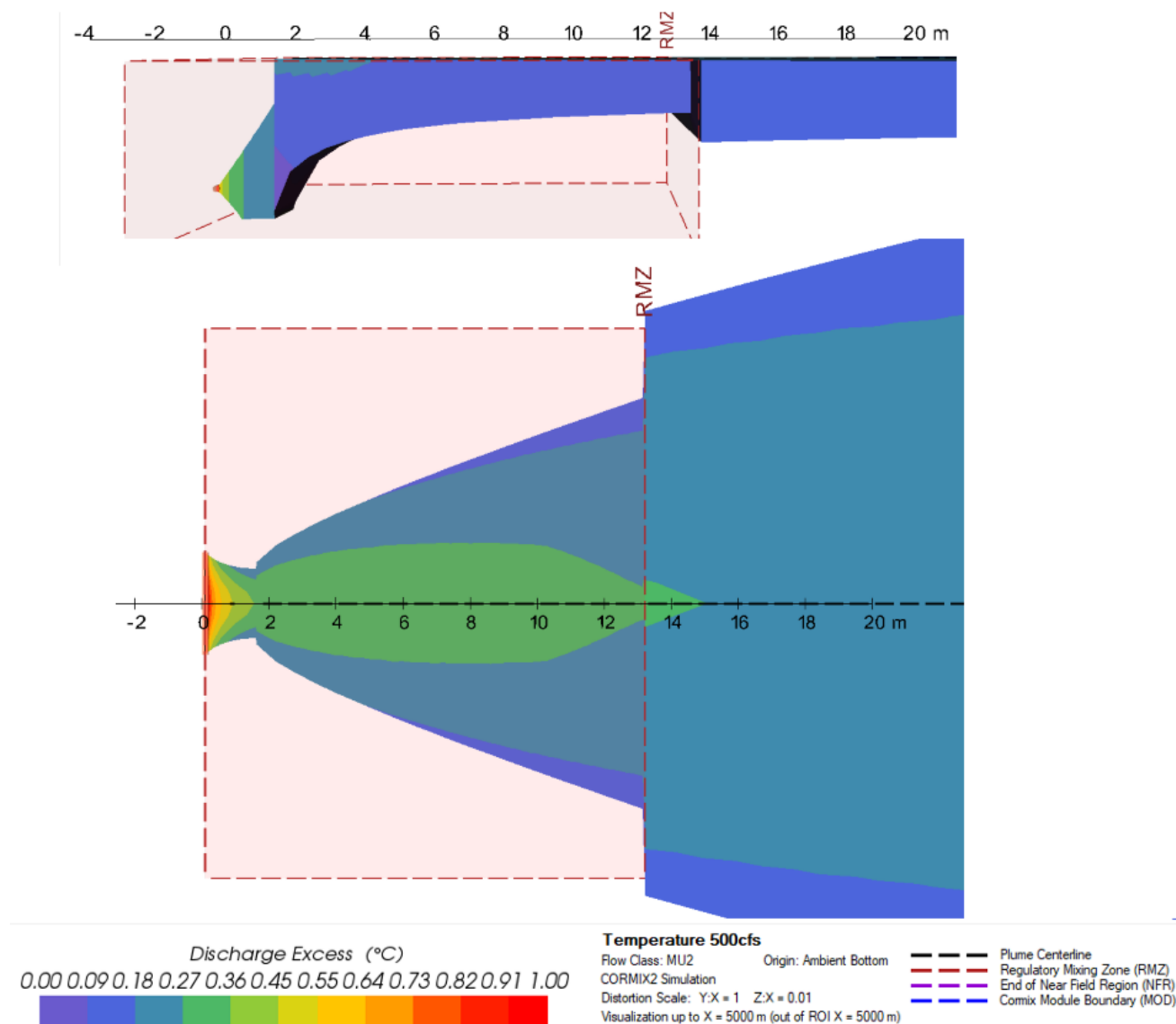


Figure 5. CorVue Excess Thermal Plume at annual critical conditions

3.3.3.6 Hardness Dependent Metals

The toxicities of some metals vary with the hardness of water. Therefore, the water quality criteria for these metals also vary with hardness. The hardness of the receiving water when mixed with the effluent is used to determine the water quality criteria for such metals. Since toxicity decreases (numeric water quality criteria becomes less stringent) as hardness increases, the RPA used the 5th percentile of downstream hardness. The 5th percentile of downstream hardness reflects a conservative value for hardness that best represents the water chemistry determining the toxicity in the area impacted by the discharge. Because there is an EPA approved TMDL for lead and zinc in the Spokane River that includes a WLA and assumptions for Post Falls WWTP, that WLA is used directly to develop effluent limits when the RPA determined that RPTE exists for lead or zinc as prescribed by the TMDL.

3.3.3.6.1 Lead and Zinc

In 1994, the Spokane River from Coeur d'Alene Lake to the Idaho/Washington border was placed on Idaho's 303(d) list of impaired waters with metals (unknown) as a cause for impairment to the cold-water aquatic life beneficial use. The unknown listing for metals was changed to Category 5 of Idaho's 2008 Integrated Report to cadmium, lead, and zinc being the metals that cause impairment. Cadmium was delisted from Idaho's 2016 Integrated Report. DEQ developed the Spokane River Total Maximum Daily Load Lead and Zinc (DEQ 2022b) to return the Spokane River to a condition that meets Idaho's water quality standards. The TMDL was approved by EPA in 2022.

The 2022 metals TMDL includes WLA for the three Idaho point sources to the Spokane River. These point sources are the POTWs for the Cities of Post Falls and Coeur d'Alene, and the Hayden Area Regional Sewer Board (HARSB) POTW. The WLAs contained in the TMDL are provided to meet both Idaho WQC and the State of Washington's WQC at the state line. Furthermore, the TMDL states that:

"...wasteload allocations for wastewater treatment facilities are based on IPDES-permitted effluent limits. These effluent limits were calculated to meet Idaho water quality criteria for lead and zinc and were determined through the discharge permitting process to have no reasonable potential to cause or contribute to an exceedance of Washington criteria for lead and zinc."

The monthly WLA from the 2022 metals TMDL in dissolved metals was transformed to a WLA in total metals using site specific translators developed from the ratio of total to dissolved for zinc as described in EPA's *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion* (EPA 1996). The Spokane River translator data was collected by DEQ in 2014 and 2015. The site-specific translator for lead is 0.2373 and the site-specific translator for zinc is 0.991618357ⁱⁱ.

ⁱⁱ Site specific translators were calculated as geometric mean of all the dissolved to total ratios as described in EPA guidance (EPA 1996). *"The most direct procedure for determining a site-specific metal translator is simply to determine fD by measuring CT and CD and to develop the dissolved fraction as the ratio CD/CT. ... The translator is calculated as the geometric mean of the dissolved fractions."*

In the 2014 NPDES permit the Post Falls POTW had RPTE lead WQC and therefore did have WQBELs for lead in that permit. The RPA for development the 2023 IPDES permit revealed that there is not RPTE lead WQC at the end of pipe and WQBELs are unnecessary to control lead levels in the effluent. Not including lead limits in the 2023 permit when there is no RPTE is consistent with the 2022 Metals TMDL as indicated by the following statements, and considering the Post Falls POTW has increased the design flow of the facility from 5.0 mgd to 5.21 mgd.

"While a reserve for future capacity is not calculated into the wastewater treatment plant wasteload allocations, permits can consider reserve for future growth beyond discharges above the wastewater treatment plant design flow allocated in this TMDL if the permitted facility meets end-of-pipe water quality-based effluent limits (WQBELs) that are calculated based on Idaho water quality standards and a reasonable potential analysis. Should a reasonable potential analysis show WQBEL is not required; this is consistent with the TMDL."

"Because of their minimal influence on the lead and zinc concentrations and loads in the Spokane River, the wastewater treatment plants are considered an insignificant source of lead and zinc compared to the overall loading from upstream sources."

Furthermore, in reviewing the lead effluent data over the last 5 years. When the maximum reported average monthly effluent lead concentration (1.58 µg/L) and the new facility design flow values are used to calculate the predicted potential maximum average monthly lead load the resulting value (0.0685 lb/day) is 28% less than the average monthly lead WLA (0.0952 lb/day) provided by 2022 Metals TMDL for the Post Falls POTW. Additionally, the facility has only reported one detectable level of lead in their effluent in the previous 2 years (January 2023). DEQ has determined that based on these findings that including lead effluent limits in the 2023 IPDES permit would be superfluous and unnecessary to control lead levels in the effluent.

See the calculation below for the predicted potential maximum average monthly lead load and Figure 6 for the calculations used to convert the dissolved lead WLA to total lead WLA.

$$\text{Concentration (in mg/L)} \times \text{Flow (in mgd)} \times \text{Conversion Factor (8.34)} = \text{lb/day}$$

$$(1.58 \mu\text{g/L} / 1000) \times 5.2 \text{mgd} \times 8.34 = 0.0685 \text{ lb/day}$$

TMDL WLA in dissolved is first translated into total using the geomean of the ratios of dissolved to total Lead in RW.									
$WLA_{\text{Total}} = WLA_{\text{dissolved}} \times 1 / f_D$									
site specific translator (Fd)									
Monthly WLA from TMDL									
	WLA _d	0.0226							
	F _d	0.2373							
	1/f _D	4.2141							
	WLA _t	0.0952381							

Figure 6 Lead WLA dissolved to total calculation.

The RPA for development the 2023 IPDES permit revealed that there is RPTE zinc WQC at the end of pipe and WQBELs are necessary to control zinc levels in the effluent. The TMDL determined that end of pipe effluent limits (i.e., no mixing zone) for point source discharges designed to meet Idaho WQC for zinc are consistent with the goal of returning the Spokane River to a condition that meets Idaho's water quality standards. Additionally, the TMDL provides WLAs for point source discharges as pounds per day for each month of the year. Therefore the 2023 permit includes water quality-based effluent limits for zinc using the WLA provided in the TMDL.

After translating the dissolved monthly zinc WLA to total monthly WLA, the monthly zinc WLA is applied directly as the average monthly zinc load effluent limit (AML). From the AML the long-term average (LTA) is calculated by dividing the AML by the average monthly multiplier. The LTA is multiplied by the maximum daily multiplier to determine the maximum daily zinc load limit. Concentrations limits are developed from the load limitsⁱⁱⁱ. See Figure 7 for calculations.

ⁱⁱⁱ $((Load\ limit \div 8.34) \div (design\ flow)) \times 1000 \mu\frac{g}{L}$
8.34 is the conversion factor.

Annual/Seasonal Limit Calculations where the TMDL WLA is Assumed the LTA****Zinc (converted to Total)**

TMDL annual WLA (total recoverable):	1.677012862	lb/day
Facility Flow:	5.21	mgd
Design Flow:	8.05987	cfs

Multiplier to Calculate Permit Limits from LTA

Number of Samples per Month (n)		1
Number of Samples per Week Set (n/4) (i.e. 4 if sampling weekly for a month)		0.25
Coefficient of Variation (CV) = Std. Dev./Mean		0.6
weekly σ	$\sigma = \text{std deviation}$	0.944
	$\sigma^2 = \ln(CV^2/(n/4)+1)$	0.892
monthly σ	$\sigma = \text{std deviation}$	0.555
	$\sigma^2 = \ln(CV^2/n+1)$	0.307
Average Monthly Limit (AML),	$\exp(z\sigma_n - 0.5z\sigma_n^2)$; where % probability basis =	95% Z= 1.64 2.13
Maximum Daily Limit (MDL),	$\exp(z\sigma - 0.5z\sigma^2)$; where % probability basis=	99% Z= 2.33 3.12
Average Weekly Limit (AWL),	$\exp(z\sigma_n + 0.5z\sigma_n^2)$; where % probability basis =	99% Z= 2.33 5.76
Ratio AWL/AML		2.70

Reference: TSD Page 103

Calculation:

AML = LTA, limiting x Multiplier
MDL = LTA, limiting x Multiplier

TMDL WLA in dissolved is first translated into total using the geometric mean of the ratios of dissolved to total Zinc in RW.
 $WLA_{Total} = WLA_{dissolved} \times 1/f_D$

TMDL provided WLAs as #/day for each month of the year. WLA_{Total} is divided by monthly multiplier to reveal the annual/seasonal TMDL WLA. Annual TMDL WLA is used to develop Max Daily Limit.

site specific translator (Fd)

LTA, Limiting	x	Multiplier	= Limit	Concentration
1.6770129	x	2.13	= 3.58	lb/day 0.082 mg/L 82.39 µg/L
1.6770129	x	3.12	= 5.224	lb/day 0.12 mg/L 120.23 µg/L

Monthly WLA from TMDL

WLA _d	3.55
F _d	0.9916184
1/F _d	1.0085
WLA _t	3.5800063

Figure 7. Zinc effluent limit calculations

3.3.3.6.2 Silver

The 2014 permit required monthly effluent monitoring for silver. The data from 2017 through May 2022 revealed most months (62%) had non-detectable levels of silver present with the exception of a 25-month period from June 2019 through June 2021 in which all months reported detectable levels. The RPA (Appendix B, Table 26) indicated there is no RPTE with a 3% mixing zone. When calculating the standard deviation for the RPA, the non-detect values in the data were set to half the reportable level (ML) (0.25 µg/L) in order to avoid an inflated standard deviation and subsequent coefficient of variation (CV) attributed to the large number of non-detectable values converted to zero.

3.3.3.6.3 Cadmium

The 2014 permit required monthly effluent monitoring for cadmium. The data from 2017 through May 2022 revealed most months (86%) had non-detectable levels of cadmium. The RPA (Appendix B, Table 26) indicated there is no RPTE without a mixing zone. When calculating the standard deviation for the RPA, the non-detect values in the data were set to half the reportable level (ML) (0.25 µg/L) in order to avoid an inflated standard deviation and subsequent coefficient of variation (CV) attributed to the large number of non-detectable values converted to zero.

3.3.3.7 Copper

WQC for copper utilize the Biotic Ligand Model (BLM) IDAPA 58.01.02.210.03.c.v. The permittee collected receiving water data necessary to implement the BLM. The monitoring site is located approximately 1.5 miles downstream of the outfall at Corbin Park. Monitoring samples were collected and analyzed monthly from August 2018 until February 2022 resulting in 43 instantaneous water quality criteria (IWQC). Because DEQ had at least 24 IWQC collected over multiple years the 2.5th percentile from the distribution of IWQC was used as the conservative WQC for copper as recommended by EPA (EPA 2016) and referenced in DEQ BLM guidance (DEQ 2021). This resulted in an acute WQC of 0.9 µg/L and chronic WQC of 0.6 µg/L. Using this site specific WQC the RPA indicates that no RPTE exists when a 16% mixing zone is authorized for acute WQC, and 25% mixing zone is authorized for chronic WQC.

3.3.3.8 Oxygen Demanding Parameters

In 2010 EPA approved the *Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load: Water Quality Improvement Report* (Spokane DO TMDL) (Moore 2010). When developing the Spokane DO TMDL the State of Washington made specific assumptions about the amounts of oxygen-demanding pollution that will be discharged by sources in Idaho. The 2014 EPA issued NPDES permits for Idaho point sources to the Spokane River included water quality-based effluent limits for total phosphorus, CBOD₅ and ammonia, which were derived from Washington's water quality standards. EPA developed those limits based on modeling to reflect the cumulative effect of all human actions that influence DO in the Spokane River (to achieve the Washington DO standard in Lake Spokane) and to then evaluate the modeling

results against Washington's water quality standards. EPA used a projected 2027 Post Falls design flow rate of 7.65 mgd which is greater than the current design flow rate of 5.21 mgd and provides a level of assurance that the conclusions drawn from the model are protective now and in the future. Appendix D contains the modeling information from the 2014 NPDES fact sheet.

DEQ has determined that retaining the 2014 permit final effluent limits for total phosphorus, CBOD₅ and ammonia in the 2023 IPDES permit is protective of both Idaho and Washington WQC. Recent data suggests the ongoing treatment improvements upstream have contributed to reductions in concentrations of TP at the lower parts of Spokane River system. (WA Ecology, 2021). Additionally, the final limits in the 2014 permit for total phosphorus and CBOD₅ in particular, required extensive facility and community planning to attain, and the facility has made significant progress on facility improvements necessary to meet the TP and CBOD₅ final limits in the 2014 permit. The 2014 schedule of compliance included a conclusion date of November 30, 2024, at which point final limits for TP and CBOD₅ must be achievable. The CBOD₅ final limits have been consistently achieved and are effective in the 2023 permit. However, due to ongoing supply chain issues that ultimately result in construction delays, DEQ has determined that a one year extension of all remaining TP compliance schedule dates is warranted to avoid unnecessary hardship. This extension reflects the compliance agreement schedule that became effective November 28, 2022, that granted one additional year to achieve compliance with total phosphorus limits in the 2014 permit. When the 2023 permit becomes effective the compliance schedule will become unnecessary and may be terminated.

The 2023 permit has updated the interim limits for TP to reflect the current performance levels realized by recent facility improvements.

3.3.3.8.1 Phosphorus

In addition to Lake Spokane DO levels being impacted by TP levels, the Spokane River in Idaho (i.e., both above and below the Post Falls Dam) is listed in Idaho's 2022 303(d)/305(b) integrated report as being impaired for TP. Currently there is no phosphorus TMDL for the Spokane River in Idaho but DEQ considers the TP WQBEL of 3.19 lb/day as a seasonal average limit in the 2023 permit to be protective of both WA and ID WQC.

The final phosphorus limit is only applied as a seasonal average limit in the 2023 permit because developing the monthly average limit from the seasonal WLA requires effluent variability to be quantified by the coefficient of variation (CV). DEQ determined that because the facility is installing substantial new treatment processes to meet the final phosphorus limit the historical effluent variability may not be indicative of what the effluent variability will be after the tertiary treatment is online. Typically, DEQ develops monthly average limits that are consistent with a seasonal average load and will do so after upgrades are operational. This will occur when developing the next permit or earlier if the data set reflects the realized variability.

The 2023 permit requires the submission of the Phosphorus Management Plan Annual Report as was required in the 2014 permit. The February through October interim limits for TP have been revised to an average weekly limit of 87 pounds per day which is the maximum recorded

average weekly value from 2017 through January 2022, and an average monthly limit of 40 pounds per day which is the maximum recorded average monthly value from 2017 through January 2022. DEQ determined that average monthly and weekly interim limits are appropriate to maintain the status quo while the facility continues to work towards meeting final limits. DEQ evaluated the raw total phosphorus data from 2020 through 5/18/2022 (n=381) and found a 95th percentile value of 24.4 pound per day indicating that the interim limits provide adequate flexibility for operational variability while the facility continues facility upgrades.

3.3.3.8.2 CBOD₅

The final CBOD₅ limits are based on TBELs November through January and are WQBELs February through October to coincide with the WA DO TMDL as developed for the 2014 permit. The previous 5 years of data for CBOD₅ provided by the city reveals that interim limits are no longer necessary and the final limits for CBOD₅ February through October are effective when the 2023 permit becomes effective. The final seasonal average limit is 255 lb/day. Seasonal averages calculated from the raw 2017 – 2022 data showed the average seasonal average value over the 5 years was 116.7 lb/day and the maximum average seasonal value was 133.7 lb/day. The CBOD₅ load data from 2017 through January 2022 DMRs had a maximum average monthly value of 247 lb/day and a 95th percentile value of 166 lb/day. Considering those values are all below the final seasonal limit, which is the average of 9 months of data, DEQ determined the facility has shown the final limit has been consistently achieved.

The final WQBEL CBOD₅ limit is applied as seasonal average, monthly average, and weekly average limits in the 2023 permit. Developing the monthly and weekly averages from the seasonal WLA requires effluent variability to be quantified by the coefficient of variation (CV). Because the facility data indicates that the final limits have been met consistently for the last 5 years it is reasonable to assume the CBOD₅ data variability will remain consistent. Additionally, the data shows that the weekly and monthly CBOD₅ limits in the 2023 permit have been consistently achievable.

3.3.3.8.3 Ammonia

The 2023 permit ammonia limits are WQBELs February through October to coincide with the WA DO TMDL as developed for the 2014 permit. The seasonal limit is an average daily load of 255 lb/day as prescribed in the 2014 permit (see Appendix D for detailed information). Seasonal averages calculated from the raw 2017 – 2022 data showed the average seasonal average value over the 5 years was 5.3 lb/day and the maximum average seasonal value was 14.1 lb/day. The Post Falls DMR data from 2017 – 2022 reveals a 95th percentile average monthly ammonia load of 6.5 lb/day and a maximum average monthly load of 24.6 lb/day. For nutrient WLAs DEQ typically develops a monthly average limit that is consistent with the seasonal average load to apply the limit on a more consistent basis. However, because the facility consistently discharges monthly average loads at an order magnitude below the seasonal average limit DEQ has determined a monthly average limit is unnecessary in this case.

3.3.3.9 Polychlorinated Biphenyls (PCBs)

When reissuing IPDES permits DEQ is required to ensure compliance with the applicable water quality requirements of all affected states (IDAPA 58.01.25.103.03). The state of Washington, in its 2018 303(d)/305(b) integrated report, listed portions of the Spokane River near the Idaho border as category 5 (impaired) based on elevated fish tissue PCB concentrations that corresponds to exceedance of the water column criterion. The state of Washington integrated report also listed the Spokane River near the Idaho border as category 2 (waters of concern) for PCB concentrations.

The currently approved PCB methods for compliance purposes are orders of magnitude less sensitive than required to provide meaningful information in regard to complying with the PCB limits designed to meet WQC for PCBs. DEQ may prescribe limits for a parameter when the limit value (or numeric WQC) is below the ML of the most sensitive approved method. However, in the case of PCBs the difference between the WQC and the most sensitive approved method is approximately five orders of magnitude (Table 12). Consequently, DEQ determined applying numeric limits for PCBs with the intent of carrying out the purpose of the CWA or implementing IDAPA 58.01.25.302.06.a (i.e., The limit would not be effective at controlling the pollutant) is infeasible without a 40 CFR 136 approved low-level method. Therefore, DEQ has determined that assessing reasonable potential (and potentially developing effluent limits) based on data that is not appropriate for compliance purposes is incongruous. However, DEQ does consider data collected using method 1668c to be useful for evaluating the presence of total PCBs and quantifying in approximate amounts at low levels.

Because PCBs are a POC in the discharge and are present in the effluent, DEQ is relying on BMPs to control the discharge of PCBs in the 2023 permit as provided for by IDAPA 58.01.25.302.13. The 2023 permit requires the permittee to update and continue implementing their current toxics management plan in order to address source control and elimination of PCBs. DEQ will reassess numeric PCB limits if and when a suitable low level PCB method is 40 CFR 136 approved for compliance purposes. The permit requires continued PCB monitoring of the influent, effluent, and receiving water using the PCB congener method EPA 1668c to continue to provide low level data and to assess BMP effectiveness.

EPA has promoted EPA methods 1628 and 1668c for use in routine monitoring. The 2023 permit requires that all monitoring is conducted using sufficiently sensitive methods. Method 1668c is the only method available that is sufficiently sensitive to measure to a level of sensitivity that is near the level of the applicable water quality criteria which are currently 190 pg/L in Idaho and 7 pg/L across the state line in Washington. Additionally, method 1668c is the only method sensitive enough to consistently report measurable values for the low-level PCB concentrations found in the facility effluent and Spokane River. Consequently the 2023 permit requires all PCB congener monitoring to be conducted using EPA Method 1668c. See Table 12 for a comparison of the methods' method detection limits (MDL) and minimum reportable levels (ML), also referred to as the minimum quantifiable level or just quantifiable level.

Table 12. Total PCB Method Comparison

EPA Method/Criteria	Analyte	MDL (pg/L)	ML (pg/L)
608.3	Aroclors	65,000 ^a	500,000 ^a
1628	Congeners	190 – 4,980 ^a	500 – 20,000 ^a
1668c	Congeners	50 ^a	100 ^a
Idaho Human Health Criteria	Total	190 pg/L	
WA Human Health Criteria	Total	7 pg/L	

a. MLs and MDLs in this table represent the values for total PCBs. Individual congener and Aroclor values may be much lower.

IDAPA 58.01.25.302.13 and federal regulations in 40 CFR Part 122.44(k) allow best management practices (BMPs) to control or abate the discharge of pollutants in IPDES permits. The 2023 permit requires continued Best Management Practices (BMP) approach, through the Toxics Management Plan, for reduction of toxics and DEQ has specified Method 1668c to evaluate BMP effectiveness in the 2023 permit to ensure the return of usable data.

3.3.3.10 2,3,7,8 tetrachloro-dibenzop-dioxin (TCDD)

The data collected as required for the 2014 permit for both influent and effluent were all below the reportable level of 0.000005 µg/L (5 pg/L).

3.4 Narrative Criteria

DEQ must incorporate the narrative criteria described in IDAPA 58.01.02.200 when it determines permit limits and conditions. Narrative WQC limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge which have the potential to adversely affect designated uses, cause acute or chronic toxicity to biota, impair aesthetic attributes, or adversely affect human health.

The Idaho WQS require that surface waters of the State be free from floating, suspended, or submerged matter of any kind in concentrations impairing designated beneficial uses. The draft permit contains a narrative limitation prohibiting the discharge of such materials or any violation of narrative WQC resulting from the discharge.

3.4.1 Whole Effluent Toxicity (WET)

DEQ considers the toxicity of the wastewater discharge by requiring WET testing when it receives information indicating that toxicity may be present. If WET testing results indicate potential for toxicity in the receiving water, effluent limits are necessary. WET testing is required for this facility because it is a major POTW that has the potential to discharge toxic pollutants. WET test monitoring results from the current permit cycle are non-detect. Annual

WET monitoring is required in the 2023 permit and chronic trigger value of 16.5 TU_c is included in the permit (see 5.2).

3.5 Antidegradation

DEQ's antidegradation policy provides three levels of protection to water bodies in Idaho subject to Clean Water Act (CWA) jurisdiction (IDAPA 58.01.02.051).

- Tier I of antidegradation protection is designed to ensure that existing uses and the water quality necessary to protect those uses is maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). A Tier I review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier II protection applies to any water bodies considered to be high quality waters (where the water quality exceeds levels necessary to support propagation of fish, shellfish, wildlife, and recreation in and on the water) and provides that water quality will be maintained and protected unless allowing for lower water quality is deemed by the state as necessary to accommodate important economic or social development in the area. In allowing any lowering of water quality DEQ must ensure adequate water quality to protect existing uses fully and must assure that there will be achieved the highest statutory and regulatory requirements for all new and existing point sources (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier III protection applies to water bodies that have been designated by the Idaho Legislature as outstanding national resource waters and provides that water quality is to be maintained and protected (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ employs a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier I protection for that use unless specific circumstances warranting Tier II protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

The facility discharges to the Spokane River within the Panhandle Basin, Upper Spokane subbasin. Water Body Assessment Unit (AU) ID17010305PN003_04. This AU has the following designated beneficial uses: cold water aquatic life, salmonid spawning, primary contact recreation and domestic water supply. In addition to these uses, all waters of the state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.100).

According to DEQ's 2022 Integrated Report, this AU is not fully supporting its aquatic life use. The salmonid spawning use is unassessed but is an existing use and assumed to not be currently supported based on the CWAL use status as such, DEQ will provide Tier I protection for the CWAL use. The contact recreation beneficial use is fully supported. As such, DEQ will provide

Tier II protection (IDAPA 58.01.02.051.01) in addition to Tier I protection (IDAPA 58.01.02.051.02) for the primary contact recreation use (IDAPA 58.01.02.052.05.c).

To determine whether degradation may occur, DEQ evaluated how the effluent limits proposed in this permit affect water quality for each pollutant that is relevant to the cold water aquatic life and recreation beneficial use.

3.5.1 Protection and Maintenance of Existing Uses (Tier I Protection)

A Tier I review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. In order to protect and maintain existing and designated beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality-limited, and a TMDL must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limits that are consistent with wasteload allocations in the approved TMDL.

Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04). The EPA-approved Spokane River Total Maximum Daily Load Lead and Zinc (DEQ 2022b) establishes WLAs for lead and zinc (section 3.3.3.6.1). Additionally, the 2023 permit includes total phosphorus limits to meet all applicable criteria (section 3.3.3.8.1).

The effluent limits and associated requirements contained in the 2023 permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Spokane River in compliance with the Tier I provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

3.5.2 High-Quality Waters (Tier II Protection)

The Spokane River is considered high quality for primary contact recreation. As such, the water quality relevant to primary contact recreation of the Spokane River must be maintained and protected, unless a lowering of water quality is insignificant or is deemed necessary to accommodate important social or economic development (IDAPA 58.01.02.052.08).

To determine whether degradation will occur, DEQ must evaluate how the discharge will affect water quality for each pollutant that is relevant to primary contact recreation use of the Spokane River (IDAPA 58.01.02.052.06); these include fecal bacteria indicators, toxic parameters with human health WQC for fish only, and nutrients that may potentially contribute

to nuisance/toxic algae. Effluent limits are set or routine monitoring is required in the 2023 permit for *E. coli*, lead, zinc, PCBs, and phosphorus.

For a reissued permit the effect on water quality is determined by looking at the difference in water quality that would result from the activity or discharge as authorized in the 2014 permit and the water quality that would result from the activity or discharge as proposed in the 2023 IPDES permit (IDAPA 58.01.02.052.06.a).

The 2023 draft permit incorporates an increased design flow of 5.21 mgd (from 5.0 mgd) and requires an antidegradation analysis for *e. coli*, lead, zinc, PCBs, and phosphorus. During the previous permit cycle the City has made significant facility improvements to the treatment capabilities, reducing the concentration of pollutants in the effluent.

Idaho WQS (IDAPA 58.01.02.08.a.i) require DEQ to consider the loss of assimilative capacity based on conditions at the POTW as of July 1, 2011. The antidegradation analysis evaluates the potential loss of assimilative capacity due to the increase in design flow from 5.0 mgd to 5.21 mgd. As required by IDAPA 58.01.02.052.08.a.i, a cumulative decrease in assimilative capacity of more than ten percent (10%), from conditions as of July 1, 2011, will constitute significant degradation. See Appendix B section D for assimilative capacity calculations and a detailed explanation of the calculations used.

Table 13. Antidegradation comparison for protection of the primary contact recreation beneficial use.

Pollutant	Units	2014 Permit				2023 permit				Potential Degradation ^a
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Annual Average Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Annual Average Limit	
Pollutants with limits in the 2014 and 2023 permit										
E. coli	#/100 mL	126 ^b	—	406	—	126 ^b	—	406 ^c	—	Yes – I (0.1%)
Enterococci	#/100 mL	—	—	—	—	35 ^b	—	130 ^c	—	
Phosphorus, Total as P (February – October)	lb/day	—	—	—	3.19	—	—	—	3.19	No
Zinc	µg/L	84.3	—	115	—	82.39	—	120.23	—	Yes – I (0.0%)
	lb/day	3.52	—	4.80	—	3.58	—	5.22	—	
Pollutants with limits in the 2014 and without limits in the 2023 permit										
Lead	µg/L	2	—	3.79	—	—	—	—	—	No (-0.04)
	lb/day	0.0855	—	0.158	—	—	—	—	—	
Pollutants without limits in the 2014 and 2023 permit										
PCBs	pg/L	—	—	—	—	—	—	—	—	Yes – I (0.1%)

- a. No = No degradation, Yes – S = Increase in pollutant load or concentration resulting in significant degradation, Yes – I = Increase in pollutant load or concentration resulting in insignificant degradation
- b. Geometric mean of five or more samples collected 3-11 days apart over a 30-day period.
- c. Idaho's water quality standards for contact recreation for permitting (IDAPA 58.01.02.251.02.c) include a Statistical Threshold Value (STV), which is represented in the permit as an instantaneous maximum limit.

3.5.2.1 Pollutants with Limits in the Existing and Proposed Permit

For pollutants that are currently limited and have limits under the reissued permit, the current discharge quality is based on the limits in the 2014 permit or license (IDAPA 58.01.02.052.06.a.i), and the future discharge quality is based on the new permit limits (IDAPA 58.01.02.052.06.a.ii). For the 2023 permit, this means determining the permit's effect on water quality based upon the limits for *E. coli*, phosphorus, lead, and zinc in the 2014 and 2023 permits. Table 13 provides a summary of the 2014 permit limits and the 2023 permit limits. See Appendix B section D for assimilative capacity calculations.

E. coli

In assessing the loss of assimilative capacity for *E. coli*, the previously limited load was compared to the proposed limited load. In both cases, the limit is the Idaho WQC for *E. coli* of a geometric mean of 126 organisms per 100 mL of sample. The potential loss in assimilative capacity is driven by the increased facility design flow from 5.0 mgd to 5.21 mgd. The reduction of assimilative capacity was calculated as 0.1% during critical conditions. The value is below the 10% reduction in remaining assimilative capacity value considered significant.

The facility's 95th percentile reported effluent *E. coli* monthly geometric mean over the last five years is 60 #/100mL, which is well below the limit of 126 #/100mL. See Appendix B section D D for assimilative capacity calculations.

Total Phosphorus

The phosphorus limit in both permits is 3.19 pounds per day. Because the limit is mass based the assimilative capacity in the receiving water is unaffected by increase in design flow.

Zinc

The zinc limits in the 2023 permit are in some cases less stringent than they were in the 2014 permit. The increased loads permitted in the 2023 permit and the increased design flow provides potential for loss of assimilative capacity in the RW. Idaho has numeric human health fish only WQC for zinc of 1,500 µg/L. The maximum reduction of assimilative capacity was calculated as 0.0% for zinc (human health fish only maximum daily). The values are below the 10% reduction in remaining assimilative capacity value considered significant. See appendix B section D for assimilative capacity calculations.

3.5.2.2 Pollutants without Limits that had Limits in the 2014 Permit

Lead

Currently available data indicate that lead limits in the previous permit are no longer necessary to ensure WQC are met. As explained in section 3.3.3.6.1, lead no longer has RPTE WQC due to multiple treatment process upgrades. A set of conservative assumptions were considered when evaluating removal of previously established effluent limits. First, RPTE was evaluated at end of

pipe without considering a mixing zone. Next, the potential loss of assimilative capacity calculations used the maximum recorded effluent concentrations over the last five years to represent proposed discharge concentrations and were evaluated against the monthly average permit limit in the 2014 permit.

DEQ used the loss of assimilative capacity calculator to determine whether removing the lead limits meets the requirement for loss of assimilative capacity to be less than 10%. The rule at IDAPA 58.01.02.052.06.a.ii states, “For pollutants not limited in the proposed permit or license, future discharge quality will be estimated from available discharge quality data since the last permit or license was issued accounting for any changes in production, treatment or operation.”

DEQ used the permittee provided monthly lead samples from January 2017 – July 2023 when determining the potential loss of assimilative capacity. The maximum lead effluent value represents the future discharge quality. See Table 29 and Table 30. See section D, for loss of assimilative capacity calculations accounting for the increase in design flow and the estimated future discharge quality. Idaho has narrative fish only human health criteria for lead. For the assimilative capacity calculations DEQ used the EPA promulgated lead action level in drinking water of 15 µg/L. The maximum reduction of assimilative capacity was calculated as -0.04% during critical conditions for lead (DW criteria monthly average); the 2014 permit’s monthly average permitted limit is 2.05 µg/L at 5.0 mgd (7.76 cfs) design flow compared to the current maximum lead effluent value of 1.58 µg/L at 5.2 mgd (8.06 cfs) design flow. This scenario revealed a potential mixed water quality concentration of 0.228 µg/L for the 2014 permit compared to a potential of 0.222 µg/L under current conditions, resulting in a -0.04% reduction in assimilative capacity.

DEQ has determined that removing the lead limits in the 2023 permit results in no potential loss of assimilative capacity. The 2023 permit retains the monthly lead monitoring and reporting requirement.

3.5.2.3 Pollutants without limits in the 2014 or 2023 permits

PCBs

PCBs are relevant to Tier II protection of the contact recreation use and currently are not limited and for which the proposed permit contains no limit. For such pollutants, a change in water quality is determined by reviewing whether changes in production, treatment, or operation that will increase the discharge of these pollutants are likely (IDAPA 58.01.02.052.06.a.ii).

Any potential loss in assimilative capacity would be due to the increased facility design flow from 5.0 mgd to 5.21 mgd. Assuming effluent and ambient receiving water quality is unchanged the potential loss of assimilative capacity contributed to the increase in design flow would be 0.06% (Appendix D). However, BMPs for PCB control were included in the 2014 permit and are required to be updated and continued in the 2023 permit. Additionally, the facility is scheduled to have tertiary treatment upgrades constructed by December 2023. DEQ expects BMPs in

conjunction with tertiary treatment will significantly reduce the facility's contribution of PCBs to the Spokane River. This expectation is supported by the findings in the 2021 peer reviewed article (Rodenburg 2021) entitled *Effect of Membrane Filtration on the Fate of Polychlorinated Biphenyls in Wastewater Treatment*, which when comparing the treatment provided by WWTP before and after tertiary technology was added, stated:

"...filtration reduced concentrations of total PCBs in the effluent at the Coeur d'Alene WWTP by over 50% to 289 pg/L from 644 pg/L, which reduced loads to the river by nearly 5 mg/d, a significant reduction for the Spokane River where total loads of PCBs from municipal WWTPs is estimated to be 51-125 mg/d (LimnoTech, 2016)."

"The two plants employing membrane filtration (Spokane County and Coeur d'Alene after upgrade) had higher removal of congeners than the other plants ($p < 0.05$ via paired two- tailed t-test)."

3.6 Antibacksliding

Section 402(o) of the CWA and regulations at IDAPA 58.01.25.200 generally prohibit the renewal, reissuance, or modification of an existing IPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the existing permit (i.e., antibacksliding) but provides limited exceptions. For explanation of the antibacksliding exceptions refer to section 4.1 of the Effluent Limit Development Guidance (DEQ 2017).

DEQ compared the effluent limits in the 2023 permit with the 2014 permit in Table 14 below.

Table 14. Comparison of 2014 and 2023 effluent limits.

Pollutant	Units	2014 Permit			2023 Permit			Change ^a
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	
Pollutants with limits in both the 2014 and 2023 permit								
CBOD ₅ (November – January)	mg/L	25	40	—	25	40	—	LS
	lb/day	1043	1668	—	1086	1738	—	
	% removal	85% minimum	—	—	85% minimum	—	—	
CBOD ₅ (February – October)	mg/L	25	40	—	25	40	—	NC
	lb/day	Seasonal Average Limit: 255 lb/day			Seasonal Average Limit: 255 lb/day			
	% removal	85% minimum	—	—	85% minimum	—	—	
TSS	mg/L	30	45	—	30	45	—	LS
	lb/day	1251	1877	—	1303	1955	—	
	% removal	85% minimum	—	—	85% minimum	—	—	

Pollutant	Units	2014 Permit			2023 Permit			Change ^a
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	
pH (July – September)	standard units	6.4–9.0			6.5 – 9.0			MS
pH) (October – June)	standard units	6.3–9.0						
E. coli	no./100 mL	126	—	406	126	—	406	NC
Total Ammonia (as N) (February – October)	lb/day	Seasonal Average Limit: 255 lb/day			Seasonal Average Limit: 255 lb/day			NC
Total Ammonia (as N) (July – September)	mg/L	8.2	—	29.5	—	—	—	LS
	lb/day	118	—	262	—	—	—	
Total Ammonia (as N) (November - January)	mg/L	25.4	—	91.7	—	—	—	LS
	lb/day	1059	—	3824	—	—	—	
Total Phosphorus as P (February – October)	mg/L	Report	Report	—	Report	Report	—	NC
	lb/day	Report	Report	—	Report	Report	—	
	lb/day	Seasonal Average Limit: 3.19			Seasonal Average Limit: 3.19			
Total Phosphorus as P (November – January)	mg/L	Report	Report	—	Report	Report	—	NC
Copper (July – September)	µg/L	13.8	—	27.7	—	—	—	LS
	lb/day	0.58	—	1.16	—	—	—	
Copper (Oct. – June)	µg/L	Report	—	Report	—	—	—	LS
Lead	µg/L	2.05	—	3.79	Report	—	Report	LS
	lb/day	0.0855	—	0.158	Report 5	—	Report	LS
Zinc	µg/L	84.3	—	115	82.39	—	120.23	LS/MS
	lb/day	3.52	—	4.80	3.58	—	5.22	LS
Pollutants with no limits in both the 2014 and 2023 permit								
Flow	mgd	Average Monthly, Maximum Daily			Monthly Average, Daily Maximum			NC
Temperature	°C	Average Weekly, Maximum Daily			Monthly Average, Maximum Daily Average			NC

a. MS = More stringent pollutant load or concentration limit, LS = Less stringent pollutant load or concentration limit, NC = No change in pollutant load or concentration limit

3.6.1 CBOD₅ & TSS

The 2014 permit limits for CBOD₅ (November – January) and TSS consisted of secondary treatment standards. While the average monthly and average weekly concentration limits remain unchanged in this draft permit, the load limits increased because the design flow increased from 5.0 mgd to 5.21 mgd. Because the TBELs for CBOD₅ and TSS are secondary

treatment standards (40 CFR 125.3; 40 CFR 133) that limit only the effluent concentration for these parameters, the mass loads are calculated to correspond with secondary treatment standards at the facility's current design flow. Idaho rules at IDAPA 58.01.25.303.06.a require all limits in a permit to be expressed in terms of mass when feasible.

The facility's expansion and resulting increase in design flow constitutes a substantial alteration to the permitted facility and is therefore exempted from the antibacksliding provisions under IDAPA 58.01.25.200.02.a:

"Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;"

3.6.2 Copper

The copper limits in the previous permit have been removed in this permit because the facility no longer has reasonable potential to exceed water quality criteria. Since the 2014 permit was issued the facility has been continuously working on technological improvements to enhance the water quality. Additionally, the City of Post Falls received delegated authority to administer the pretreatment program from DEQ on January 6, 2020, which may help reduce copper loading into the facility. The 2014 RPA used an effluent copper concentration of 27µg/L and the data used in the 2022 RPA was a 95th percentile value of 6.8µg/L, which highlights the reduction in effluent concentrations.

The 2023 permit is the first facility permit to apply the BLM to develop site-specific copper WQC for the Spokane River. Based on the recent facility upgrades and the newly acquired data to develop site-specific WQC DEQ determined removing the previous limits was warranted. Copper had WQBELs in the 2014 permit that are discontinued in the 2023 permit.

The removal of an effluent limit from one permit to the next is allowable by IDAPA 58.01.25.200.02.a that allows an exception to IDAPA 58.01.25.200.02 antibacksliding prohibitions when substantial alterations occurred that justify the change.

3.6.3 Ammonia

The ammonia limits in the previous permit have been removed in this permit because the facility no longer has reasonable potential to exceed water quality criteria. The 2014 fact sheet explained that when utilizing a 25% mixing zone that ammonia did not have RPTE ammonia WQC for toxicity but retained effluent limits for ammonia toxicity from the previous permit due to antibacksliding regulations. The facility completed multiple upgrades since the ammonia limits were originally developed that improved treatment capabilities for ammonia. The first upgrade occurred in 2011 and consisted of installing the BNR and BPR. In 2016 the facility upgraded the headworks and added influent equalization which optimizes the nutrient reduction capabilities in the treatment train. When the 2014 permit was developed the data available that represented the 2011 upgrades was limited. The 2023 permit is developed using data from 2017 to January 2022 which provides 5 years of data all of which reflect the recent upgrades. This recent data not only shows that there is no RPTE for ammonia at end of pipe,

but also reveals that the old ammonia limits are no longer necessary. For example, the most limiting concentration limit in the 2014 permit was the average monthly limit of 8.2 mg/L. In comparison, DMRs from 2017 – January 2022 reflects a 95th percentile of all average monthly concentration values was 0.26 mg/L and the maximum average monthly reported value was 0.94 mg/L.

The 2023 permit requires the permittee to continue to operate the facility in a manner that prioritizes nitrification in order to retain the high-quality ammonia treatment. As explained in section 3.3.3.8.3 the seasonal average ammonia limit from February through October is still applicable.

The removal of an effluent limit from one permit to the next is allowable by IDAPA 58.01.25.200.02.a that allows an exception to IDAPA 58.01.25.200.02 antibacksliding prohibitions when substantial alterations occurred that justify the change.

3.6.4 Zinc

The zinc limits in 2014 permit were based on meeting Idaho WQC at the end of pipe and as described in the 2014 fact sheet:

In cases where a mixing zone is not authorized (for lead and zinc, in this case), either because the receiving water already exceeds the criterion, the receiving water flow is too low to provide dilution, or the State does not authorize one, the criterion becomes the WLA.

The 2022 Metals TMDL as explained in section 3.3.3.6.1 provides new WLAs for these parameters designed to restore the receiving water to meet WQC. The effluent limits in the 2023 permit are based on the WLAs as prescribed in the 2022 Metals TMDL and are in some cases less stringent than the effluent limits in the 2014 permit (Table 14). CWA section 303(d)(4)(A) allows the establishment of a less stringent effluent limitation when the receiving water has been identified as not meeting applicable water quality standards when the previous limit was based on a WLA, and the new limit will ensure that WQS will be attained. Additionally, IDAPA 58.01.25.200.02.b.i. provides an exception for backsliding when new information is available that justifies a less stringent limit in the new permit. The 2022 Metals TMDL is the new information in this case.

3.6.5 Lead

Effluent monitoring data collected by facility over the previous five years indicates the facility no longer has RPTE for lead. The recent facility upgrades constitute substantial alterations to the permitted facility that account for the pollutant reductions and is therefore exempt from the antibacksliding provisions under CWA 402(o) and IDAPA 58.01.25.200.02.a. Not including lead limits in the 2023 permit is also consistent with the 2022 Metals TMDL and IDAPA 58.01.25.200.b as indicated by the following statement and considering the Post Falls POTW has increased the design flow of the facility from 5.0 mgd to 5.21 mgd.

"While a reserve for future capacity is not calculated into the wastewater treatment plant wasteload allocations, permits can consider reserve for future growth beyond discharges above the wastewater treatment plant design flow allocated in this TMDL if the permitted facility meets end-of-pipe water quality-based effluent limits (WQBELs) that are calculated based on Idaho water quality standards and a reasonable potential analysis. Should a reasonable potential analysis show WQBEL is not required; this is consistent with the TMDL."

4 Monitoring Requirements

Idaho regulations IDAPA 58.01.02 and 58.01.25 require that monitoring be included in permits to determine compliance with effluent limits and other permit restrictions. Monitoring may also be required to gather data to assess the need for future effluent limits or to monitor effluent impacts on receiving water quality. Permittees are responsible for conducting the monitoring and reporting the results on monthly DMRs and in annual reports.

4.1 Influent Monitoring

Flow, TSS, BOD₅, and PCB monitoring requirements are listed below in Table 15. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

Table 15. Influent monitoring requirements

Parameter	Monitoring Period	Units	Sample Frequency	Sample Type	Report	Reporting Period (DMR Months)
Flow	01/01 to 12/31	mgd	Continuous ^{a,b}	Recorded	Monthly average, Daily Maximum	Monthly
CBOD ₅	01/01 to 12/31	mg/L	1/week	24-hr composite ^c	Monthly average	Monthly
TSS	01/01 to 12/31	mg/L	1/week	24-hr composite ^c	Monthly average	Monthly
PCB, total ^d	01/01 to 12/31	pg/L	1/quarter ^e	24-hr composite ^c	Daily maximum	Quarterly ^f (May, August, November, February)
PFAS	01/01 to 12/31	ng/L	1/quarter ^{e,g}	Grab	Daily maximum	Quarterly ^f (May, August, November, February)

- Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
- DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.
- 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.

- d. The permittee must use EPA Method 1668c for analysis of receiving water samples for PCBs, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668c Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- e. Quarters are defined as: January-March; April-June; July-September; and October-December.
- f. PCB congener data must be reported on the DMR occurring two months after the last month of quarter in which the sampling took place, and also included with the Toxics Management Practices Plan annual report required in permit section 3.16.
- g. Monitoring for PFAS chemicals is required for 2 years (8 quarters), beginning at the start of the first complete quarter in the third year of the permit term.
- h. A grab sample is an individual sample collected over a 15-minute period or less.

4.1.1 Influent Monitoring Changes from the 2014 Permit

Flow, TSS, and CBOD₅ have not been changed relative to the 2014 permit. PCB monitoring has been reduced from one every 2 months to quarterly to complement effluent monitoring requirements. PFAS monitoring has been included in the 2023 permit (see section 4.2.1.1).

4.2 Additional Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

Pollutants that must be monitored but do not have effluent limits are presented in Table 16. The sampling location must be after the last treatment unit and prior to discharge to the receiving water. The samples must be representative of the volume and nature of the monitored discharge. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

Table 16. Effluent monitoring requirements.

Parameter	Monitoring Period	Units	Monthly Average	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Flow	01/01 to 12/31	mgd	Report	Report	Continuous ^{a,b}	Recorded	Monthly
Temperature	01/01 to 12/31	°C	Report	Report	Continuous ^{a,b}	Recorded ^c	Monthly
Ammonia, total (as N)	01/01 to 12/31	mg/L	Report	Report	1/week	24-hour composite ^d	Monthly
		lb/day	Report	Report	1/month	Calculation ^e	
Phosphorus, total (as P)	01/01 to 12/31	mg/L	Report	Report	3/week	24-hour composite ^d	Monthly
		lb/day	Report	Report	1/month	Calculation ^e	
Orthophosphate as P	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
TKN	01/01 to 12/31	mg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Nitrate + Nitrite as N	01/01 to 12/31	mg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Copper, total	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Cadmium, total	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Silver, total	01/01 to 12/31	µg/L	Report	Report	1/month	24-hour composite ^d	Monthly
Alkalinity	01/01 to 12/31	mg/L as CaCO ₃	Report	Report	1/month	24-hour composite ^d	Monthly
Hardness	01/01 to 12/31	mg/L as CaCO ₃	Report	Report	1/month	24-hour composite ^d	Monthly
PCB, total ^f	01/01 to 12/31	pg/L	—	Report	1/quarter ^g	24-hour composite ^d	Quarterly ^h (May, August, November, February)
TCDD	01/01 to 12/31	pg/L	—	Report	— ⁱ	24-hour composite ^d	— ^j
PFAS	01/01 to 12/31	ng/L	—	Report	1/quarter ^{g,k}	Grab ^l	Quarterly ^h (May, August, November, February)

- a. Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
- b. DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately

deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.

- c. The permittee is required to record temperature data in the discharge pipe as close to the end of the pipe and before discharging as feasible.
- d. 24-hour composites in this permit must be comprised of at least 8 discrete aliquots and be flow proportional samples.
- e. $\text{Load (lb/day)} = ([\text{Pollutant}] \text{ mg/L}) * (\text{corresponding flow in mgd}) * (\text{conversion factor of 8.34})$
- f. The permittee must use EPA Method 1668c for analysis of samples for PCBs, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668c Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- g. Quarters are defined as: January-March; April-June; July-September; and October-December.
- h. PCB congener and PFAS monitoring data must be reported on the DMR occurring two months after the last month of quarter in which the sampling took place, and also included with the Toxics Management Practices Plan annual report required in permit section 3.16.
- i. The monitoring schedule for TCDD must correspond to the monitoring for permit renewal effluent monitoring found in permit section 4.4.
- j. TCDD monitoring results must be included in the Toxics Management Practices Plan annual report required in permit section 3.16.
- k. Monitoring for PFAS chemicals is required for 2 years (8 quarters), beginning at the start of the first complete quarter in the third year of the permit term.
- l. A grab sample is an individual sample collected over a 15-minute period or less.

4.2.1 Effluent Monitoring Changes from the 2014 Permit

Monitoring for CBOD₅ (February – October), Total Phosphorus (November – January), ammonia, and temperature have been changed relative to the 2014 permit. Changes in monitoring are presented in Table 17 below.

Table 17. Changes in effluent monitoring frequency from 2014 permit.

Parameter	2014 Permit	2023 Permit	Rationale
CBOD ₅	3/week (February – October)	1/week (year-round)	Recent treatment upgrades resulted in effluent CBOD ₅ data well below effluent limits.
Ammonia	3/week (February – October); 1/month (November – January)	1/week (year-round)	Nutrient loads have far field impacts that have varying temporal effects on downstream waterbodies. DEQ has determined 1/week year-round ammonia effluent data will better assess the facilities contribution to the system year-round. Because the facility's recent data is consistently much lower than ammonia limits additional monitoring is unnecessary to assure the limit is consistently achieved.
Total Phosphorus	3/week (February – October); 1/week (November – January)	3/week (year-round)	Nutrient loads have far field impacts that have varying temporal effects on downstream waterbodies. DEQ has determined 3/week year-round phosphorus effluent data will better assess the facilities ability to consistently meet stringent phosphorus limits.
PFAS	—	1/quarter (for 8 quarters)	See section 4.2.1.1
Temperature	5/week	Continuous	Continuous data is necessary to best assess the facilities thermal load to the Spokane River.
Oil and Grease	1/month	Permit renewal monitoring schedule (Permit 2.1.5)	DEQ does not require additional data for these parameters.
Total Dissolved Solids	1/quarter		
TCDD	1/quarter		

4.2.1.1 PFAS monitoring

Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Discharge of PFAS above certain levels may cause adverse effects to human health effects or aquatic life.

Since PFAS chemicals are persistent in the environment and may lead to adverse human health and environmental effects, the draft permit requires that the permittee conduct quarterly influent, effluent, and sludge sampling for PFAS chemicals for two years. The monitoring requirements for PFAS chemicals are deferred until the third and fourth years of the permit term (beginning during the first complete quarter of the third year). This will give the permittee time to plan for this new monitoring requirement (e.g., to obtain funding, train employees, and find a suitable contract laboratory).

The purpose of these monitoring and reporting requirements is to better understand potential discharge of PFAS from this facility and to inform future permitting decisions, including the potential development of WQBELs. DEQ is authorized to require this monitoring and reporting by CWA section 308(a). The permit conditions reflect EPA's guidance via the 2022 PFAS discharge guidance memorandum^{iv} which directs states to leverage discharge permits to reduce PFAS discharges to waterways as referenced in EPA's PFAS strategic Road Map (EPA 2021).

DEQ notes that there is currently not an analytical method approved in 40 CFR Part 136 for PFAS. As stated in IDAPA 50.01.25.304(h), in the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR Part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring must be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters. Therefore, the permit specifies that until there is an analytical method in 40 CFR Part 136 for PFAS, monitoring must be conducted using Draft Method 1633.

4.3 Receiving Water Monitoring

In general, receiving water monitoring may be required for POCs to assess the pollutant specific assimilative capacity of the receiving water. In addition, receiving water monitoring may be required for pollutants for which the WQC are dependent and to collect data for TMDL development if the facility discharges to an impaired water body.

Table 18 and Table 19 present the proposed receiving water monitoring requirements for the permit. The facility will continue upstream and downstream receiving water monitoring at the currently established locations, until new locations are approved. Receiving water monitoring will take place year-round. The permittee must submit an annual surface water monitoring results for the previous calendar year for flow, temperature, and PCBs in an annual report to DEQ through the e-permitting system by February 20th of the following year.

^{iv} Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs [NPDES_PFAS_State_Memo_December_2022.pdf \(epa.gov\)](#)

Table 18. Receiving water monitoring requirements for Spokane River Upstream Monitoring Point.

Parameter	Units	Monthly Average	Instantaneous Minimum	Instantaneous Maximum	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Flow	cfs	Report	Report	—	—	Continuous ^{a,b,c}	Recorded	— ^d
Temperature	°C	—	—	Report	Report	Continuous ^{a,c}	Recorded ^{e,f}	— ^d
pH	s.u.	—	Report	Report	—	1/month	Grab ^g	Monthly
CBOD ₅	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Total Ammonia as N	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Total Phosphorus as P	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Dissolved Oxygen	mg/L	Report	Report	—	—	1/month	Grab ^g	Monthly
Orthophosphate as P	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Chlorophyll a	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Nitrate + Nitrite as N	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Lead, dissolved	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Zinc, dissolved	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Copper, dissolved	µg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
Hardness, total as CaCO ₃	mg/L	Report	—	—	Report	1/month	Grab ^g	Monthly
PCB, total ^h	pg/L	—	—	—	Report	2/year ⁱ	Grab ^g	— ^d

- Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes.
- If the USGS continues to monitor at station 12419000, the permittee may use that data and must report the monthly average and instantaneous minimum flow for compliance. If the USGS monitoring is discontinued, representative flow monitoring data must be sourced from another approved source or collected by the permittee.
- DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.

- d. Continuous flow monitoring, continuous temperature monitoring and PCB data must be reported in the Receiving Water Monitoring annual report. Include individual daily data values available at the time of annual report development, with provisional data indicated.
- e. Continuous monitoring of temperature is not required until 6/01/2024.
- f. Temperature data must be recorded using DEQ-approved temperature monitoring devices set to record at one-hour or more frequent intervals. DEQ's Protocol for Placement and Retrieval of Temperature Data Loggers contains protocols for continuous temperature sampling. This document is available online at: <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/15037>. Report the following temperature monitoring data on the DMR: maximum daily average and maximum daily.
- g. A grab sample is an individual sample collected over a 15-minute period or less.
- h. The permittee must use EPA Method 1668c for analysis of receiving water samples for PCBs, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668c Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- i. The permittee must sample the receiving water at least once during the season of January 1 – June 30 and at least once during the season of July 1 – December 31, and maintain at least 60 days between sampling events.

Table 19. Receiving water monitoring requirements for Spokane River Downstream Monitoring Point.

Parameter	Units	Monthly Average	Instantaneous Minimum	Instantaneous Maximum	Daily Maximum	Sample Frequency	Sample Type	Reporting Period (DMR Months)
Temperature	°C	—	—	Report	Report	Continuous ^{a,b}	Recorded ^c	— ^d
Dissolved Oxygen	mg/L	Report	Report	—	—	1/month	Grab ^e	Monthly (All Months)
Chlorophyll a	µg/L	Report	—	—	Report	1/month	Grab ^e	Monthly (All Months)
pH ^f	s.u.	—	Report	Report	—	1/month	Grab ^{e,g,h}	Monthly (All Months)
Dissolved Calcium (Ca ²⁺) ^f	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Magnesium (Mg ²⁺) ^f	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Sodium (Na ⁺) ^f	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Potassium (K ⁺) ^f	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Copper ^f	ug/L	Report	—	—	Report	1/month	Grab ^e	Monthly (All Months)
Sulfate (SO ₄ ⁻) ^f	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Chloride (Cl ⁻) ^f	mg/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)

Fact Sheet

IPDES Permit #ID0025852

Alkalinity ^f	mg/L as CaCO ₃	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
Dissolved Organic Carbon ^f	mg C/L	Report	—	—	—	1/month	Grab ^e	Monthly (All Months)
PCB, total ⁱ	pg/L	—	—	Report	—	2/year ^j	Grab ^e	— ^d

- a. Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 60 minutes.
- b. DEQ acknowledges that uninterrupted data collection is not guaranteed due to vandalism, theft, damage, disturbance, power interruption, etc. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must monitor grab measurements daily between 7 a.m. and 4 p.m. or describe frequency when continuous monitoring is not possible until continuous monitoring equipment is redeployed.
- c. Continuous temperature monitoring must begin 0X/01/202X (6 months from effective date).
- d. Continuous flow monitoring, continuous temperature monitoring and PCB monitoring data must be reported in the Receiving Water Monitoring annual report. Include individual daily data values available at the time of annual report development.
- e. Grab means an individual sample collected over a 15 minute period or less.
- f. All monitoring for copper BLM development is required for two years beginning 1/01/2024.
- g. The permittee may choose to collect pH data using a recording device or grab sample. The recording device must be set to record at one-hour or more frequent intervals for a 24-hour period, once per month. pH grab samples must be taken between 5 a.m. and 8 a.m. on the same day as sample collection of other downstream receiving water parameters.
- h. pH must be analyzed within 15 minutes of sample collection.
- i. The permittee must use EPA Method 1668c for analysis of receiving water samples for PCBs, must target MDLs no greater than the MDLs listed in Table 2 of EPA Method 1668c Revision C (EPA-820-R-10-005), and must analyze for each of the 209 individual congeners.
- j. The permittee must sample the receiving water at least once during the season of January 1 – June 30 and at least once during the season of July 1 – December 31, and maintain at least 60 days between sampling even

4.3.1 Receiving Water Monitoring Changes from the 2014 Permit

Changes in monitoring are presented in Table 20 and Table 21, below; the changes are based on gathering the data necessary to assess the potential toxicity of metals and ammonia in the receiving water and to further assess the facility's contribution thermal loads into the receiving water. Parameters associated with dissolved oxygen and PCBs collected both upstream and downstream in the 2014 permit have been removed from the downstream location with the exception of Chlorophyll a and dissolved oxygen. DEQ has determined that collecting water quality parameters upstream and in the effluent will be sufficient to characterize ambient conditions and the permittees contributions of these parameters.

Table 20. Changes in upstream receiving water monitoring from 2014 permit.

Parameter	2014 Permit	2023 Permit	Rationale
CBOD ₅	8/year	1/month	DEQ has determined monthly sampling throughout the year will provide sufficient data to better evaluate pollutant concentrations on an annual basis.
Total Ammonia as N (mg/L)	8/year	1/month	
pH (standard units)	8/year	1/month	
Nitrate + Nitrite as N (mg/L)	8/year	1/month	
Total Phosphorus as P (mg/L)	8/year	1/month	
Orthophosphate as P (µg/L)	8/year	1/month	
Dissolved Oxygen (mg/L)	8/year	1/month	
Chlorophyll a	8/year	1/month	This data is required to support future permit development.
Hardness, total as CaCO ₃	—	1/month	
Lead, dissolved	—	1/month	
Zinc, dissolved	—	1/month	
Copper, dissolved	—	1/month	Continuous temperature data is necessary to adequately measure the effluent's thermal impact on the receiving water.
Temperature	—	Continuous	
Flow	—	Continuous	Flow monitoring is necessary to support mixing zones and flow based effluent limits.

Table 21. Changes in downstream receiving water monitoring from 2014 permit.

Parameter	2014 Permit	2023 permit	Rationale
CBOD ₅	8/year	Removed	DEQ determined that effluent and upstream monitoring data for these parameters is sufficient for IPDES permitting.
Total Ammonia as N (mg/L)	8/year		
Nitrate + Nitrite as N (mg/L)	8/year		
Total Phosphorus as P (µg/L)	8/year		
Orthophosphate as P (µg/L)	8/year		
Chlorophyll a	8/year	1/month	DEQ has determined monthly sampling throughout the year will provide sufficient data to better evaluate pollutant concentrations on an annual basis.
Dissolved Oxygen (mg/L)	8/year	1/month	
Temperature	—	Continuous	Continuous data is necessary to support temperature modeling.
pH (standard units)	8/year	1/month	These parameters are required to support development of the Copper BLM.
Dissolved Calcium (Ca ²⁺)	—	1/month	
Dissolved Magnesium (Mg ²⁺)	—	1/month	
Dissolved Sodium (Na ⁺)	—	1/month	
Dissolved Potassium (K ⁺)	—	1/month	
Dissolved Copper	—	1/month	
Sulfate (SO ₄ ⁻)	—	1/month	
Chloride (Cl ⁻)	—	1/month	
Alkalinity	—	1/month	
Dissolved Organic Carbone	—	1/month	

4.4 Permit Renewal Monitoring

The permit renewal monitoring requires data collected to characterize the effect of the effluent on the Spokane River. At a minimum, three samples of the final wastewater effluent for the parameters listed in Table 22 and Table 23 are required so that DEQ can assess the surface water impacts.

Table 22. Effluent monitoring required for all permit renewals.

Parameter	Units	Sample Type	Report
pH	s.u.	Grab	Minimum and maximum value
Flow	mgd	Continuous	Maximum daily value, average daily value, number of samples
Temperature ^a	°C	Grab	
CBOD ₅	mg/L	24-hour composite	Maximum daily value, average daily value, analytical method and ML or MDL
TSS	mg/L	24-hour composite	
<i>E. coli</i>	#/100 mL	Grab	

- a. The permittee must collect during the warmest month if monitoring is scheduled May-October or the coldest month if scheduled November-April.

The facility has a design flow greater than 0.1 mgd and must also complete three samples of effluent testing for the parameters in Table 23.

Table 23. Effluent testing required for permit renewals of facilities with flow greater than 0.1 mgd.

Parameter	Units	Sample Type	Report
Ammonia, Total as N	mg/L	24-hour composite	Maximum daily value, average daily value, analytical method and ML or MDL
Chlorine, Total Residual	mg/L	Grab	
Dissolved oxygen	mg/L	Grab	
Total Kjeldahl Nitrogen	mg/L	24-hour composite	
Nitrate plus Nitrite	mg/L	24-hour composite	
Oil and grease	mg/L	Grab	
Phosphorus, Total as P	mg/L	24-hour composite	
Total dissolved solids	mg/L	24-hour composite	

The facility has a design flow greater than 1.0 mgd, therefore is required to include the testing in Table 24, in addition to the parameters in Table 22 and Table 23.

Table 24. Permit renewal effluent testing required for facilities with flows of 1.0 mgd or greater.

Required Testing	Application Forms	Report
Expanded Effluent Testing	IPDES permit application part D	Maximum daily value, average daily value, analytical method and ML or MDL
Whole Effluent Toxicity	IPDES permit application part E	TU, Full Lab Report

The permittee must conduct one permit renewal monitoring scan of the effluent according to the following schedule:

- 2025: 3rd Quarter (July 1—September 30)
- 2026: 4th Quarter (October 1- December 31)
- 2028: 1st Quarter (January 1—March 31)

This schedule spreads monitoring over the permit effective period, as well as captures a range of seasons. In addition, the permittee must continue permit renewal effluent monitoring at a frequency of once every fifth quarter after the last sampling event listed in the schedule above until a new permit is issued.

5 Special Conditions

5.1 Compliance Schedule

IDAPA 58.01.25.305 and 40 CFR 122.47 allow for compliance schedules in IPDES permits to provide additional time for permittees to achieve compliance.

5.1.1 Total Phosphorus

The permit includes an extended version of the compliance schedule for phosphorus from the 2014 permit to allow the permittee time to complete construction and provide treatment necessary to meet final limits. DEQ has determined that due to supply chain issues hindering construction a one year extension of the final two tasks is warranted.

Table 25. Total phosphorus compliance schedule tasks

Task Number	2014 Due Date	New Date Due	Task Activity
1	11/30/2022	03/29/2024	Complete Required Work or On-Site Construction The Permittee must submit written notice that treatment improvement construction is substantially complete. Deliverable: The Permittee must submit written notice through the IPDES E-Permitting System that treatment improvement project construction has been substantially completed.
2	11/30/2024	11/30/2025	Comply With Permit Limits The Permittee must begin complying with final phosphorus limit in permit. Deliverable: The Permittee must provide DEQ through the IPDES E-Permitting system with written notice that the facility has achieved compliance with the final effluent limits.

5.2 Whole Effluent Toxicity Conditions

Whole effluent toxicity (WET) is defined as “the aggregate toxic effect of an effluent measured directly by an aquatic toxicity test.” Aquatic toxicity tests are laboratory experiments that measure the biological effect (e.g., survival, growth and reproduction) of effluents on aquatic organisms. In aquatic toxicity tests, groups of organisms of a particular species are held in test chambers and exposed to different concentrations of an aqueous test sample (e.g., reference toxicant, effluent, and receiving water). Observations are made at predetermined exposure periods. At the end of the test, the responses of test organisms are used to estimate the effects of the aqueous sample. WET tests are used to measure the acute and/or chronic toxicity of an effluent in the receiving water. Acute toxicity tests are used to determine the concentration of the effluent that results in mortality within a group of test organisms, during a 24-, 48- or 96-hour exposure. A chronic toxicity test is defined as a short-term test in which sub-lethal effects, such as fertilization, growth, or reproduction, are measured in addition to lethality (in some tests). Both acute and chronic toxicity are measured using statistical procedures such as hypothesis testing (i.e., no observable effect concentration, NOEC and lowest observable effect concentration, LOEC) or point estimate techniques (i.e., lethal concentration to 50 percent of organisms, LC₅₀; and inhibition concentration in a biological measurement to 25 percent of organisms, IC₂₅). See EPA WET guidance manuals for detailed information.

- EPA.2002. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*. Fifth edition. EPA/821/R-02/012.
- EPA. 2002. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*. Fourth edition. EPA-821-R-02-013

IDAPA 58.01.25.302.06.a.v requires that IPDES permits contain limits on whole effluent toxicity when a discharge causes, has the reasonable potential to cause, or contributes to an excursion above a State’s numeric or narrative water quality criteria for toxicity.

The instream waste concentration (IWC) is the concentration of point source effluent in receiving water. The EPA recommends applying chronic WET methods when the IWC is greater than 1.0% and Acute WET methods when the IWC is less than 0.1%. When the IWC is between 0.1% and 1.0% acute and chronic methods may be necessary to properly assess the toxicity response. The critical flow IWC for the Post Falls discharge is 1.59%. Past permits have required chronic WET tests and this permit retains that requirement.

$$IWC = A \div [A + B]$$

Critical Low Flow IWC:

A= POTW design flow = [5.21 mgd]

B= Receiving Water Low Flow (e.g. 1Q10, 7Q10, etc.) [7Q10 = 500 cfs = 323.2 mgd]

$$IWC = 5.21 \div [5.21 + 323.2] = 0.0159 \times 100\% = 1.59\%$$

Idaho WQS have narrative limits (IDAPA 58.01.02.200) that control toxic substances in toxic amounts. Idaho's narrative criterion for chronic whole effluent toxicity is interpreted to be a $TUc = 1$. Any discharge that has potential to cause or contribute to an instream toxicity level greater 1 TUc would require WET effluent limits. The IWC for this system is 1.59% under critical flow conditions and the last 5 years of data shows effluent TUc values have not exceeded 1 TUc . Based on the data the effluent has no reasonable potential for chronic toxicity, therefore a WET limit is not required in this permit. A Chronic trigger value of 16.5 TUc is included in this permit (see Appendix B Table 27). The trigger value represents the effluent TUc value that would result in instream water quality exceeding the 1 TUc WQC if the facility is discharging at design flow and only 25% of the receiving water critical 7Q10 flow is available for dilution. Any WET test that exceeds this value requires accelerated testing as prescribed in the permit.

The 2023 permit requires Chronic WET tests conducted with *Ceriodaphnia dubia* (water flea) and *Pimephales promelas* (fathead minnow). EPA guidance (EPA 1996b) recommends requiring at least three species (invertebrate, fish and plant). However, Post Falls has consistently tested for *Selenastrum capricornutum* (green algae) during the last permit cycle with no toxicity detected. Based on this lack of detected toxicity DEQ has included only *Ceriodaphnia dubia* and *Pimephales promelas* as required test species in the 2023 permit.

The 2023 permit includes a WET dilution series based on the IWC of 1.59 under critical conditions. The dilution series places the IWC in the middle of the series and brackets IWC with the following dilutions: (1) 100% effluent, (2) $[IWC + 100]/2$, (3) $[IWC + 100]/4$, (4) IWC, and (5) $IWC/2$.

5.3 Pretreatment Requirements

The following are SIUs authorized to discharge to Post Falls POTW:

ALK Source Materials, Inc. (CIU – 40 CFR 439.27 Subpart B Extraction Products)

Buck Knives (CIU – 40 CFR 433.17 Metal Finishing)

Burly Products, Inc. (CIU – 40 CFR 433.17 Metal Finishing)

DEQ delegated authority to Post Falls POTW for permitting, monitoring, and enforcing compliance of industrial users discharging to its treatment system on January 6, 2020 to provide more direct and effective control of pollutants. DEQ oversees the delegated pretreatment program as the approval authority (AA) to ensure compliance with federal pretreatment regulations (40 CFR 403) and categorical standards.

5.4 Best Management Practices (BMP) Plans

5.4.1 Toxics Management Practices Plan (TMP) for control of PCBs and 2,3,7,8 TCDD

The draft 2023 permit requires this facility to continue to implement the Toxics Management Practices Plan (TMP) for control of PCBs and 2,3,7,8 TCDD the permittee developed as required in the 2014 permit. The 2023 permit also requires the permittee to update the TMP to include components necessary to consider PCB removal and to operate all treatment processes year round.

5.4.2 Phosphorus Management Plan

The draft 2023 permit requires this facility to continue implementing the plan the permittee developed as required in the 2014 permit. The 2023 permit includes the same requirements as the 2014 permit required to maintain implementation of the Phosphorus Management Plan until the facility is capable of consistently meeting the final effluent limits. The city has committed to meeting final effluent limits and has begun construction on tertiary membrane filters to remove phosphorus. According to the 2021 Total Phosphorus Progress Report the proposed Final Completion Date is November 13, 2022. However, DEQ has extended the phosphorus compliance schedule until November 30, 2023, to account for recent supply chain issues. In the meantime, the permittee has expressed that they will continue to operate the secondary treatment systems in a manner which maximizes biological nutrient removal.

6 Standard Conditions

Section 4 of the permit contains standard regulatory language that must be included in all IPDES permits. DEQ bases the Standard Conditions on state and federal law and regulations. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

6.1 Quality Assurance Project Plan

In accordance with IDAPA 58.01.25.300.05, permittees are required to develop procedures to ensure that the monitoring data submitted is accurate and explain data anomalies if they occur. The permittee is required to develop, maintain, and implement a plan for facility data gathering. The quality assurance project plan (QAPP) shall consist of standard operating procedures for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The plan shall be retained on site and made available to DEQ upon request.

6.2 Operation and Maintenance Manual

The permit requires the permittee to properly operate and maintain all facilities and systems of conveyance, treatment, and control. Proper operation and maintenance are essential to

meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The permittee is required to develop and implement an operation and maintenance plan for their facility. The plan must be retained on site and made available to DEQ upon request.

6.3 Emergency Response Plan

The permittee must develop and implement an emergency response plan that identifies measures to protect public health and the environment. At a minimum, the plan must include mechanisms for the following:

1. Ensure that the permittee is aware (to the greatest extent possible) of all overflows from portions of the collection system over which the permittee has ownership or operational control as well as any unanticipated treatment unit bypass or upset that may exceed any effluent limit in the permit.
2. Ensure that reports of an overflow or of an unanticipated bypass or upset that may exceed any effluent limit in this permit are immediately dispatched to appropriate personnel for investigation and response.
3. Ensure immediate notification to DEQ of any noncompliance that may endanger public health or the environment and identify the public health district and other officials who will receive immediate notification for items that require 24-hour.
4. Ensure that appropriate personnel understand, are appropriately trained on, and follow the Emergency Response Plan; and
5. Provide emergency facility operation.

7 Compliance with other DEQ Rules

7.1 Operator's License

The permittee must meet the requirements and operator license levels listed in the wastewater rules at IDAPA 58.01.16.203 for the type(s) of operations at the facility.

7.2 Sludge/Biosolids

The permit includes sludge monitoring and reporting requirements. Sludge management and disposal activities at the facility are subject to the sewage sludge standards at IDAPA 58.01.25.380, 40 CFR 503, and the requirements of Idaho's Wastewater Rules (IDAPA 58.01.16.480 and 650). Idaho's Wastewater Rules require a POTW to have the capability to process sludge accumulated onsite in preparation for final disposal or reuse (IDAPA 58.01.16.480 and 58.01.16.650). Operations of these sludge processing, storage, and disposal activities must comply with the facility's sludge management plan and 40 CFR 503, if applicable.

DEQ separates wastewater and sludge permitting for the purposes of regulating biosolids. DEQ may issue a sludge-only permit to each facility later, if appropriate.

8 Permit Expiration or Modification

The permit will expire five years after the effective date.

DEQ may modify a permit before its expiration date only for causes specified in IDAPA58.01.25.201. A modification other than a minor modification requires preparing a draft permit that incorporates the proposed changes, preparing a fact sheet, and conducting a public review period. Only the permit conditions subject to the modification will be reopened when a permit is modified. All other conditions of the existing permit remain in effect. Modifying a permit does not change the expiration date of the original permit.

9 References for Text and Appendices

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Appendix A. Facility Maps/Process Schematics

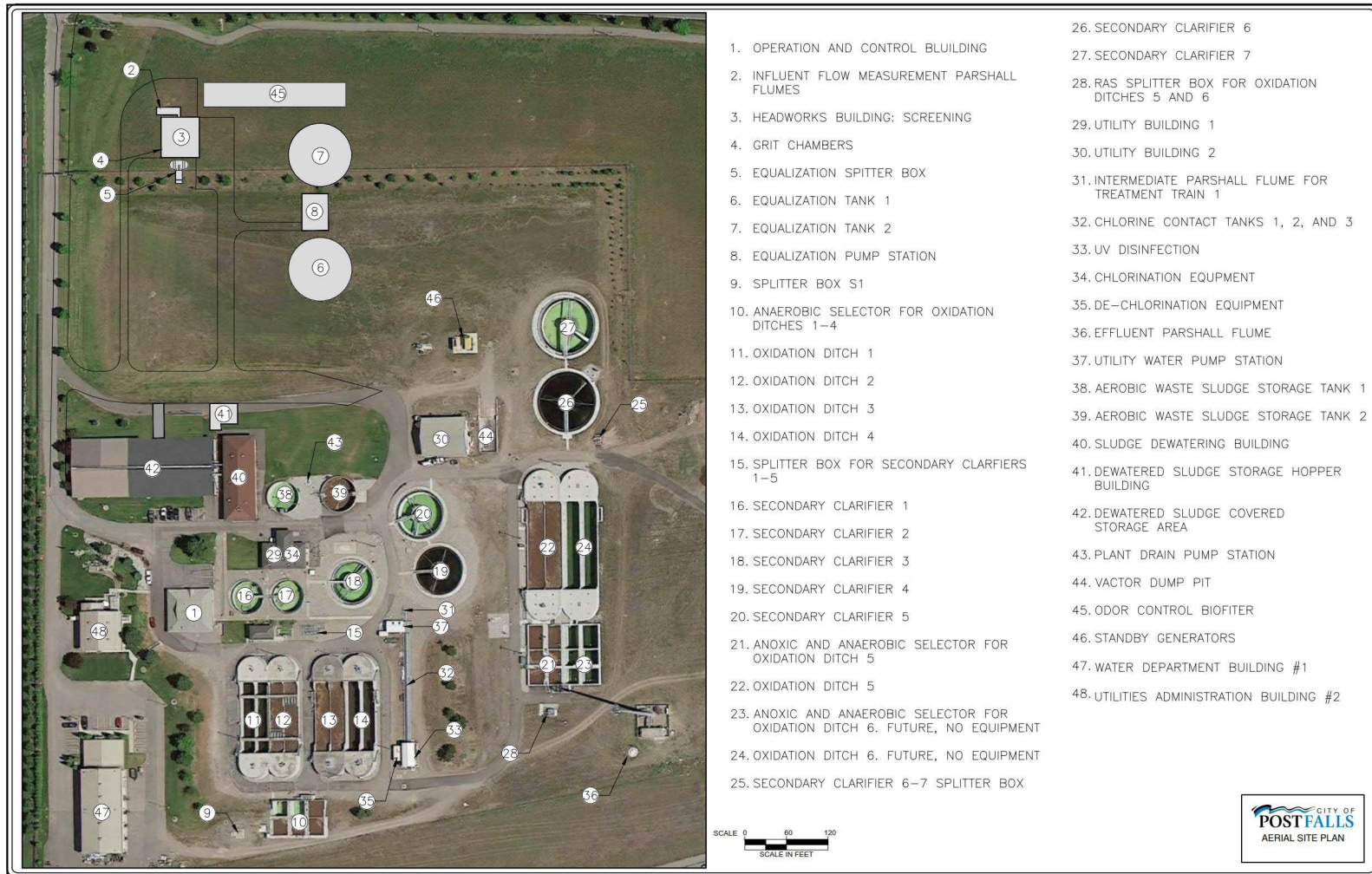


Figure 8. Aerial Site Plan

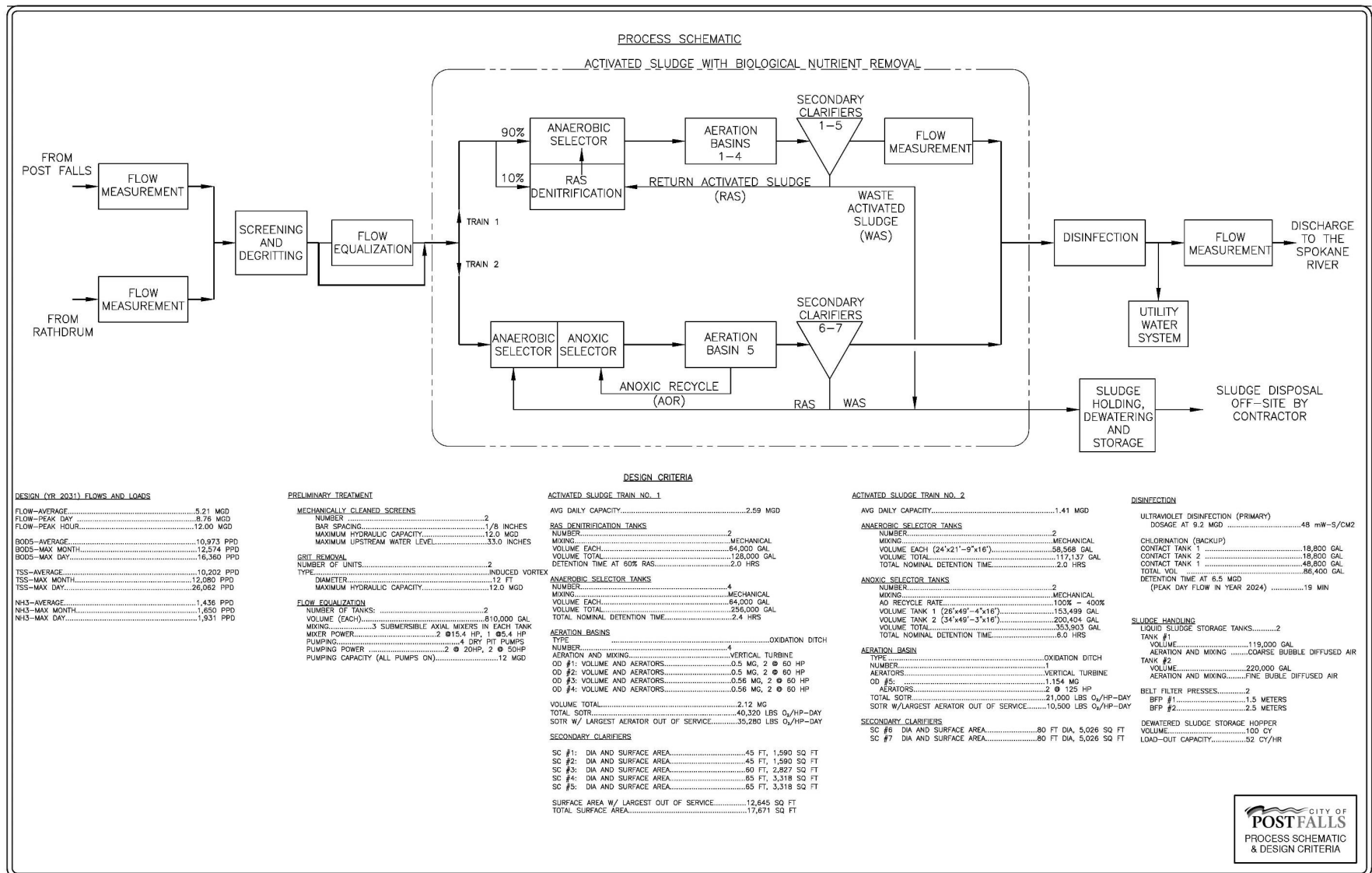


Figure 9. Process Schematic

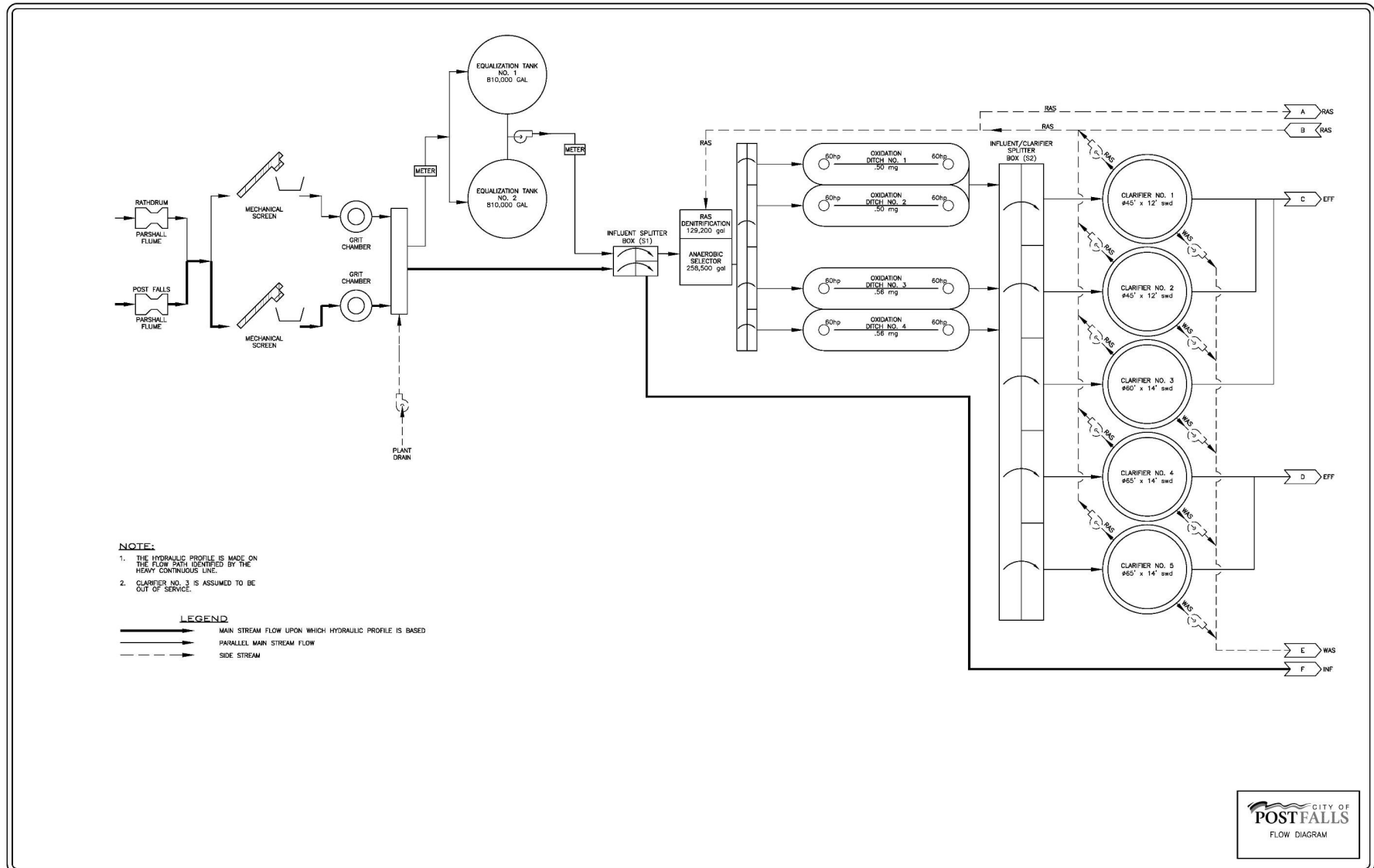


Figure 10. Flow Diagram A



Appendix B. Technical Calculations

The results of the technical calculations are discussed above in sections 3.2, 3.3, and 3.5.2 of the fact sheet.

A. Technology-Based Effluent Limits

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as secondary treatment, which all POTWs were required to meet by July 1, 1977. The EPA has developed and promulgated secondary treatment effluent limits, which are found in 40 CFR 133. These TBELs apply to all municipal wastewater treatment facilities and identify the minimum level of effluent quality attainable by application of secondary treatment in terms of BOD₅, TSS, and pH.

The concentration and removal rate limits for CBOD₅ and TSS are the technology-based effluent limits of 40 CFR 133.102. As explained below, DEQ has determined that more stringent WQBELs are necessary for pH, and CBOD₅ in order to ensure compliance with WQS.

B. Reasonable Potential and Water Quality-Based Effluent Limit Calculations

DEQ uses the process in the *Effluent Limit Development Guidance* (DEQ 2017) to determine reasonable potential. After characterizing the effluent and receiving water, DEQ compares the projected receiving water concentration after the effluent is discharged to the water quality criteria for the pollutant of concern. If the projected concentration exceeds the criterion, there is reasonable potential and an effluent limit is developed.

If DEQ chooses to authorize a mixing zone, the water quality criteria must still be met at the edge of the mixing zone. If after the analysis of the mixing zone, water quality criteria are not being met, the facility will receive an effluent limit that identifies both the size of the mixing zone and the final effluent limit.

Mass-Balance

For discharges to flowing water bodies, the maximum projected receiving water concentration is determined using the following mass-balance equation:

$$C_d = \frac{(C_e Q_e) + [C_u (Q_u \times \%MZ)]}{Q_e + (Q_u \times \%MZ)}$$

Equation 1. Simple mass-balance equation.

Where:

C_d = downstream receiving water concentration	Calculated value
Q_e = critical effluent flow	From discharge flow data (design flow for POTW)
Q_u = critical upstream flow (1Q10 acute criterion, 7Q10 chronic, or harmonic mean)	From water quality standards
%MZ = percent of critical low flow provided by mixing zone	From mixing zone analysis
C_u = critical upstream pollutant concentration (90th to 95th percentile)	From receiving water data
C_e = critical effluent pollutant concentration	Calculated value

A dilution factor (D) can be introduced to describe the allowable mixing. A dilution factor represents the ratio of the receiving water body low flow percentage (i.e., the low-flow design discharge conditions) to the effluent discharge volume and is expressed as:

$$\text{Dilution Factor} = D_f = \frac{(Q_s \times P + Q_e)}{Q_e} = \frac{(Q_s \times P)}{Q_e} + 1 \quad \text{Equation 2. Dilution factor calculation.}$$

Where: D_f = Dilution factor

Q_s = Receiving water low-flow condition (cfs)

P = Mixing zone percentage

Q_e = Effluent discharge flow (cfs)

The above equations for C_d are the forms of the mass-balance equation, which were used to determine reasonable potential and calculate WLAs.

Critical Effluent Pollutant Concentration

When determining the projected receiving water concentration downstream of the effluent discharge, DEQ's *Effluent Limit Development Guidance* (DEQ 2017) recommends using the critical effluent pollutant concentration (C_e) in the mass balance calculation (see Equation 1). To determine the C_e DEQ has adopted EPA's statistical approach that accounts for day-to-day variability in effluent quality by identifying the number of samples, calculating the coefficient of variation (CV) (Equation 7, below), and selecting a reasonable potential multiplying factor (RPMF) from the tables in the *Effluent Limit Development Guidance* (DEQ 2017).

$$CV = \frac{\text{Standard Deviation}}{\text{Mean}} \quad \text{Equation 3. CV calculation.}$$

$$C_e = MOEC \times RPMF \quad \text{Equation 4. } C_e \text{ calculation.}$$

If the C_e exceeds water quality criteria then a reasonable potential analysis is conducted.

Reasonable Potential Analysis

The discharge has reasonable potential to cause or contribute to an exceedance of WQC, referred to as a reasonable potential to exceed (RPTE), if the critical concentration of the pollutant at the end of pipe exceeds the most stringent WQC for that pollutant. This RPTE may result in end-of-pipe limits or may be accommodated if the receiving water has sufficient low flows to provide a mixing zone and the POC does not have acute toxicity attributes. Other conditions may also be applicable that may restrict the use of a mixing zone for the POC.

C. WQBEL Calculations

The following calculations demonstrate how the WQBELs in the permit were calculated. The permit includes WQBELs for CBOD₅, chlorine, ammonia, phosphorus, lead, and zinc. The following discussion presents the general equations used to calculate the WQBELs.

Calculate the Wasteload Allocations (WLAs)

WLAs are calculated using the same mass-balance equations used to calculate the concentration of the pollutant at the mixing zone boundary in the RPA. WLAs must be calculated for both acute and chronic criteria. To calculate the WLAs, C_d is set equal to the appropriate criterion and the equation is solved for C_e . The calculated C_e is the WLA. Equation 9 is rearranged to solve for the WLA:

Equation 5. Simple mass-balance equation for calculating WLA for flowing water.

$$C_e = WLA_{(a \text{ or } c)} = \frac{WQC_{(a \text{ or } c)}[Q_e + (Q_u \times \%MZ)] - [C_u \times (Q_u \times \%MZ)]}{Q_e}$$

Where:

$WQC_{(a \text{ or } c)}$ = Pollutant water quality criterion (acute or chronic)	Calculated value
Q_e = Critical effluent flow	From discharge flow data (design flow for POTW)
Q_u = Critical upstream flow (1Q10 acute criterion or 7Q10 chronic)	From water quality standards
$\%MZ$ = Percent of critical low flow provided by mixing zone	From mixing zone analysis
C_u = Critical upstream pollutant concentration (90th to 95th percentile)	From receiving water data
$C_e = WLA_{(a \text{ or } c)}$ = wasteload allocation (acute or chronic)	Calculated from Equation 4

Idaho's WQC for some metals are expressed as the dissolved fraction. The rules regulating the IPDES program (IDAPA 58.01.25.303.03) require that effluent limits be expressed as total recoverable metal unless standards have been promulgated allowing limits specified in dissolved, valent, or total forms. A case-by-case basis has been established for limits specified in dissolved, valent, or total form, or all approved analytical methods for the metal inherently measure only its dissolved form. Therefore, the permit writer should calculate a WLA in total recoverable metal that will be protective of the dissolved criterion. This is accomplished by dividing the WLA expressed as dissolved by the criteria translator. As discussed in *Guidance Document on Dynamic Modeling and Translators* (EPA 1993), the criteria translator (CT) is equal to the conversion factor when site-specific translators are not available. Conversion factors for metals criteria are listed in DEQ's Water Quality Standards (WQS) at IDAPA 58.01.02.210.02. The WQS also lists several guidance documents at IDAPA 58.01.02.210.04 that are recommended for the development of site specific translators.

The next step is to compute the acute and chronic long-term average ($LTA_{(a \text{ or } c)}$) concentrations, which will be derived from the acute and chronic WLAs. This is done using the following equations from the *Effluent Limit Development Guidance* (DEQ 2017):

$$LTA_a = WLA_a \times e^{(0.5\sigma^2 - z_{99}\sigma)}$$

Equation 6. Acute LTA for toxics.

Where:

LTA_a = Acute long-term average
 WLA_a = Acute wasteload allocation
 e = Base of natural log
 σ = Square root of σ^2
 $\sigma^2 = \text{Ln}(CV^2 + 1)$
 CV = Coefficient of variation

Calculated value
 Calculated value. See Equation 6
 Approximately 2.718

 Ln is the natural log
 Calculated using field data. If 10 or less samples available, use default value of 0.6. See Equation 3
 2.326

Z_{99} = z score of the 99th percentile of the normal distribution

$$LTA_c = WLA_c \times e^{(0.5\sigma_n^2 - Z_{99}\sigma_n)}$$

Equation 7. Chronic LTA average for toxics.

Where:

LTA_c = Chronic long-term average
 WLA_c = Chronic wasteload allocation
 e = Base of natural log
 σ_n = Square root of σ_n^2
 $\sigma_n^2 = \text{Ln}[(CV^2)/n + 1]$
 CV = Coefficient of variation

Calculated value
 Calculated value. See Equation 5.
 Approximately 2.718

 Ln is the natural log
 Calculated using field data. If 10 or less, samples available use default value of 0.6. See Equation 3.

Z_{99} = z score of the 99th percentile of the normal distribution

2.326

n = Averaging period for the chronic water quality criterion (typically 4 days)

Varies

The acute and chronic LTAs are compared, and the more stringent of the two is used to calculate the maximum daily and average monthly limits.

Derive the Maximum Daily and Average Monthly Effluent Limits

Using the *Effluent Limit Development Guidance* (DEQ 2017) equations, the maximum daily limit (MDL) and average monthly limit (AML) are calculated as follows:

$$\text{Maximum Daily Limit} = LTA_m \times e^{(Z_{99}\sigma - 0.5\sigma^2)}$$

Equation 8. Maximum daily limit for toxics.

Where:

LTA_m = Minimum long-term average value

Lesser value calculated from Equation 6 and Equation 7

e = Base of natural log

Approximately 2.718

σ = Square root of σ^2

$\sigma^2 = \text{Ln}(CV^2 + 1)$

Ln is the natural log of base e

Z_{99} = z score of the 99th percentile of the normal distribution

2.326

CV = Coefficient of variation

See Equation 3.

$$AML = LTA_m \times e^{(Z_{95}\sigma_n - 0.5\sigma_n^2)}$$

Equation 9. Average monthly limit for toxics.

Where:

LTA _m = Minimum long-term average	Lesser value calculated from Equation 6 and Equation 7
AML = Average monthly limit	Calculated value
e = Base of natural log	Approximately 2.718
σ_n = Square root of σ_n^2	
$\sigma_n^2 = \text{Ln}[(\text{CV}^2)/n + 1]$	Ln is the natural log of base e
Z ₉₅ = z score of the 95th percentile of the normal distribution	1.645
n = Number of sample specified in the permit to be analyzed each month	Typically n = 1, 2, 4, 10, or 30.
CV = Coefficient of variation	See Equation 3

Table 26, below, details the calculations for WQBELs.

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Table 26. RPA and WQBEL calculations

Reasonable Potential Analysis (RPA) and Water Quality Effluent Limit (WQBEL) Calculations

Facility Name	Post falls WWTP
Facility Flow (mgd)	5.2100
Facility Flow (cfs)	8.05987

Critical River Flows

Aquatic Life - Acute Criteria - Criterion Max. Concentration (CMC)
 Aquatic Life - Chronic Criteria - Criterion Continuous Concentration (CCC)
 Ammonia
 Human Health - Non-Carcinogen
 Human Health - carcinogen

	Annual	Crit. Flows	Units
1Q10	500.00000		cfs
7Q10 or 4B3	500.00000		cfs
30B3/30Q10 (seasonal)	509.00000		cfs
30Q5	540.00000		cfs
Harmonic Mean Flow	2031.30000		cfs

Does the Receiving Water have Domestic Water Supply Beneficial Use? ☒ yes
 List any criteria for which you edited the criteria tab to incorporate site specific criteria

Receiving Water Data

Hardness, as mg/L CaCO₃
 Temperature, °C
 pH, S.U.

	Annual
Hardness, as mg/L CaCO ₃ 5 th prctile at critical flow	25
Temperature, °C 90 th - 95 th percentile	24.6
pH, S.U. 90 th - 95 th percentile	7.69

min. hardness 25 mg/L except for Cadmium. Cd min. hardness is 10 mg/L. Maximum hardness for use in equations is 400 mg/L.
 Input hardness on the WQ Criteria Tab for Hardness Dependent criteria

Pollutants of Concern		AMMONIA, default: cold water, fish early life stages	LEAD	ZINC	CADMIUM	CHLORINE (Total Residual)	SILVER	COPPER - USE COPPER BLM	OIL AND GREASE		
Effluent Data	Number of Samples in Data Set (n)	851	65	65	65	12	65	65	19		
	Coefficient of Variation (CV) = Std. Dev./Mean (default CV = 0.6)	2.4	0.588	0.219	0.12	0.6	0.48	0.48	1		
	Effluent Concentration, µg/L (Max. or 95 th Percentile) - (C _e)	670	1.04	74.6	0.03	326	0.688	6.8	2100		
	Calculated 50 th prctile Effluent Conc. (when n>10), Human Health Only	90	0.5	52	0	62.5					
Receiving Water Statistics	90 th Percentile Conc., µg/L - (C ₉₀)	0.1	0.489	56.4	0.22	0	0	0			
	Geometric Mean, µg/L, Human Health Criteria Only		0.489	38	0.13	0	0	0			
Applicable Water Quality Criteria	Aquatic Life Criteria, µg/L	Acute	9,808.567	13.882	36.202	.421	19.	.318	.9	--	--
	Aquatic Life Criteria, µg/L	Chronic	1,888.943	.541	36.498	.255	11.	--	.6	ok and EPA 4	--
	Human Health Water and Organism, µg/L		--	Narrative	870.	Narrative	--	1,300.	--	--	--
	Human Health, Organism Only, µg/L		--	Narrative	1,500.	Narrative	--	--	--	--	--
	Metals Criteria Translator, decimal (or default use Conversion Factor)	Acute		.24	.992	1.002	--	.85	.96	--	--
		Chronic		.24	.992	.967	--	na	.96	--	--
	Carcinogen (Y/N), Human Health Criteria Only		--	N	N	N	N	N	N	--	--
Assign Percent Mixing	Use this row to set the mixing zone size instead of letting it auto-calculate	0.00%	0.00%	0.00%	0.00%	25.00%			0.00%		
Percent River Flow	Aquatic Life - Acute	1Q10	0.00%	0.00%	0.00%	0.00%	25.00%	2.73%	15.52%	0.00%	--
	Aquatic Life - Chronic	7Q10 or 4B3		0.00%	0.00%	0.00%	25.00%	--	24.08%	0.00%	--
		30B3 or 30Q10		0.00%	0.00%	0.00%	25.00%	--	Assimilative C	0.00%	--
	Human Health - Non-Carcinogen and Chronic Ammonia	Harmonic Mean	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%	--
	Human Health - Carcinogen	Harmonic Mean		0.00%	0.00%	0.00%	25.00%	Check Assimilative C	0.00%	--	--

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Calculated Dilution Factors (DF) (or enter Modeled DFs)	Aquatic Life - Acute	1Q10	1.00	1.00	1.00	1.00	16.51	2.69	10.63	1.00	--	--
	Aquatic Life - Chronic	7Q10 or 4B3		1.00	1.00	1.00	16.51	--	15.94	1.00	--	--
		30B3 or 30Q10		1.00	1.00	1.00	16.79	--	--	1.00	--	--
	Human Health - Non-Carcinogen and Chronic Ammonia	Harmonic Mean	1.00	1.00	1.00	1.00	64.01	1.00	1.00	1.00	--	--
	Human Health - Carcinogen	Harmonic Mean		1.00	1.00	1.00	64.01	1.00	--	1.00	--	--

Aquatic Life Reasonable Potential Analysis

σ	$\sigma^2 = \ln(CV^2 + 1)$	1.382	0.545	0.216	0.120	0.555	0.455	0.455	0.833	--	--
P_n	$= (1 - \text{confidence level})^{1/n}$, where confidence level = 99%	0.995	0.932	0.932	0.932	0.681	0.932	0.932	0.785	--	--
Multiplier (TSD p. 57)	$= \exp(z\sigma - 0.5\sigma^2) / \exp[\text{normsinv}(P_n)\sigma - 0.5\sigma^2]$, where 99%	1.0	1.6	1.2	1.1	2.8	1.5	1.5	3.6	--	--
Statistically projected critical discharge concentration (C_n)		670	1.64	89.45	0.03	911.91	1.01	9.96	7556.34	--	--
Predicted max. conc. (ug/L) at Edge-of-Mixing Zone		670	0.39	88.73	0.03	55.24	0.32	0.90	7556.34	--	--
(note: for metals, concentration as dissolved using conversion factor as translator)		670	0.39	88.69	0.03	55.24	--	0.60	7556.34	--	--
Reasonable Potential to exceed Aquatic Life Criteria		No	No	Yes	No	Yes	No	No	--	--	--

Aquatic Life Effluent Limit Calculations

Number of Compliance Samples Expected per month (n)		4	4	4	4	1	1	1			
n used to calculate AML (if chronic is limiting then use min=4 or for ammonia min=30)		--	4	4	4	4	1	1	--	--	--
LTA Coeff. Var. (CV), decimal (Use CV of data set or default = 0.6)		2.400	0.588	0.219	0.120	0.600	0.480	0.480	1.000	--	--
Permit Limit Coeff. Var. (CV), decimal (Use CV from data set or default = 0.6)		2.400	0.588	0.219	0.120	0.600	0.480	0.480	1.000	--	--
Acute WLA, ug/L	$C_n = (\text{Acute Criteria} \times MZ_n) - C_{u,x} (MZ_n - 1)$ Acute	--	13.88	36.20	0.42	313.7	0.9	9.6	--	--	--
Chronic WLA, ug/L	$C_n = (\text{Chronic Criteria} \times MZ_n) - C_{u,x} (MZ_n - 1)$ Chronic	--	0.54	36.50	0.25	181.6	--	9.6	--	--	--
Long Term Ave (LTA), ug/L	$WLA_c \times \exp(0.5\sigma^2 - z\sigma)$, Acute 99%	--	4.5	22.4	0.3	100.7	0.3	3.7	--	--	--
(99% occurrence prob.)	$WLA_c \times \exp(0.5\sigma^2 - z\sigma)$; ammonia n=30, Chronic 99%	--	0.3	28.5	0.2	95.8	--	5.7	--	--	--
Limiting LTA, ug/L	used as basis for limits calculation	--	0.3	22.4	0.2	95.8	0.3	3.7	--	--	--
Applicable Metals Criteria Translator (metals limits as total recoverable)		--	0.24	0.99	0.97	--	0.85	0.96	--	--	--
Average Monthly Limit (AML), ug/L, where % occurrence prob = 95%		--	1.85	26.86	0.25	149	1	7	--	--	--
Maximum Daily Limit (MDL), ug/L, where % occurrence prob = 99%		--	3.68	36.49	0.30	298	1	10	--	--	--
Average Monthly Limit (AML), mg/L		--	0.002	0.027	0.000	0.149	0.001	0.007	--	--	--
Maximum Daily Limit (MDL), mg/L		--	0.004	0.036	0.000	0.298	0.001	0.010	--	--	--
Average Monthly Limit (AML), lb/day		--	0.080	1.167	0.011	6.460	0.032	0.317	--	--	--
Maximum Daily Limit (MDL), lb/day		--	0.160	1.586	0.013	12.963	0.044	0.433	--	--	--

Human Health Reasonable Potential Analysis

σ	$\sigma^2 = \ln(CV^2 + 1)$	0.545	0.216	0.120	0.555	0.455	0.455	0.833	--	--
P_n	$= (1 - \text{confidence level})^{1/n}$, where confidence level = 95%	0.955	0.955	0.955	0.779	0.955	0.955	0.854	--	--
Multiplier	$= \exp(2.326\sigma - 0.5\sigma^2) / \exp[\text{invnorm}(P_n)\sigma - 0.5\sigma^2]$, 50%	1.000	1.000	1.000	1.000	1.000	1.000	1.000	--	--
Statistically projected critical discharge concentration		0.5	38.0	0.1	0.0	0.0	0.0	0.0	--	--
Dilution Factor (for Human Health Criteria)		1.000	1.000	1.000	64.007	1.000	1.000	1.000	--	--
Max Conc. at edge of Chronic Zone, ug/L (C_n)		0.5	52.0	0.0	1.0	0.0	0.0	0.0	--	--
Reasonable Potential to exceed HH Water & Organism		NO	NO	NO	NO	NO	NO	NO	--	--
Reasonable Potential to exceed HH Organism Only		NO	NO	NO	NO	NO	NO	NO	--	--

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Human Health Reasonable Potential Analysis

σ	$\sigma^2 = \ln(CV^2 + 1)$			0.545	0.216	0.120	0.555	0.455	0.455	0.833	--	--
P_n	$= (1 - \text{confidence level})^{1/n}$	where confidence level =	95%	0.955	0.955	0.955	0.779	0.955	0.955	0.854	--	--
Multiplier	$= \exp(2.326\sigma - 0.5\sigma^2) / \exp[\text{invnorm}(P_n)\sigma - 0.5\sigma^2]$		50%	1.000	1.000	1.000	1.000	1.000	1.000	1.000	--	--
Statistically projected critical discharge concentration				0.5	38.0	0.1	0.0	0.0	0.0	0.0	--	--
Dilution Factor (for Human Health Criteria)				1.000	1.000	1.000	64.007	1.000	1.000	1.000	--	--
Max Conc. at edge of Chronic Zone, ug/L (C_e)				0.5	52.0	0.0	1.0	0.0	0.0	0.0	--	--
Reasonable Potential to exceed HH Water & Organism				NO	NO	NO	NO	NO	NO	NO	--	--
Reasonable Potential to exceed HH Organism Only				NO	NO	NO	NO	NO	NO	NO	--	--

Table 27. WET trigger calculation

Chronic WET Trigger Calculation					
design flow eff	Qe	8.05987	cfs	5.21	mgd
7Q10	Qu	500	cfs	323.2062	mgd
[Upstream]	Cu	0	TUc		
[Effluent WET]	Cd	1	TUc		
	%MZ	0.25			
$Ce = \frac{Cd \times (Qe + (Qu \times \%MZ)) - (Cu \times (Qu \times \%MZ))}{Qe}$					
Chronic WET trigger effluent concentration	Trigger (Ce)	16.5	TUc		

D. Assimilative Capacity Calculator

Steps for determining level of significance include determining the applicable baseline water quality followed by comparing the baseline to the criterion to determine the remaining assimilative capacity; 10% of the remaining assimilative capacity is the basis for an insignificance determination.

$$\begin{aligned} \text{Remaining Assimilative Capacity (RAC)} \\ = WQC - WQ_{base} \end{aligned}$$

Equation 11. Remaining assimilative capacity.

Where:

WQC = Water quality criteria

WQ_{base} = baseline water quality

$$\Delta WQ = \frac{\frac{[(Q_u \times WQ_{base}) + (Q_{ep} \times L_p)]}{(Q_u + Q_{ep})}}{\frac{[(Q_u \times WQ_{base}) + (Q_{eo} \times L_o)]}{(Q_u + Q_{eo})}}$$

Equation 12. Change in water quality between the original and proposed permit.

Where:

ΔWQ = Change in water quality or total amount of water quality degradation

Calculated value

Q_u = Critical upstream flow (30Q5 for *E. coli*)

From water quality standards

Q_{ep} = Critical effluent flow, proposed permit

From discharge flow data (design flow for POTW)

Q_{eo} = Critical effluent flow, original permit

From discharge flow data (design flow for POTW)

WQ_{base} = baseline water quality

From receiving water data (TMDL data)

L_p = Effluent limit in proposed permit

From water quality standards or
RPA

L_o = Effluent limit in original permit

From water quality standards or
RPA

$$\%LRAC = \frac{(RAC)}{\Delta WQ}$$

Equation 13. Percent loss in remaining assimilative capacity of a receiving water.

Where:

RAC = remaining assimilative capacity

ΔWQ = Change in water quality or total amount
of water quality degradation

%LRAC = Percent loss in RAC

Table 28. *E. coli* assimilative capacity calculation - critical conditions

Calculating loss of assimilative capacity in Tier 2 (high-quality) waters in Idaho									
enter your data in the blue cells	Critical ^a or design flow (cfs)	Water Quality (µg/L)	WQ Criterion (µg/L)			Remaining Assim Cap ^c 83	10% RAC 8.3		
	↓	↓							
Upstream #1 Condition	500	43	126						
Discharge #1 Conditions									
Permitted now	7.74	126							
Permit proposed	8.06	126							
Downstream #1		Mixed WQ	Change in WQ	% loss of RAC					
Potential Now	507.74	44.3							
Potential Future	508.06	44.3	0.1	0.1%					
Upstream Condition ^d	508.06	44.3				81.7	8.17		

MGD to cfs converter tool	
MGD	cfs
5.00 →	7.74
323.16 ←	500.00

Table 29. Lead assimilative capacity calculation - DW criteria monthly average limit

Calculating loss of assimilative capacity in Tier 2 (high-quality) waters in Idaho						
enter your data in the blue cells	Critical ^a or design flow (cfs)	Water Quality (µg/L)	WQ Criterion (µg/L)		Remaining Assim Cap ^c	10% RAC
					14.8	1.48
	↓	↓				
Upstream #1 Condition	500	0.2	15			
Discharge #1 Conditions						
Permitted now	7.76	2.05				
Permit proposed	8.06	1.58				
Downstream #1		Mixed WQ	Change in WQ	% loss of RAC		
Potential Now	507.76	0.228				
Potential Future	508.06	0.222	-0.01	-0.04%		
Upstream Condition ^d	508.06	0.222			14.8	1.48

MGD to cfs converter tool	
MGD	cfs
5.21 →	8.06
323.16 ←	500.00

Table 30. Lead assimilative capacity calculation - DW criteria maximum daily limit

Calculating loss of assimilative capacity in Tier 2 (high-quality) waters in Idaho						
enter your data in the blue cells	Critical ^a or design flow (cfs)	Water Quality (µg/L)	WQ Criterion (µg/L)		Remaining Assim Cap ^c	10% RAC
					14.8	1.48
	↓	↓				
Upstream #1 Condition	500	0.2	15			
Discharge #1 Conditions						
Permitted now	7.76	3.79				
Permit proposed	8.06	1.58				
Downstream #1		Mixed WQ	Change in WQ	% loss of RAC		
Potential Now	507.76	0.255				
Potential Future	508.06	0.222	-0.03	-0.22%		
Upstream Condition ^d	508.06	0.222			14.8	1.48

MGD to cfs converter tool	
MGD	cfs
5.21 →	8.06
323.16 ←	500.00

Table 31. Zinc assimilative capacity calculation – HH fish only WQC monthly average limit

Calculating loss of assimilative capacity in Tier 2 (high-quality) waters in Idaho							
enter your data in the blue cells	Critical ^a or design flow (cfs)	Water Quality (µg/L)	WQ Criterion (µg/L)		Remaining Assim Cap ^c	10% RAC	
					1461.95	146.195	
	↓	↓					
Upstream #1 Condition	500	38.05	1500				
Discharge #1 Conditions							
Permitted now	7.76	84.39					
Permit proposed	8.06	82.39					
Downstream #1		Mixed WQ	Change in WQ	% loss of RAC			
Potential Now	507.76	38.8					
Potential Future	508.06	38.8	0.0	0.0%			
Upstream Condition ^d	508.06	38.8			1461.2	146.12	

MGD to cfs converter tool		
MGD		cfs
5.21	→	8.06
323.16	←	500.00

Table 32. Zinc assimilative capacity calculation - HH fish only WQC maximum daily limit

Calculating loss of assimilative capacity in Tier 2 (high-quality) waters in Idaho							
enter your data in the blue cells	Critical ^a or design flow (cfs)	Water Quality (µg/L)	WQ Criterion (µg/L)		Remaining Assim Cap ^c	10% RAC	
					1461.95	146.195	
	↓	↓					
Upstream #1 Condition	500	38.05	1500				
Discharge #1 Conditions							
Permitted now	7.76	115					
Permit proposed	8.06	120.23					
Downstream #1		Mixed WQ	Change in WQ	% loss of RAC			
Potential Now	507.76	39.2					
Potential Future	508.06	39.4	0.1	0.0%			
Upstream Condition ^d	508.06	39.4			1460.6	146.06	

MGD to cfs converter tool		
MGD		cfs
5.21	→	8.06
323.16	←	500.00

Table 33. PCB Assimilative Capacity Calculation

Calculating loss of assimilative capacity in Tier 2 (high-quality) waters in Idaho									
enter your data in the blue cells	Critical ^a or design flow (cfs)	Water Quality (µg/L)	WQ Criterion (µg/L)		Remaining Assim Cap ^c	10% RAC			
					0.000163	1.6E-05			
	↓	↓							
Upstream #1 Condition	500	0.000007	0.00017						
Discharge #1 Conditions									
Permitted now	7.76	0.00046							
Permit proposed	8.06	0.00046							
Downstream #1		Mixed WQ	Change in WQ	% loss of RAC					
Potential Now	507.76	0.000014							
Potential Future	508.06	0.000014	2.634E-07	0.16%					
Upstream Condition ^d	508.06	0.000014			0.0	0.00			

MGD to cfs converter tool		
MGD		cfs
5.21	→	8.06
323.16	←	500.00

Appendix C. 2021 Pretreatment Inspection Report Cover Letter; Report Violations and Issues

August 27, 2021

By cborrenpohl@postfallsidaho.org

Craig Borrenpohl
Utilities Manager
City of Post Falls
2002 W. Seltice Way,
Post Falls, ID 83854

Subject: Pretreatment Compliance Inspection at City of Post Falls Idaho Pollutant Discharge Elimination System (IPDES) Permit ID0025852

Dear Mr. Borrenpohl:

On July 14-15, 2021, the Idaho Department of Environmental Quality (DEQ) conducted a pretreatment compliance inspection of the City of Post Falls Industrial Pretreatment Program (IPP). The purpose of this inspection was to determine compliance with the facility's IPDES Permit ID0025852 and IDAPA 58.01.25, "Rules Regulating the Idaho Pollutant Discharge Elimination System Program." DEQ appreciates the assistance provided by Mr. Barkley, Ms. Gersdorf, Mr. Tate, and yourself during the inspection process. A copy of the inspection report has been included for reference and your records. Please note that corrective action is necessary to comply with regulatory requirements.

At the time of the inspection, the following violations were identified related to the City's permits:

The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(3) requires permits to contain "effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards in part 403 of this chapter, categorical Pretreatment Standards, local limits, and State and local law." The Buck Knives permit does not have the monthly averages categorical effluent limits found in 40 CFR 433.17 for cadmium, copper, lead, silver, and zinc. It is required the IPP revise the Buck Knives permit to include the monthly average limits in accordance with 40 CFR 403.8(f)(1)(iii)(B)(3). For additional guidance, please see Part 7.2.2 of EPA's 2012 Industrial User Permitting Manual. The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(3) requires permits to contain "effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards in part 403 of this chapter, categorical Pretreatment Standards, local limits, and State and local law." Part 1.B of the permit for Burly Products, Inc. has effluent limits that do not correspond with the City's codified local limits for arsenic, cadmium, chromium, copper, lead and mercury. In addition, the local limit for silver was not present. It is required the IPP revise the permit to ensure it reflects the codified local limits found in Part 13.20.080 of the SUO.

The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(4) requires permits to contain “Selfmonitoring, sampling, reporting, notification and recordkeeping requirements...” The Burly Products, Inc. permit did not have recordkeeping requirements. It is required the IPP revise the permit to include applicable recordkeeping requirements from Section 13.20.370 of the SUO.

The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(5) requires permits to contain a “statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements...” The Burly Products, Inc. permit does not contain a statement of civil and criminal penalties. It is required the IPP revise the permit to include the statement of civil and criminal penalties from Sections 13.20.540-13.20.550 of the SUO.

The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(3) requires permits to contain “Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards in part 403 of this chapter, categorical Pretreatment Standards, local limits, and State and local law.” The Burly Products, Inc. permit does not contain the prohibition against dilution as a substitute for treatment. The IPP is required to revise the permit to include the prohibition against dilution language from Section 13.20.100 of the SUO.

The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(3) requires permits to contain “Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards in part 403 of this chapter, categorical Pretreatment Standards, local limits, and State and local law.” The Burly Products, Inc. permit does not contain the general and specific prohibitions from Section 13.20.050 of the SUO. The IPP is required to revise the permit to include the general and specific prohibitions from Section 13.20.050 of the SUO.

At the time of the inspection, the following violations were identified related to the City’s compliance monitoring:

Prior to obtaining primacy of the pretreatment program, the City issued two Compliance Orders to Burly Products, Inc. for failures to report. These Compliance Orders were issued in 2019 and 2020. After the City obtained pretreatment program primacy, Burly Products, Inc. failed to submit a Bi-Annual Report that was due July 15, 2020. The IPP issued a Notice of Violation on November 5, 2020. Failures to report greater than 45 days after a due date are considered significant noncompliance under 40 CFR 403.8(f)(2)(viii). The occurrence was published by the IPP as significant noncompliance in the Coeur d’Alene Press in December of 2020. The ERP states reporting failures that are greater than 30 days late are met with Compliance Orders at minimum, however, the IPP addressed this occurrence with a Notice of Violation. The ERP states the typical timeframe for initiating the enforcement response is within 45 days of identifying the violation. An enforcement response was not initiated until 113 days after the report due date, and the enforcement response was not consistent with the enforcement response matrix. The federal pretreatment regulation at 40 CFR 403.8(f)(5) requires the IPP to develop and implement an enforcement response plan (ERP). This plan must contain detailed procedures indicating how the IPP will investigate and respond to instances of IU noncompliance, describe the types of escalating enforcement responses. The IPP is required to implement the approved ERP for investigating and responding to noncompliance.

At the time of the inspection, the following areas of concern were identified related to the City’s SUO:

1. The federal regulation at 40 CFR 403.8(f)(2)(vi) requires SIUs to “...notify the POTW immediately of any changes at its facility affecting potential for a Slug Discharge...” The SUO did not contain this reporting requirement. It is required the City revise the SUO to include the requirement to notify the POTW of changes affecting the potential for a slug discharge.
2. The IPP has chosen to implement waivers for pollutants not present or expected to be present; however, the SUO is missing this language. It is required the City revise the SUO to include the applicable legal authority language from 40 CFR 403.8 (f)(1)(iii)(B)(4) and 40 CFR 403.12(e)(2), or remove the waivers of categorical pollutants from SIU permits. If the City chooses to include the waiver process in the SUO, Part 13.20.230 of the SUO must also be updated to include specific waived pollutant as required permit content for individual control mechanisms.
3. The federal regulation at 40 CFR 403.8(f)(2)(vi) includes the minimum requirements for slug discharge control plans. Part 13.20.140 of the City SUO does not meet the minimum requirements for the slug discharge control plans. The SUO states the IPP must include procedures for notifying the POTW of a slug discharge within 24 hours. The federal regulation at 40 CFR 403.8(f)(2)(vi) states the following must be included in slug discharge control plans: “Procedures for immediately notifying the POTW of Slug Discharges, including any Discharge that would violate a prohibition under § 403.5(b) with procedures for follow-up written notification within five days;” It is required the City revise Part 13.20.140 of the SUO to require procedures for the immediate notification of slug discharges.
4. The federal regulation at 40 CFR 403.12(e)(3) allows for reduced reporting frequency for CIUs designated as Middle-Tier CIUs under the 2008 Streamlining Rule. The IPP has reduced the reporting frequency for two of the CIUs; however, the required legal authority is not included in the SUO. The City is required to update the SUO to include the applicable legal authority from 40 CFR 403.12(e)(3) to designate CIUs as Middle-Tier CIUs, or remove the reduced reporting frequency from CIU permits.

At the time of the inspection, the following areas of concern were identified related to the City’s permits:

5. The IPP has granted reduced reporting requirements and categorical pollutant sampling waivers in the permits of ALK Source Materials and Buck Knives. The City’s SUO does not incorporate the necessary language to provide legal authority for granting these variances as discussed in Section 4 of this report. If the City chooses to refrain from adding this language in to the SUO, the categorical pollutant waivers and reducing reporting must be removed from the SIU permits.
6. The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(1) requires permits to contain a “statement of duration (in no case more than five years)”. The Buck Knives permit duration is five years and one day. It is required the IPP revise the Buck Knives permit to include a statement of duration for no more than five years.

7. The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(3) requires permits to contain “effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards in part 403 of this chapter, categorical Pretreatment Standards, local limits, and State and local law.” Part 1.B of the Burly Products, Inc. permit includes an alternative limit for cyanide for facilities that have cyanide treatment under 40 CFR 433.1. Burly Products, Inc. does not treat for cyanide. It is required the IPP revise the permit to ensure the categorical effluent limits are accurately applied to the facility.
8. The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(4) requires permits to contain “Selfmonitoring, sampling, reporting, notification and recordkeeping requirements, including... sampling location, sampling frequency, and sample type...”. In Part 2.B, cyanide is listed as a “grab” sample under the monitoring table. In Part 2.B.6, cyanide samples are required to be collected as a grab composite. It is required the IPP revise the permit to clarify the sample type for cyanide.
9. The federal regulation at 40 CFR 433.12 allows categorical dischargers regulated under the metal finishing category to request an alternative to monitoring for TTO. The request for certification must be accompanied by a solvent management plan. Part 2.B.7 of the Burly Products, Inc. permit includes the certification statement for the alternative to monitoring for TTO, but does include the requirement to submit a solvent management plan, or the required components of the plan. Part 4.4 of the permit requires submission of monitoring results for TTO but does not include requirements for the solvent management plan. It is required the IPP revise the permit to ensure the TTO alternative to monitoring requirements reflect the federal regulation at 40 CFR 433.12.
10. Part 4.1 of the Burly Products, Inc. permit includes a reopener clause. This clause does not reflect the modification language from Part 13.20.240 of the SUO. It is required the IPP revise the permit to reflect the correct language from the SUO regarding permit modifications.
11. The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(4) requires permits to contain “Selfmonitoring, sampling, reporting, notification and recordkeeping requirements...”
Part
3.C.1 of the Burly Products, Inc. permit includes requirements for the City to implement the 24-hour reporting and resampling in response to an effluent violation required by Part
13.20.340 of the SUO. This requirement must be implemented by the permittee, not the City. It is required the IPP revise the permit to reflect the requirements in Section
13.20.340 of the SUO.
12. Part 4.3 of the Burly Products, Inc. permit requires the facility to develop a spill containment plan. The permit language does not include the minimum requirements for the plan as reflected in Section 13.20.140 of the City SUO and the federal regulation at 40 CFR 403.8(f)(2)(vi). It is required the IPP revise the permit to include the accidental spill prevention plan language as reflected in Section 13.20.140 of the SUO.
13. The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(4) requires permits to contain “Selfmonitoring, sampling, reporting, notification and recordkeeping requirements...”

The Burly Products, Inc. permit did not have bypass language. It is required the IPP revise the permit to include applicable bypass requirements from Section 13.20.330 of the SUO.

14. The federal regulation at 40 CFR 403.8(f)(1)(iii)(B)(4) requires permits to contain "Selfmonitoring, sampling, reporting, notification and recordkeeping requirements..." The Burly Products, Inc. permit did not have upset language. It is required the IPP revise the permit to include upset language from Section 13.20.590 of the SUO.
15. The federal regulation at 40 CFR 403.8(f)(2)(vi) requires SIUs to " ...notify the POTW immediately of any changes at its facility affecting potential for a Slug Discharge..." The Burly Products, Inc. permit did not have the requirement to notify the City of changes affecting the potential for a slug discharge. It is required the IPP revise the permit to include this reporting requirement in accordance with the federal regulation at 40 CFR 403.8(f)(2)(vi).
16. The boiler blowdown and discharge at ALK Source Materials, Inc. is routed through the pretreatment system. This wastewater combines with the regulated wastestream prior to treatment and sampling. The combined wastestream formula was not used in permitting. This is an area of concern, as boiler blowdown streams are a non-regulated wastestream under 40 CFR 403.6(e). The federal regulation at 40 CFR 403.6(e) states, "Where process effluent is mixed prior to treatment with wastewaters other than those generated by the regulated process, fixed alternative discharge limits may be derived by the Control Authority or by the Industrial User with the written concurrence of the Control Authority." The federal regulation at 40 CFR 403.12(b)(5)(iv) states, "Samples should be taken immediately downstream from pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with the regulated wastewater prior to pretreatment the User should measure the flows and concentrations necessary to allow use of the combined wastestream formula of 403.6(e) in order to evaluate compliance with the Pretreatment Standards."

The IPP is required to revise the ALK Source Materials permit to employ the Combined Wastestream Formula for categorical effluent limits, or it must ensure samples are collected of the regulated process water immediately downstream of treatment and prior to mixing with other wastewaters.

17. The water from this process is discharged to the City through an oil and water separator, and is not captured in the facility compliance samples from Outfall BP001. The 1983 Development Document for Effluent Limitations Guidelines and Standards for Metal Finishing include Abrasive Jet Machining as a unit operation in metal finishing. The federal regulation at 40 CFR 403.12(b)(5)(2) requires reports to contain "the nature and concentration (or mass, where required by the Standard or Control Authority) of regulated pollutants in the Discharge from each regulated process." Outfall BP001 in the Burly Products, Inc. permit does not include discharges from the water jet cutter. It is required the IPP revise the Burly Products, Inc. Permit to ensure the sampling is representative of each regulated process.

At the time of the inspection, the following areas of concern were identified related to the City's compliance monitoring:

18. The federal regulation at 40 CFR 403.12(g)(5) requires all analyses to demonstrate compliance with Pretreatment Standards to comply with 40 CFR 136. The methods used for analysis of methylene chlorine and acetone during the 2020 Annual Compliance Inspection of ALK Source Materials, Inc. are not approved methods under 40 CFR 136. During the 2021 Annual Compliance Inspection of ALK Source Materials, Inc. the correct methods were used for these analyses. It is required the IPP ensure the methods used for compliance sampling analyses are compliant with 40 CFR 136.
19. The ASPPs for Burly Products, Inc. and Buck Knives did not meet the minimum requirements outlined in 40 CFR 403.8(f)(2)(vi). It is required the IPP ensure reports, plans and other submittals are reviewed to ensure compliance with permit requirements. Submittals that are found to be out of compliance with permit requirements must be addressed using the Approved Program ERP.

At the time of the inspection, the following recommendations were identified:

1. It is recommended the City ensure clear procedures are in place in the event an SIU is identified in the City of Rathdrum.
2. There are three RV dump stations located at commercial gas stations throughout the City. The gas stations are all pay-to-dump; however, the IPP was unsure of the security features at each location. It is recommended the IPP assess each location for risk of prohibited discharges and ensure the commercial owners are aware of their liability for prohibited discharges.
3. The transfer of primacy for EPA's NPDES Program to Idaho, and the IPDES program, took place on July 1, 2018. It is recommended the City update the language in the Sewer Use and Management Ordinance (SUO) to acknowledge the change in primacy over the NPDES program from the EPA to Idaho and the IPDES program by including the identification of IPDES permit instead of NPDES permit in Part 13.20.50 of the SUO.
4. Part 13.20.560 of the City's SUO does not mention the use of the IPP's enforcement response plan. Example language is available in EPA's Model SUO in Chapter 11.4. DEQ recommends the City updates their SUO to reflect the use of their enforcement response plan.
5. ALK Source Materials, Inc. has exceeded the flow requirements for Middle Tier CIU designation, requiring it to resume semi-annual reporting. The IPP is in the process of revising the permit to reflect the increased flow and to remove the Middle Tier CIU references. DEQ supports this revision as it is necessary to ensure the permit complies with 40 CFR 403.8(f)(1)(iii)(B)(4), which requires control mechanism to contain "Selfmonitoring, sampling, reporting, notification and recordkeeping requirements..." The IPP is also reminded that the removal of the Middle-Tier CIU status also reinstates the annual compliance inspection and sampling requirement for the POTW as opposed to once every two years.

6. The Buck Knives permit includes Middle-Tier CIU language allowing for a reduced reporting frequency of 1/year. The flow limit in the permit is 5040 gpd, which is higher than the threshold of 5,000 gpd for the Middle-Tier CIU status. It is recommended the IPP revise the flow limit in the permit to reflect the Middle-Tier CIU threshold for clarity.
7. Part 3.3 of the Buck Knives permit references reporting of Sanitary Sewer Overflows, and reporting of split sampling. This language does not appear to be applicable to Buck Knives. It is recommended the IPP revise the permit to remove these references for clarity.
8. Part 2.B.5 of the Burly Products, Inc. permit states “samples will be time-proportioned composites.” This conflicts with Part 2.B of the permit, which requires cyanide, Total Toxic Organics (TTO), and pH to be collected as grabs. It is recommended the IPP revise this section for clarity.
9. Part 2.B.5 of the Burly Products, Inc. permit designates requirements for the City of Post Falls. It is recommended the IPP revise the permit to retain only requirements applicable to the permittee.
10. During the inspection of Burly Products, Inc. there was metal visible in the plasma arc basin, and it appeared to have a sheen on it. Mr. Brantley stated this water does not get discharged. It is recommended the IPP further investigate the process for cleaning the plasma arc machine basin, such as if there is a decant water produced from the metal collection.
11. During the inspection of Burley Products, Inc. Mr. Brantley stated he was unsure of any maintenance of the oil and water separator apart from an issue a number of years prior during which a sanitary sewer backup in the facility resulted in sanitary waste flowing to the oil and water separator via facility floor drains. The separator was pumped during that event. It is recommended the IPP ensure they are assessing the SIU maintenance of pretreatment facilities during inspections.
12. The City did not assess the calibration supplies during the inspections. It is recommended the IPP evaluate the onsite analysis supplies, such as pH buffer solutions, to ensure they are compliant with 40 CFR 136 approved methods.

DEQ is providing this notice so you may correct issues with the pretreatment program. Please provide written documentation demonstrating how the identified violations and areas of concern have or will be resolved by **October 29, 2021**. For deficiencies that have not been resolved, please include a timeframe for resolution. All documentation must be submitted through the IPDES E-Permitting System.

Thank you for your help with the inspection process. DEQ encourages you to continue your compliance efforts; responsibility for compliance with the IPDES permit rests with the permittee.

If you have any questions about the inspection, please contact Kerry Neil at (208) 373-0250 or Kerry.Neil@deq.idaho.gov.

Sincerely,



Kerry Neil
IPDES Compliance Officer

cc: Mark Barkley, Pretreatment Coordinator, City of Post Falls
Alyssa Gersdorf, Environmental Specialist, City of Post Falls
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Brynn M. Lacabanne, IPDES Compliance & Enforcement Supervisor, DEQ State Office
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Terry Alber, IPDES Biosolids & Pretreatment Analyst, DEQ State Office
Brian Levo, NPDES Enforcement Coordinator, EPA Region 10 Maria Lopez, Compliance Officer, EPA Region 10

enc: July 2021 inspection report

Appendix D. From the 2014 NPDES Fact Sheet: Water Quality-based Effluent Limits for Phosphorus, Ammonia and Carbonaceous Biochemical Oxygen Demand Necessary to Meet Water Quality Criteria for Dissolved Oxygen in Washington and Nutrients in Idaho

Overview

Federal regulations require NPDES permits to be conditioned to ensure compliance with the water quality requirements of all affected States (40 CFR 122.4(d), 122.44(d)(4), see also Clean Water Act Section 401(a)(2)). The EPA has determined that waters of the State of Washington are affected by discharges of nutrient and oxygen-demanding pollution, specifically total phosphorus (TP), five-day carbonaceous biochemical oxygen demand (CBOD₅), and total ammonia as nitrogen (ammonia), from point sources in Idaho. These three pollutants can decrease dissolved oxygen concentrations in the Spokane River and in Lake Spokane, in the State of Washington. Thus, the EPA must establish water quality-based effluent limits for these parameters, which ensure that the level of water quality to be achieved by limits on point sources is derived from and complies with all applicable water quality standards, including Washington water quality standards (40 CFR 122.44(d)(1)(vii)(A)). Some of the applicable water

quality standards for the State of Washington explicitly require that the cumulative impact of all human actions be considered. Therefore, the effluent limits are set at a level that will assure that these discharges, considered cumulatively with all other human sources of pollution, including those in the State of Washington, will achieve the Washington DO standard in Lake Spokane.

Requirement to Meet Washington's Water Quality Standards

The federal regulation 40 CFR 122.4(d) states that "no permit may be issued...when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." In the reasonable potential analysis described below, the EPA determined that discharges of TP, CBOD₅, and ammonia from the City of Coeur d'Alene, the City of Post Falls and the Hayden Area Regional Sewer Board (HARSB) affect water quality in waters of the State of Washington, because they have the reasonable potential to cause or contribute to excursions below Washington's water quality criteria for DO. Therefore, the State of Washington is an "affected State" under 40 CFR 122.4(d).

Furthermore, 40 CFR 122.44(d)(4) requires that NPDES permits must include any requirements necessary to "conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State." Therefore, the EPA must establish conditions in the permits for these facilities, which ensure compliance with the applicable water quality requirements of the State of Washington.

Reasonable Potential Analysis

The federal regulation 40 CFR 122.44(d)(1)(i), which implements Section 301(b)(1)(C) of the Clean Water Act, requires that NPDES permits contain water quality-based effluent limitations for all pollutants or pollutant parameters that the EPA determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including narrative criteria for water quality.

In the fact sheets for the 2007 draft permits for the Cities of Coeur d'Alene and Post Falls and HARSB, the EPA found that the discharges of oxygen-demanding pollution from those sources have the reasonable potential to cause or contribute to excursions below Washington's water quality criterion for dissolved oxygen in Lake Spokane. Specifically, the modeling conducted in support of the 2007 draft Idaho permits showed that the levels of discharge allowed by the 1999 permits, from the Idaho wastewater treatment plants alone, could decrease dissolved oxygen concentrations in Lake Spokane by 0.57 mg/L as an average over depth below 8 meters, at the time and location of maximum impact.¹ Washington's water quality standard only allows a DO decrease of 0.2 mg/L below the natural condition for all human sources considered cumulatively (see "Applicable Water Quality Standards and Status of Waters," below). Therefore, a decrease of 0.57 mg/L would cause an excursion above Washington's water quality criterion for DO in lakes and reservoirs (because it is a greater decrease than allowed by the standards). In addition, the modeling conducted in support of the 2007 draft Idaho permits showed that currently permitted levels of discharge could increase pH at the state line to more than 9.0 standard units, which is an excursion above both Idaho and Washington water quality standards (Cope 2006).

Reasonable potential determinations must account for existing controls on point and nonpoint sources of pollution (40 CFR 122.44(d)(1)(ii)). Additional anthropogenic nutrients

and oxygendemand discharged by municipal separate storm sewer systems in Idaho further contribute to excursions below dissolved oxygen standards, which serves as additional evidence for the reasonable potential finding.

Therefore, the discharges of TP, ammonia, and CBOD₅ from the three WWTPs discharging to the Spokane River in Idaho affect water quality in waters of the State of Washington and have the reasonable potential to cause or contribute to excursions above water quality standards for dissolved oxygen and pH in waters of the State of Washington. The EPA has therefore established water quality-based effluent limits for TP, ammonia and CBOD₅ for the Idaho dischargers to the Spokane River that ensure a level of water quality that is derived from and complies with both Washington's and Idaho's water quality standards (40 CFR 122.44(d)(1)(vii)(A)).

¹ The fact sheets for the 2007 draft permits for the City of Coeur d'Alene, the City of Post Falls, and HARSB stated the maximum DO decrease in Lake Spokane resulting from currently permitted Idaho discharges as 1.1 mg/L. This was the 95th percentile DO decrease, over the depth of the lake, at the time and location of maximum impact, predicted under the "Permit" modeling scenario (Cope 2006). The Spokane DO TMDL quantifies the DO decrease as the average DO decrease, over the depth of the lake, below 8 meters (see the Spokane DO TMDL at page 36).

When this metric is applied to the "Permit" scenario described in the 2006 Cope report and the 2007 fact sheets, the Idaho wastewater treatment plants' potential impact on DO, based on currently-permitted levels of discharge, is 0.57mg/L.

Table 1, below, for a summary of the applicable water quality criteria for DO, pH, and nutrients or aesthetics for the Spokane River and Lake Spokane in the States of Idaho and Washington.

Table 1: Dissolved Oxygen and pH Criteria for the Spokane River and Lake Spokane		
Spokane River		
Parameter	Idaho Standards	Washington Standards
Dissolved Oxygen	Numeric Criteria: Below Post Falls Dam, except during August and September: One (1) day minimum of not less than six point zero (6.0) mg/l or ninety percent (90%) of saturation, whichever is greater. Other times and locations: Dissolved Oxygen Concentrations exceeding six (6) mg/l at all times. (IDAPA 58.01.02, Sections 110.12 and 250) Natural condition provision: When natural background conditions exceed any applicable water quality criteria set forth in Sections 210, 250, 251, 252, or 253, the applicable water quality criteria shall not apply; instead, there shall be no lowering of water quality from natural background conditions. (IDAPA 58.01.02.200.09.)	Numeric Criteria: From Nine Mile Bridge (river mile 58.0) to the Idaho border (river mile 96.5): 1-day minimum of 8.0 mg/L. From Long Lake Dam (river mile 33.9) to Nine Mile Bridge: 1-day minimum of 9.5 mg/L. (WAC 173-201A, Tables 200(1)(d) and 602) Natural condition provision: When a waterbody's D.O. is lower than the criteria in Table 200 (1)(d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the D.O. of that water body to decrease more than 0.2 mg/L. (WAC 173-201A-200(1)(d)(i))
pH	Within the range of six point five (6.5) to nine point zero (9.0). (IDAPA 58.01.02.250.01.a).	From Nine Mile Bridge (river mile 58.0) to the Idaho border (river mile 96.5): pH shall be within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.5 units. From Long Lake Dam (river mile 33.9) to Nine Mile Bridge: pH shall be within the range of 6.5 to 8.5, with a human-caused variation within the above range of less than 0.2 units. (WAC 173-201A, Tables 200(1)(g) and 602)
Natural Conditions Definition	The physical, chemical, biological, or radiological conditions existing in a water body without human sources of pollution within the watershed. Natural disturbances including, but not limited to, wildfire, geologic disturbance, diseased vegetation, or flow extremes that affect the physical, chemical, and biological integrity of the water are part of natural background conditions. Natural background conditions should be described and evaluated taking into account this inherent variability with time and place. (IDAPA 58.01.02.010.56)	"Natural conditions" or "natural background levels" means surface water quality that was present before any human-caused pollution. When estimating natural conditions in the headwaters of a disturbed watershed it may be necessary to use the less disturbed conditions of a neighboring or similar watershed as a reference condition. (WAC 173-201A-020)
Nutrients / Aesthetics	Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses. (IDAPA 58.01.02.200.06)	Aesthetic values must not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste (see WAC 173-201A-230 for guidance on establishing lake nutrient standards to protect aesthetics). (WAC 173-201A-260(2)(b))
Lake Spokane (Washington Water Quality Standards)		
Dissolved Oxygen	For lakes, human actions considered cumulatively may not decrease the dissolved oxygen concentration more than 0.2 mg/L below natural conditions. (WAC 173-201A-200(1)(d)(ii))	

Requirement for Cumulative Analysis of Human Actions

Washington's water quality criterion for dissolved oxygen in lakes and reservoirs requires that "*human actions considered cumulatively* may not decrease the dissolved oxygen concentration more than 0.2 mg/L below natural conditions" (emphasis added). In order to assure that the Idaho sources meet Washington State standards, the dissolved oxygen impact of discharges from Idaho sources must be considered cumulatively with the impact of the Washington sources.

Modeling Supporting the Permit Limits

The Clean Water Act's primary mechanism for addressing water quality impairments on a cumulative basis is the total maximum daily load (TMDL) process. However, TMDLs are generally prepared by the States, and a TMDL prepared by a State cannot establish load and wasteload allocations for pollution sources located outside the boundaries of that State.

However, when a State prepares a TMDL, the State may reasonably assume that NPDES permits for point sources in upstream States, which have an effect on water quality in the downstream State that is preparing a TMDL, will include effluent limits that ensure compliance with the downstream State's water quality requirements, including water quality standards, because this is required by federal regulations (40 CFR 122.4(d), 40 CFR 122.44(d)(4)).

Furthermore, if the EPA is the NPDES permitting authority for the point source discharges in the upstream State (as it is in this case) the downstream State may object to the issuance of the permits in the upstream state if the federal permits in the upstream State will affect the quality of its waters so as to violate any water quality requirements in the downstream State (CWA Section 401(a)(2)). Thus, when the Washington State Department of Ecology (Ecology) prepared the *Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load* (TMDL) Ecology assumed that the NPDES permits for point sources discharging to the Spokane River in Idaho would include limits that would ensure compliance with Washington's water quality standards.

The DO TMDL's Modeling Assumptions for Idaho Point Sources

To ensure that the TMDL's load and wasteload allocations, Avista's DO responsibility, and the loadings from Idaho would cumulatively meet DO WQS in Lake Spokane, when developing the TMDL, Ecology modeled the cumulative impact of both Idaho and Washington pollution sources upon the lake.

The TMDL states: "The dissolved oxygen depletion predicted to result from these assumed Idaho pollutant loads is shown in Tables 14 and 15 of PSU (2010) (the Idaho only source assessment scenario results). The EPA will incorporate permit limits into the NPDES permits for Idaho point source dischargers that ensure that the total dissolved oxygen depletion resulting from those dischargers is no greater than that shown in Tables 14 and 15 of (the Spokane River Modeling Final Scenarios Report 2010, the "2010 modeling report," by Portland State University)." Id. at 35.

Thus, when developing the TMDL, Ecology assumed certain loadings of oxygen-demanding pollution would be discharged in Idaho (shown in the 2010 modeling report at Table 2, the “prior modeling assumptions”), and the modeling supporting the TMDL thereby accounts for any dissolved oxygen decrease resulting from sources in Idaho. However, the TMDL does not apply to the Idaho permits, and the prior modeling assumptions are not binding on the EPA when it drafts the Idaho permits. The prior modeling assumptions are not wasteload allocations with which the effluent limits in the Idaho permits must be consistent (40 CFR 122.44(d)(1)(vii)(B)). The EPA is free to establish any limits in the Idaho permits for CBOD₅, ammonia and TP so long as those limits ensure compliance with both Idaho and Washington WQS, when considered cumulatively with other sources of pollution (40 CFR 122.4(d), 122.44(d)(4)).

The language on Page 35 of the TMDL assumed that, in order to determine if the effluent limits in the Idaho permits would meet Washington’s DO criteria, the EPA would isolate the impact of the Idaho point sources and then evaluate those results against the DO impact of the Idaho sources as assumed in the TMDL modeling. The limits would then be set to ensure that the DO depletion from Idaho sources, specifically, was no greater than assumed in the TMDL. This approach would ensure compliance with Washington water quality standards for DO on a cumulative basis by ensuring that the DO impact from *both* Idaho and Washington sources (and therefore the cumulative DO impact from sources in both States) was the same or less than predicted by the TMDL modeling.

However, the EPA believes it is more realistic to conduct the modeling supporting effluent limits for Idaho point sources to reflect the cumulative effect of all human actions that influence DO and to then evaluate the modeling results against Washington’s water quality standards. This approach more directly ensures compliance with Washington’s water quality standards on a cumulative basis. Thus, the effluent limits are based on modeling of all known human sources of nutrient and oxygen-demanding pollution (i.e. point and non-point sources in Washington and Idaho).

Summary of Model Results

The effluent limits in the draft permits are not the same as the loadings that were assumed in the modeling supporting the TMDL, for Idaho point sources. However, as explained below, the effluent limits for Idaho point sources ensure compliance with Washington’s water quality standards for dissolved oxygen, when considered cumulatively with the Washington NPDES permits’ effluent limits, the TMDL’s load allocations for oxygen-demanding pollution from non-point sources, and Avista’s dissolved oxygen responsibility (LimnoTech 2011, PSU 2011).

The effluent limits meet Washington’s DO criteria (WAC 173-201A-200(1)(d)) when the precision of the water quality model is considered (as explained in detail below). The effluent limits in the Washington and Idaho NPDES permits do not decrease the cumulative average dissolved oxygen in the shaded cells in Table 7 of the final TMDL (i.e., when and where Avista has a DO responsibility) relative to the prior modeling assumptions. In fact, the effluent limits *improve* the dissolved oxygen by 0.006 mg/l relative to the prior modeling assumptions and Washington wasteload allocations when averaged over all reservoir segments and all times of Avista responsibility.

Model Precision

With three exceptions, each individual model output result ensures compliance with Washington’s DO criteria (WAC 173-201A-200(1)(d)), when considered cumulatively with the

load allocations in Table 6 of the TMDL and Avista's DO responsibility as reported in Table 7 of the TMDL, after results are rounded to the nearest 0.1 mg/l. Each of the three exceptions is characterized by a markedly low arithmetic tolerance for any decrease in DO relative to the TMDL modeling. That is to say, in each of these instances, the DO sag resulting from point and non-point controls under the TMDL scenario, after considering Avista's responsibility, was just

slightly less than 0.25 mg/L. Thus, in those instances, a very small additional DO sag (e.g., 0.002 mg/L) would cause the difference, rounded to the nearest 0.1 mg/L, to change from 0.2 mg/L to 0.3 mg/L. The actual DO decreases in the three exceptions, relative to the TMDL, were 0.002 – 0.003 mg/L (see Table 2, below).

Table 2: Increases in Rounded DO Sag to 0.3 mg/L			
Segment	Time Period	Tolerance (mg/L)	Modeled DO Change Relative to TMDL (mg/L)
188	July 1-15	0.0008	-0.003
188	September 1-15	0.0001	-0.002
186	September 16-30	0.0014	-0.003

The EPA believes these deviations are within the precision of the CE-QUAL-W2 model. In a memo dated December 28, 2010, LimnoTech described some issues encountered when performing a sensitivity analysis for the Idaho point sources. As stated on Page 2 of the memo, a reduction in Post Falls' CBOD₅ discharge (with all other model inputs held constant) actually effected a 0.002 mg/L *decrease* in the average DO in the reservoir, in times and locations where Avista has a DO responsibility. Other inputs being equal, the DO should have *increased* in response to decreased CBOD discharges. Even if the change in CBOD₅ loading was too small to have any discernible impact, the DO should have, at a minimum, been unchanged. Thus, it is reasonable to consider the difference between these two results (0.002 mg/L) to be within the precision of the model for the average DO in times and locations where Avista has a DO responsibility.

Because this average DO is computed from 106 individual results, the model is less precise than 0.002 mg/L for any individual result. Therefore, the EPA believes that the 0.002 – 0.003 mg/L deviations from the TMDL scenario, which resulted in a 0.3 mg/L rounded DO sag in three instances, are within the precision of the CE-QUAL-W2 model. Two results that vary by less than the precision of the model are functionally the same result.

Improvements in DO Relative to the TMDL

Under the proposed effluent limits for Idaho and Washington point sources, the cumulative DO sag, rounded to the nearest tenth of a milligram per liter, would actually decrease to 0.1 mg/L from 0.2 mg/L in five instances, as shown in Table 3, below. Also, as stated above, the alternative improves the dissolved oxygen by 0.006 mg/l (relative to the TMDL) when averaged over all segments and times of Avista responsibility. This means that any decreases in DO concentrations relative to the TDML scenario, at specific times and locations, are balanced by DO improvements at other times and in other locations.

Table 3: Decreases in Rounded DO Sag to 0.1 mg/L		
Segment	Time Period	Modeled Change Relative to TMDL (mg/L)
172	August 1-15	+0.007
177	September 1-15	+0.018
185	September 1-15	+0.001
175	September 16-30	+0.025
180	September 16-30	+0.018

The Exceptions are Very Infrequent

The three instances where the cumulative DO sag increased to 0.3 mg/L, when rounded to the tenths place, comprise less than 3% of the times and locations where Avista has a DO responsibility (106 total), and 0.7% of all of the times and locations that were evaluated in Table 7 of the TMDL (448 total). Since Table 7 of the Spokane River DO TMDL only provides DO results for June 1st - December 31st, and modeling indicates no violations of DO WQS prior to June 1st, this percentage would be even smaller than 0.7% on a year-round basis.

The TMDL's Margin of Safety

The TMDL has an implicit margin of safety comprised of several conservative assumptions (see the TMDL at Page 51). Some of these will tend to exaggerate the impact of nutrients and oxygen demand discharged by point sources. Specifically:

Low flows (year 2001) were used as the baseline hydrologic condition.

All TP is assumed to be bioavailable.²

The top eight meters of the reservoir are not included in the vertical averaging because of amplified algal activity which increases daytime dissolved oxygen levels.

Therefore, the actual DO impact of the point source discharges may be somewhat less than that predicted by the model.

Conclusion

Because the effluent limits in the Idaho and Washington NPDES permits are equivalent to the scenario used to develop the Spokane River TMDL for the reasons described above, the EPA believes that these effluent limits will ensure compliance with Washington's water quality standards for DO, when considered cumulatively with other actions taking place under the TMDL.

Effluent Flow Rates used in the Model Inputs

In 2009, the EPA asked the City of Coeur d'Alene, the City of Post Falls, and HARSB to provide effluent flow rate projections for the year 2027, for use in developing the Spokane River TMDL and those facilities' NPDES permits. The flow projections provided by the utilities at that time were between 6.4 and 7.9 mgd for the City of Coeur d'Alene, 5.0 mgd for the City of Post Falls, and 3.2 mgd for HARSB. After further discussion between the EPA, the City of Coeur d'Alene and IDEQ, a flow projection of 7.6 mgd was established for the City of Coeur d'Alene.

² The model partitions point source phosphorus into two fractions: One which is immediately bioavailable and another that is not immediately bioavailable but becomes bioavailable over time according to first-order kinetics.

These flows are similar to projections made in 2005 (for the year 2028) as part of the Spokane River TMDL collaboration process. The 2005 flow projections were 7.0 mgd for the City of Coeur d'Alene, 5.7 mgd for the City of Post Falls, and 3.2 mgd for HARSB (Spokane River DO TMDL Collaboration Flows and Loadings Workgroup 2005). For Idaho point sources, the modeling supporting the TMDL was based on the effluent flow rates projected in 2009 and effluent concentrations described in the 2010 modeling report at Table 2 (PSU 2010). For the City of Coeur d'Alene and HARSB, these flow projections were also used to determine calculate the effluent limits in the draft permits, as described below.

In March 2010, JUB Engineers completed a revised flow projection for the City of Post Falls, which was 7.65 mgd (JUB 2010). The projection considered projected population growth within the service area, and a 25% addition for wastewater from non-municipal uses. For the City of Post Falls, the increased pollutant loads resulting from this increased flow rate (relative to the 2005 and 2009 projections) were represented in the model using proportionally increased effluent concentrations, instead of an increased effluent flow (see Table 4 below).

Basis for Loads

The model input effluent concentrations of TP, CBOD₅, and ammonia for each of the Idaho point sources are summarized in Table 4, below. The seasonal average loads of TP, ammonia, and CBOD₅ that are necessary to meet Washington's water quality criterion for DO in Lake Spokane, based on the modeling, are calculated by multiplying the projected flow rates for each facility, which were used in the modeling, by the modeled concentrations and the density of water (8.34 lb/gallon). The resulting seasonal average loads are shown in Table 4, below.

Table 4: Idaho Loads used in Modeling Supporting the Permit Limits							
Point Source Discharge	Modeled Flow Rate (mgd)	Seasonal Average Modeled Concentrations, February – October Unless Otherwise Noted (mg/L)			Seasonal Average Modeled Loads, February – October Unless Otherwise Noted (lb/day)		
		Ammonia	TP	CBOD ₅	Ammonia	TP	CBOD ₅
City of Coeur d'Alene WWTP	7.6	4.29 (Mar. – Oct.)	0.05	3.56 (Feb. – Mar.)	272 (Mar. – Oct.)	3.17	226 (Feb. – Mar.)
				3.2 (Apr. – Oct.)			203 (Apr. – Oct.)
HARSB WWTP	3.2	2.9	0.05	2.9	77.4	1.33	77.4
City of Post Falls WWTP ¹	5.0	6.1	0.0765	6.1	255	3.19	255
Notes: 1. Effluent loads for the City of Post Falls are equivalent to a discharge of 0.05 mg/L TP, 4.0 mg/L CBOD ₅ , and 4.0 mg/L ammonia at a flow rate of 7.65 mgd.							

Translating the Modeled Loads to Effluent Limits

The modeled loads in Table 4 are seasonal average values. However, 40 CFR 122.45(d)(2) states that "(f) or continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as...(a)verage weekly and average monthly discharge limitations for POTWs."

In some cases, it is impracticable to express effluent limits as average monthly limits and average weekly limits. In the draft permits for the City of Coeur d'Alene, City of Post Falls, and

HARSB, the effluent limits for E. coli, chlorine, metals, ammonia, TP, and, in some cases, CBOD are not expressed as average monthly limits and average weekly limits. The basis for expressing effluent limits for E. coli, chlorine and metals using averaging periods other than monthly and weekly is explained in Appendices C and E.

The EPA has determined that it is impracticable to express the water quality-based effluent limits for TP, ammonia, and CBOD that are necessary to meet Washington's water quality criteria for dissolved oxygen as monthly average and weekly average limits, in this case, for the reasons discussed below. The water quality-based effluent limits for TP, ammonia and CBOD are expressed as seasonal average loading limits that are identical to the loads of TP simulated in the modeling.

Basis for Expressing Effluent Limits for TP, ammonia and CBOD as Seasonal Average Limits

In a memorandum dated March 3, 2004 (the Chesapeake Bay Memo), James A. Hanlon, the director of the EPA's Office of Wastewater Management, stated that, for the protection of Chesapeake Bay and its tidal tributaries from excess nutrient loading, it was impracticable to express permit effluent limitations for nutrients (total nitrogen and TP) as daily maximum, weekly average, or monthly average effluent limitations.

The Chesapeake Bay Memo states that:

"Establishing appropriate permit limits (for nitrogen and TP) for Chesapeake Bay and its tidal tributaries is different from setting limits for other parameters such as toxic pollutants because: the exposure period of concern for nutrients loading to Chesapeake Bay and its tidal tributaries is very long; the area of concern is far-field (as opposed to the immediate vicinity of the discharge); and the average pollutant load rather than the maximum pollutant load is of concern" (Page 2).

The Chesapeake Bay Memo further states that:

"The nutrient dynamics of (Chesapeake) Bay may not be unique. The establishment of an annual limit with a similar finding of 'impracticability' pursuant to 40 CFR 122.45(d) may be appropriate for the implementation of nutrient criteria in other watersheds when: attainment of the criteria is dependent on long-term average loadings rather than short-term maximum loadings; the circumstances match those outlined in this memo for Chesapeake Bay and its tidal tributaries; annual limits are technically supportable with robust data and modeling as they are in the Chesapeake Bay context; and appropriate safeguards to protect all other applicable water quality standards are employed" (Pages 2-3).

Similar to Chesapeake Bay, the EPA believes that a finding of impracticability is appropriate in this case as well, under 40 CFR 122.45(d).

Modeling and Hydrology Supports the use of Seasonal Average Limits

As stated in the TMDL (Page 33), the wasteload allocations for Washington point sources and the loading assumptions for the Idaho point sources are seasonal average values. Thus, attainment of dissolved oxygen criteria in Lake Spokane is based on long-term average loadings rather than short-term maximum loadings.

Modeling has shown that highly variable TP discharges from Spokane River point sources, which have an average of 50 µg/L TP, have a very similar impact upon DO in Lake Spokane relative to constant discharges from those sources of exactly 50 µg/L TP each day (HDR 2009). At times and in locations where Avista had a dissolved oxygen responsibility in the TMDL (see TMDL at Table 7, Pages 49-50), on average, the variable discharge scenario resulted in a 0.003 mg/L *improvement* in DO relative to constant discharges. The variable TP discharges increased DO by as much as 0.09 mg/L relative to constant discharges in some segments, and the maximum decrease in DO in any reservoir segment at any time was only 0.05 mg/L. Therefore, dissolved oxygen in Lake Spokane is insensitive to short-term increases in TP loading, as long as the seasonal average TP load remains unchanged.

In addition, the retention time of Lake Spokane, in a low-flow year, ranges from about 20 days to more than 100 days during the critical summer period (Cusimano 2004). The water quality in Lake Spokane during the critical summer period would therefore be affected by average pollutant loading from upstream sources as opposed to short-term maximum loading.

Because of the long residence time of Lake Spokane, the EPA expects that dissolved oxygen in Lake Spokane would be insensitive to short-term increases in CBOD or ammonia loading, as long as the seasonal average load remains unchanged, similar to the effects of TP.

The TP, Ammonia and CBOD Limits are intended to Control Far Field Effects

Similar to Chesapeake Bay, the TP, ammonia and CBOD effluent limits are intended to control far-field effects. Lake Spokane is a 24-mile-long reservoir, the upstream end of which is 42.5 miles downstream from the closest Idaho POTW (the City of Post Falls).

The Permits Include Additional Requirements to Ensure Water Quality Standards are Met with the use of Seasonal Limits

The draft permits include additional requirements to ensure that water quality standards are met. These requirements include required reporting of monthly average TP, ammonia, and CBOD loadings. In addition, if, at the end of any month from February through September, the average TP, ammonia and CBOD discharge measured to date is greater than the seasonal average loading limit, the permittee must submit a report explaining how it will lower the loading of the relevant pollutant(s) in order to comply with the seasonal average effluent limitations.

As explained below, the EPA has established average monthly and maximum daily limits for ammonia, whenever this was necessary to ensure compliance with Idaho's water quality criteria for ammonia or with the antibacksliding provisions of the Clean Water Act.

The Future Effluent Variability is Unknown

In order to calculate average monthly and average weekly limits that are consistent with a seasonal average load, the effluent variability must be known. Effluent variability may be quantified by the coefficient of variation (CV), which is the ratio of the standard deviation to the mean of the effluent data (also called the relative standard deviation).

Because the TP effluent limits require levels of discharge much lower than current levels, the treatment systems must be upgraded in order to achieve compliance with the TP limits. In some cases, upgrades will be necessary to meet new water quality-based effluent limits for ammonia as well. The variability of the effluent CBOD loads for the upgraded facilities may also be different from the historical variability.

While historical monitoring data are available, which could be used to quantify the variability of TP, ammonia and CBOD in the effluents of the *existing* treatment facilities, the variability of these parameters in the effluent, after these upgrades are completed, is unknown.

On Page E-3, the TSD states that “typical values for the CV range from 0.2 to 1.2.” Because the loading levels in the TMDL and modeling are long-term (e.g., February – October or March – October) average values, the value of the CV can have a significant impact on the value of the average monthly limit. For example, according to Table 5-2 of the TSD, if a facility that sampled 10 times per month had a CV of 0.2 for a given pollutant, its 95th percentile probability basis average monthly limit should be set at 1.12 times the long-term average. If that facility’s CV were equal to 1.2, that facility’s average monthly limit should be set at 1.80 times the long-term average. This means that the facility with a CV of 1.2 would have an average monthly limit 60% greater than a facility with a CV of 0.2. If the limits are set at the 99th percentile probability basis, the difference between limits based on a CV of 1.2 as opposed to a CV of 0.2 becomes even larger.

In some cases, if the CV is not known, an estimate can be made. In fact, it is common practice in the calculation of effluent limits for toxic parameters to assume that the CV is equal to 0.6, if the actual CV is unknown (see the TSD at Pages 53 and E-3). However, in the context of calculating average monthly and average weekly limits from a fixed long-term average, if the estimated CV is less than the actual CV, the effluent limits will be artificially stringent. Conversely, if the estimated CV is greater than the actual CV, the permittee may be able to consistently discharge at levels greater than those modeled, yet maintain compliance with the average monthly effluent limits. This possibility is recognized in the Chesapeake Bay Memo (see Page 4). The Chesapeake Bay Memo also points out that “the effluent loading of nutrients is not constant due to seasonal temperature fluctuations in northern climates” because biological nutrient removal is less effective at lower temperatures (Page 5). The TSD does not provide a means to account for this additional variability in the effectiveness of biological nutrient removal due to temperature.

In contrast, as stated on Page E-3 of the TSD, when calculating effluent limits for toxic parameters, “in many cases, changes in the CV will have little impact on the final permit limit.” This is because the averaging periods for water quality criteria for toxic parameters are very short (generally 4 days for chronic aquatic life criteria and 1 hour for acute aquatic life criteria, see IDAPA 58.01.02.010). Effluent limits for toxic parameters must therefore control short-term peak concentrations. This constrains the effluent limit calculations, making the final effluent limits relatively insensitive to effluent variability.

In addition to the CV, it is unknown whether individual measurements of TP, CBOD or ammonia will be independent, or whether they will be correlated to one another (i.e. autocorrelated). Autocorrelation can be important in the derivation of average monthly permit limits (see TSD at Page E-15).

Seasonal Average Limit Summary

In summary, modeling and the hydrology of Lake Spokane show that, similar to Chesapeake Bay, DO concentrations in Lake Spokane are related not to maximum TP, ammonia and CBOD loading but to the seasonal average loadings of these pollutants. That is to say, Lake Spokane is insensitive to short-term increases in loading of oxygen-demanding pollutants from Idaho point sources, as long as the seasonal average loadings are less than or equal to the modeled loads.

The effluent limits for TP, ammonia and CBOD, in this case, are based on far-field, as opposed to near-field, water quality concerns. Because the future variability of TP, ammonia and CBOD concentrations and loadings in these effluents is unknown, the EPA cannot calculate appropriate monthly average and weekly average effluent limits for these pollutants with any degree of certainty. If the EPA were to assume a CV, this could result in effluent limits for TP, ammonia, and CBOD that are artificially stringent, or which could allow the loading of TP, ammonia and/or CBOD to exceed that simulated in the modeling supporting the permits and the TMDL.

For these reasons, the EPA believes that it is impracticable to calculate appropriate average monthly and average weekly limits for TP, ammonia, and CBOD, in this case. The effluent limits for TP, ammonia, and CBOD that are necessary to meet Washington's water quality standards are therefore stated as seasonal average effluent limits. The seasonal average TP, CBOD, and ammonia effluent limits are identical to the seasonal average loads simulated in the modeling supporting the permits and the TMDL (see Table 4, above).

Reporting Requirements for Seasonal Average Limits

The permits include additional reporting requirements to ensure that water quality standards are attained. These include reporting the monthly average and maximum weekly or daily loads and concentrations on the monthly DMR, reporting the partial seasonal average loads through the last day of the monitoring month, and, if the partial seasonal average load of a given pollutant is greater than the seasonal average effluent limit, the permittee must submit a written report with the DMR, explaining the steps that the permittee will take to reduce its discharge of the relevant pollutant(s) in order to achieve compliance with the seasonal average effluent limit by the end of the season (October 31st in most cases).

If the permittee ceases discharge to the river for at least three days during the season(s) during which seasonal average limits apply, the permittee may include zero pounds per day values in the calculation of the seasonal average loads (and the partial seasonal average loads) as specified in Attachment A of the draft permit. The purpose of Attachment A is to ensure that periods of zero discharge are given the same weight as the periods of time when the permittee is discharging, in the calculation of the seasonal average discharge. The number of zeros allowed for averaging is equal to the required sampling frequency of three times per week (0.429 samples per day), multiplied by the number of days of zero discharge, and rounded down to the nearest whole number.

Fact Sheet*Ammonia Toxicity*

In addition to exhibiting an oxygen demand, ammonia can be directly toxic to aquatic life at high concentrations. In order to prevent acute toxicity to aquatic life, the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001) or TSD recommends that effluent limits for pollutants which may be toxic to aquatic life be expressed as average

monthly and maximum daily limits, because even an average weekly limit has an averaging period that is too long to ensure that acute toxicity is prevented (see TSD at section 5.2.3).

Maximum daily limits are not necessary for HARSB because, as described in Appendix D, the EPA has determined, based on effluent data, that HARSB does not have the reasonable potential to cause or contribute to excursions above Idaho's water quality criteria for ammonia, for toxicity (IDAPA 58.01.02.283). Therefore the new water quality-based effluent limits for ammonia, for HARSB, have been established exclusively for the purpose of ensuring compliance with Washington's water quality criteria for DO, as opposed to preventing toxicity near the outfall, in waters of the State of Idaho. Therefore, the effluent limits for ammonia, for HARSB are expressed exclusively as seasonal average limits.

Effluent limits for ammonia, for the City of Coeur d'Alene and the City of Post Falls are expressed as a combination of seasonal average, average monthly, and maximum daily effluent limits. The seasonal average limit is based on meeting water quality standards for dissolved oxygen in the State of Washington, downstream from the point of discharge and is identical to the seasonal average modeled loading of ammonia in Table 4, above.

For Coeur d'Alene, the average monthly and maximum daily limits are based on Idaho water quality standards that are intended to prevent acute and chronic toxicity from ammonia, near the point of discharge. The use of average monthly limits in combination with maximum daily limits, when effluent limits are based on preventing toxicity to aquatic life, is consistent with the recommendations of the TSD (Section 5.2.3). It is impracticable to prevent acute toxicity using an average weekly limit. Therefore, the structure of City of Coeur d'Alene's effluent limits for ammonia is consistent with 40 CFR 122.45(d)(2) and with EPA guidance. The calculation of the toxicity-based ammonia limits for the City of Coeur d'Alene is explained in the City of Coeur d'Alene's fact sheet.

For Post Falls, Average monthly and maximum daily limits for ammonia are retained for July - September in order to ensure compliance with the antibacksliding provisions of the Clean Water Act. These effluent limits will also ensure compliance with Idaho's water quality criteria for ammonia.

Basis for Mass Limits

The federal regulation 40 CFR 122.45(f)(1) requires that effluent limits be expressed in terms of mass, except for pollutants that cannot be properly expressed as mass (e.g. pH and temperature). Effluent limits for TP, ammonia, and CBOD₅ can be properly expressed as mass. Therefore, effluent limits for these parameters are, at a minimum, expressed in terms of mass.

Effluent limits for TP are expressed exclusively in terms of mass because there are no applicable technology-based standards or numeric in-stream water quality standards for TP, the effluent limitations for TP are intended to meet Washington water quality standards, which apply several miles downstream from the discharges after complete mixing has occurred, and phosphate phosphorus is neither directly toxic to aquatic life nor directly hazardous to human health.

Therefore, there is no basis to express the water quality-based TP limits in units other than mass.

As explained below, CBOD₅ and, in some cases, ammonia, are additionally limited in terms of other units of measurement.

Basis for Concentration and Removal Rate Limits for CBOD₅ and Ammonia

Pollutants which are limited in terms of mass may be additionally limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations (40 CFR 122.45(f)(2)).

Applicable technology-based standards for CBOD₅ are expressed in terms of concentration and removal rate (40 CFR 133.102(a)(4)). Therefore, in addition to the water quality-based mass limits described above, the permits include additional technology-based effluent limits for CBOD₅, which are expressed in terms of concentration (25 mg/L monthly average and 40 mg/L weekly average, 40 CFR 133.102(a)(4)(i – ii)) and a minimum removal rate of 85% (40 CFR 133.102(a)(4)(iii)).

The proposed concentration and removal rate limits for CBOD₅ are technology-based limits. The CBOD₅ mass limits for November – January are also technology-based limits. The proposed final mass limits for CBOD₅, for February – October, are water quality-based limits.

For parameters which may be directly toxic to aquatic life, the TSD recommends that effluent limitations be expressed in terms of both concentration and mass for effluents discharging to waters with less than 100-fold dilution (see TSD at Section 5.7.1).

The average monthly and maximum daily limits for ammonia, for the City of Coeur d’Alene, are based on Idaho’s water quality criteria, for toxicity. From July – September, the complete-mix dilution ratio, based on the FERC-mandated minimum river flow rate and the current treatment plant design flow rate, is less than 100:1. Therefore, the average monthly and maximum daily limits for ammonia, for Coeur d’Alene, for July – September, are expressed in terms of both mass and concentration.

In addition, for HARSB and Post Falls, concentration limits are included in the draft reissued permits from November – January, to ensure compliance with the antibacksliding provisions of the Clean Water Act. For Post Falls, concentration limits are also necessary to ensure compliance with the antibacksliding provisions of the Clean Water Act from July – September.

Proposed Effluent Limits Summary

The effluent limits for TP, CBOD₅, and ammonia that are derived from and comply with the applicable water quality standards of Idaho and Washington are as follows:

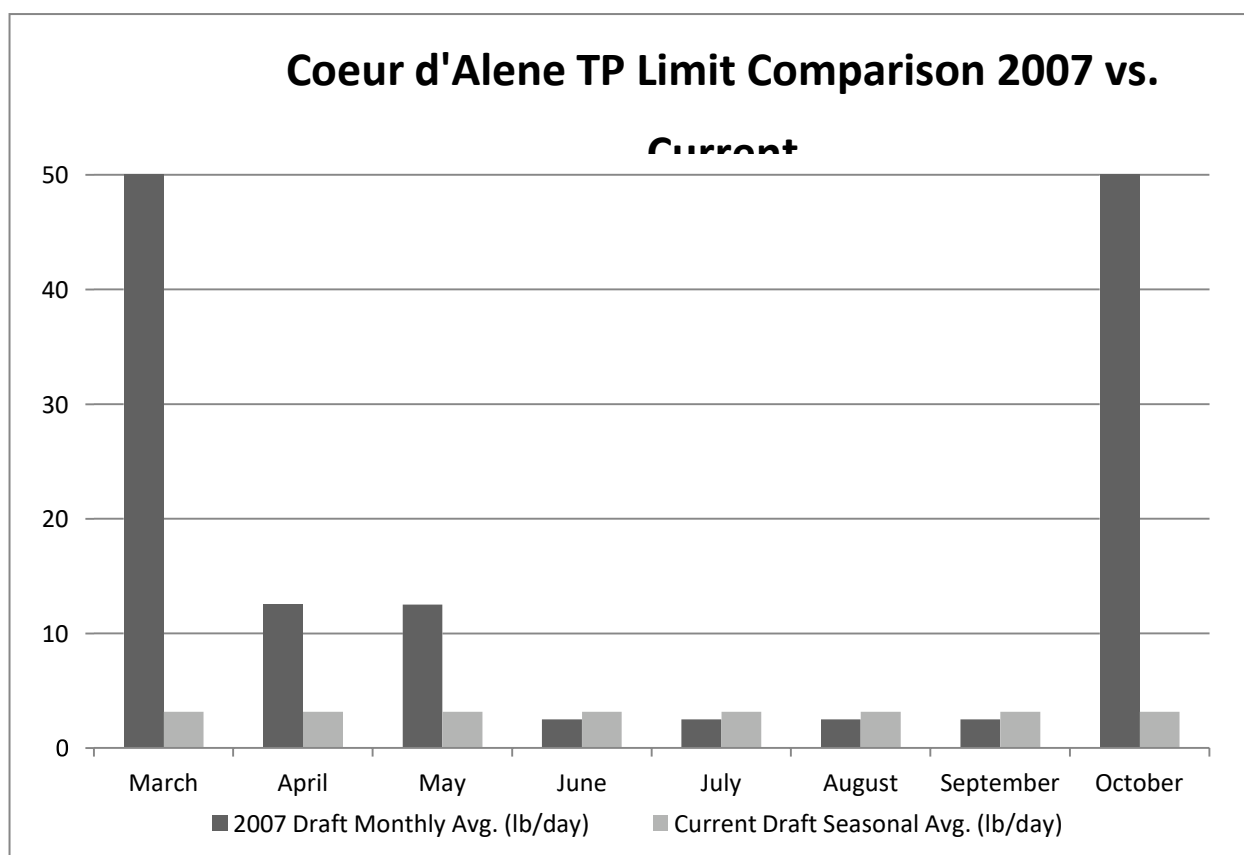
Table 5: Proposed Effluent Limits for TP, CBOD ₅ and ammonia				
Parameter	Units	Effluent Limits		
		Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit
Proposed Effluent Limits for the City of Coeur d'Alene				
TP as P (Feb. – Oct.)	lb/day	3.17 seasonal average		
TP as P (Nov. – Jan.)	lb/day	Phosphorus management plan. See permit at Part II.C.		
CBOD ₅ (November – January)	mg/L	25	40	—
	lb/day	1251	2002	—
	% removal	85% min.	—	—
CBOD ₅ (February – March)	mg/L	25	40	—
	lb/day	226 seasonal average		
	% removal	85% min.	—	—
CBOD ₅ (April – October)	mg/L	25	40	—
	lb/day	203 seasonal average		
	% removal	85% min.	—	—
Ammonia (March – June)	lb/day	649	—	1547
Ammonia (July – September)	mg/L	6.59	—	15.7
	lb/day	330	—	786
Ammonia (March - October)	lb/day	272 seasonal average		
Ammonia (November – February)	No limits. Monitor and report only.			
Proposed Effluent Limits for the City of Post Falls				
TP as P (Feb – Oct.)	lb/day	3.19 seasonal average		
TP as P (Nov. – Jan.)	lb/day	Phosphorus management plan. See permit at Part II.C.		
CBOD ₅ (November – January)	mg/L	25	40	—
	lb/day	1043	1668	—
	% removal	85% min.	—	—
CBOD ₅ (February – October)	mg/L	25	40	—
	lb/day	255 seasonal average		
	% removal	85% min.	—	—
Ammonia (February –October)	lb/day	255 seasonal average		
Ammonia (July – September)	mg/L	8.2	—	29.5
	lb/day	342	—	1230
Ammonia (November – January)	mg/L	25.4	—	91.7
	lb/day	1059	—	3824
Proposed Effluent Limits for the HARSB				
TP as P (Feb. – Oct.)	lb/day	1.33 seasonal average		
TP as P (Nov. – Jan.)	lb/day	Phosphorus management plan. See permit at Part II.C.		
CBOD ₅ (November – January)	mg/L	25	40	—
	lb/day	500	801	—
	% removal	85% min.	—	—
CBOD ₅ (February – October)	mg/L	25	40	—
	lb/day	77.4 seasonal average		

Table 5: Proposed Effluent Limits for TP, CBOD₅ and ammonia				
Parameter	Units	Effluent Limits		
		Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit
	% removal	85% min.	—	—
Ammonia (February – October)	lb/day	77.4 seasonal average		
Ammonia (November – January)	mg/L	78.7	—	250
	lb/day	1575	—	5004

Comparison of Proposed Effluent Limits to the Corresponding Limits in the 2007 Draft Permits

The following nine figures provide a comparison of the phosphorus, ammonia, and CBOD₅ limits in the current draft permits to the corresponding effluent limits in the 2007 draft permits. Note that the 2007 draft permits did not propose effluent limits for TP in February, whereas the current draft permits do propose such limits.

Figure 1



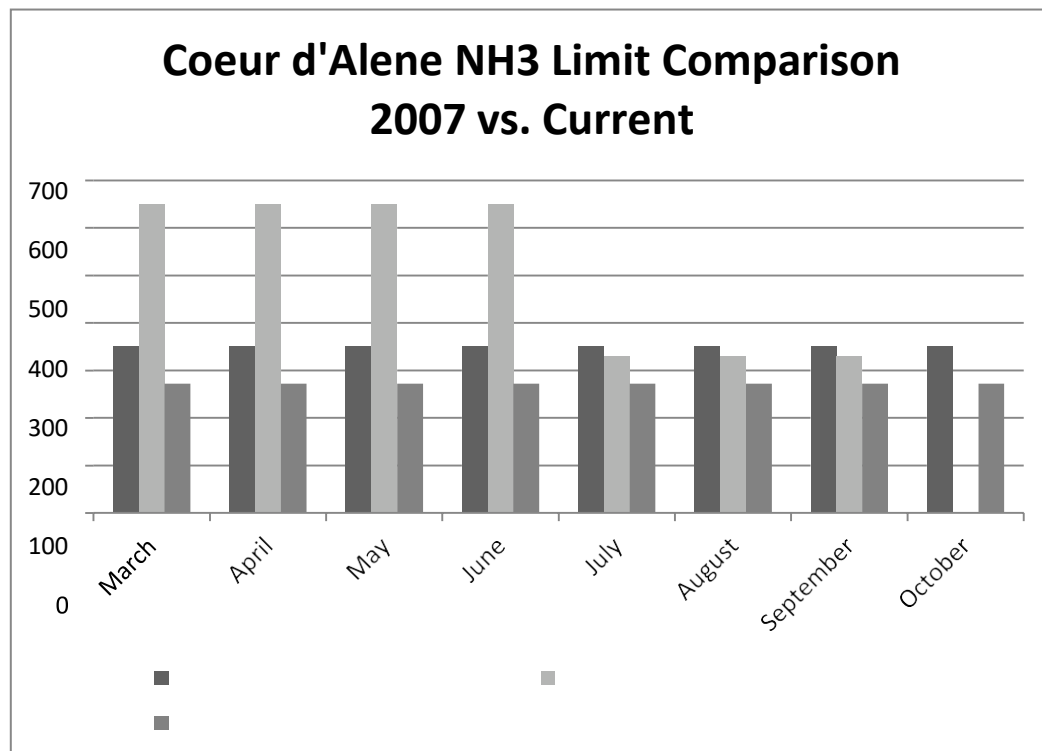
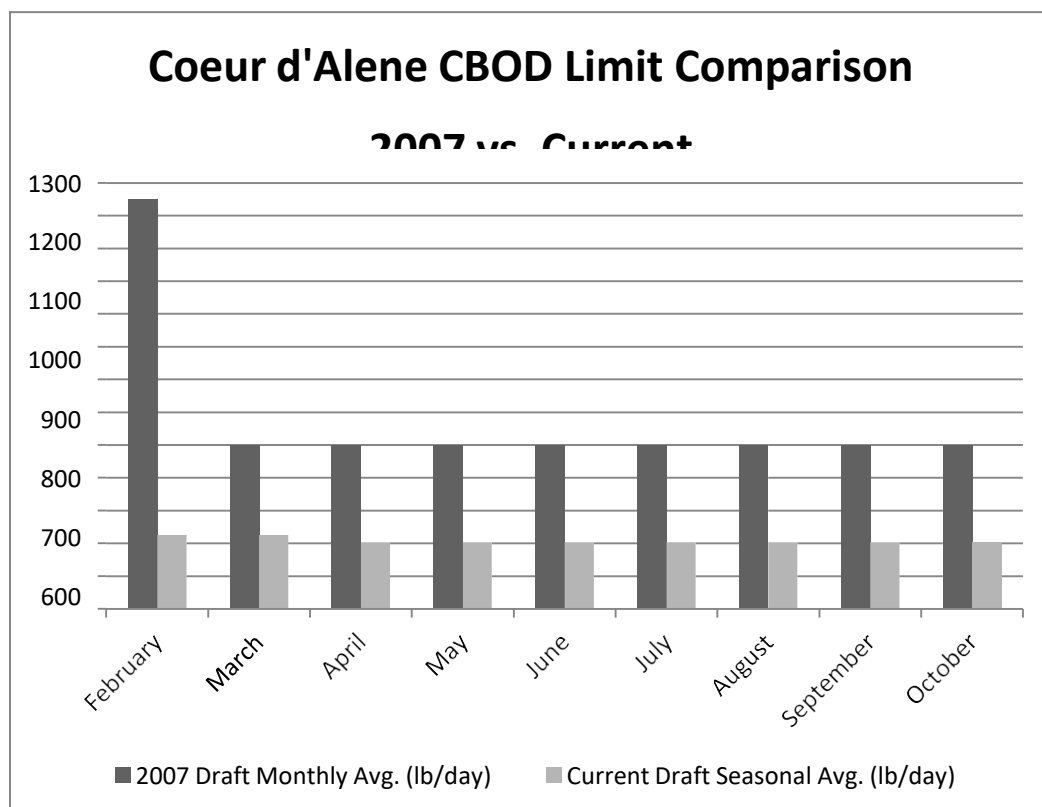


Figure 3



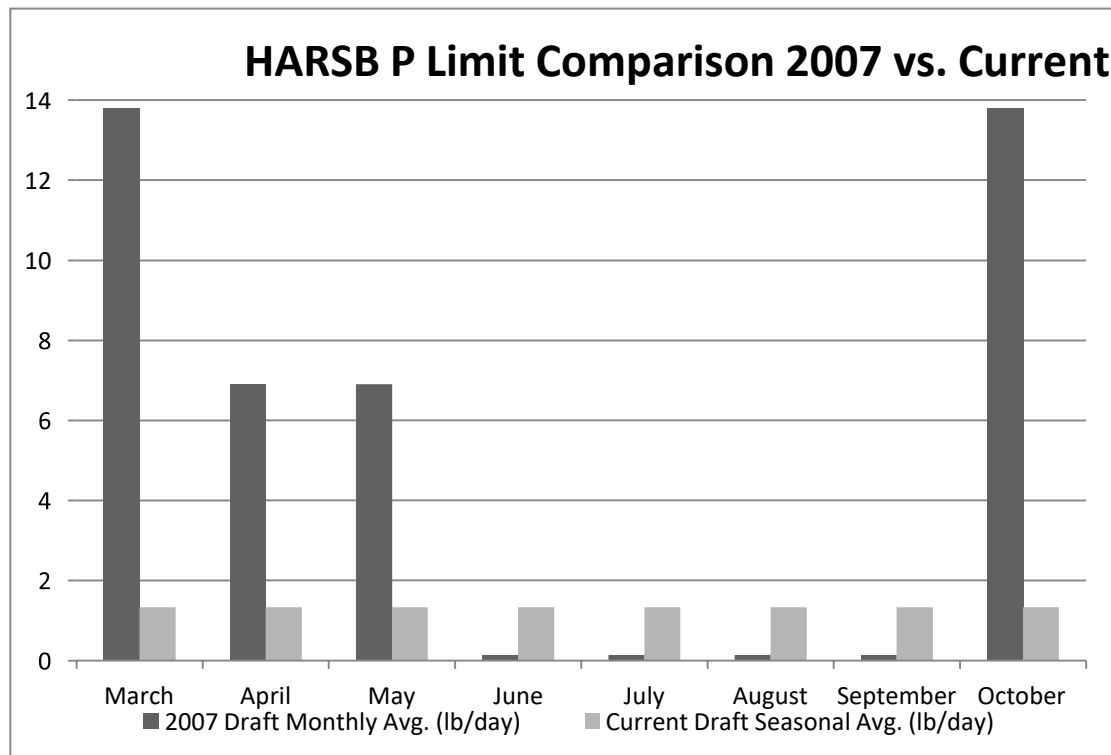
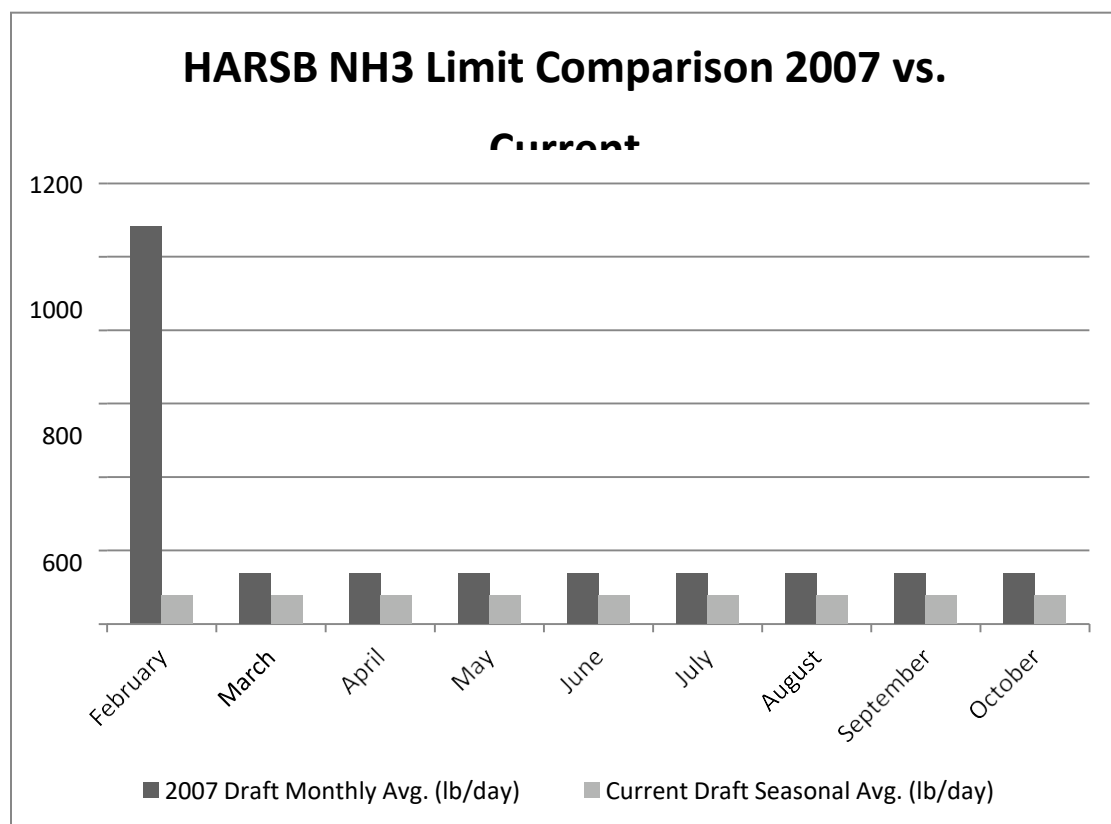


Figure 5



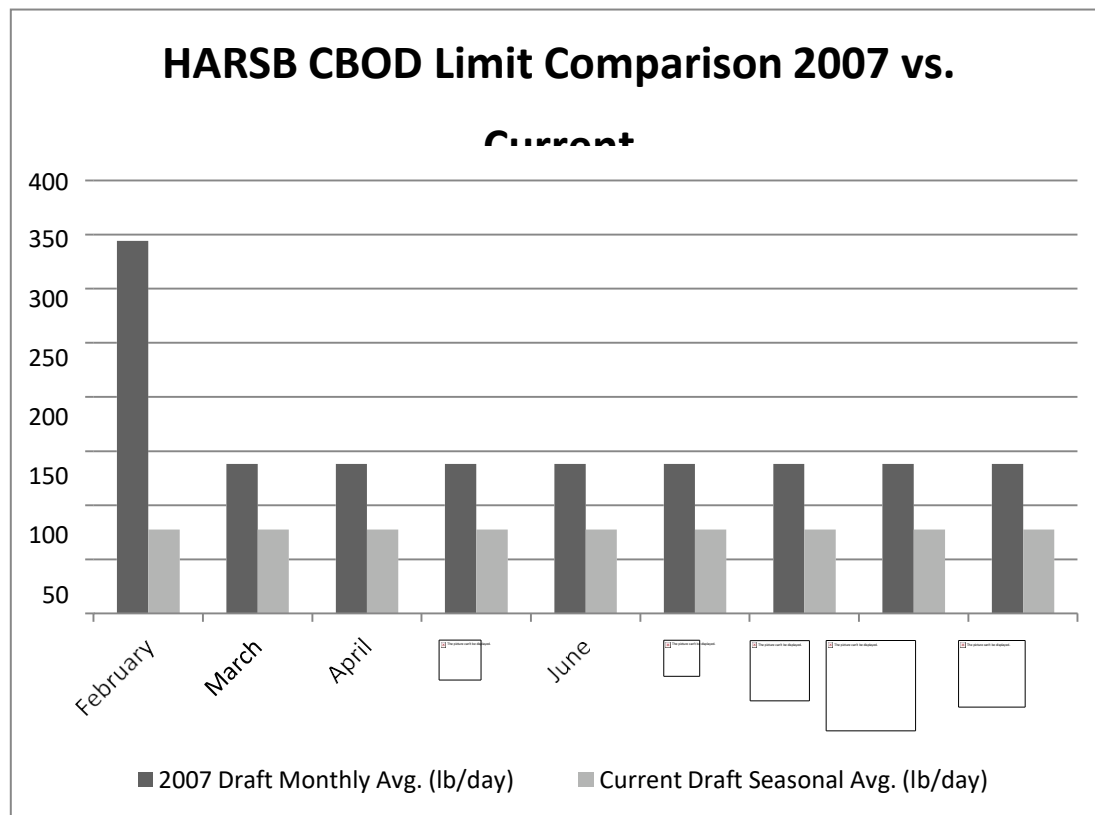
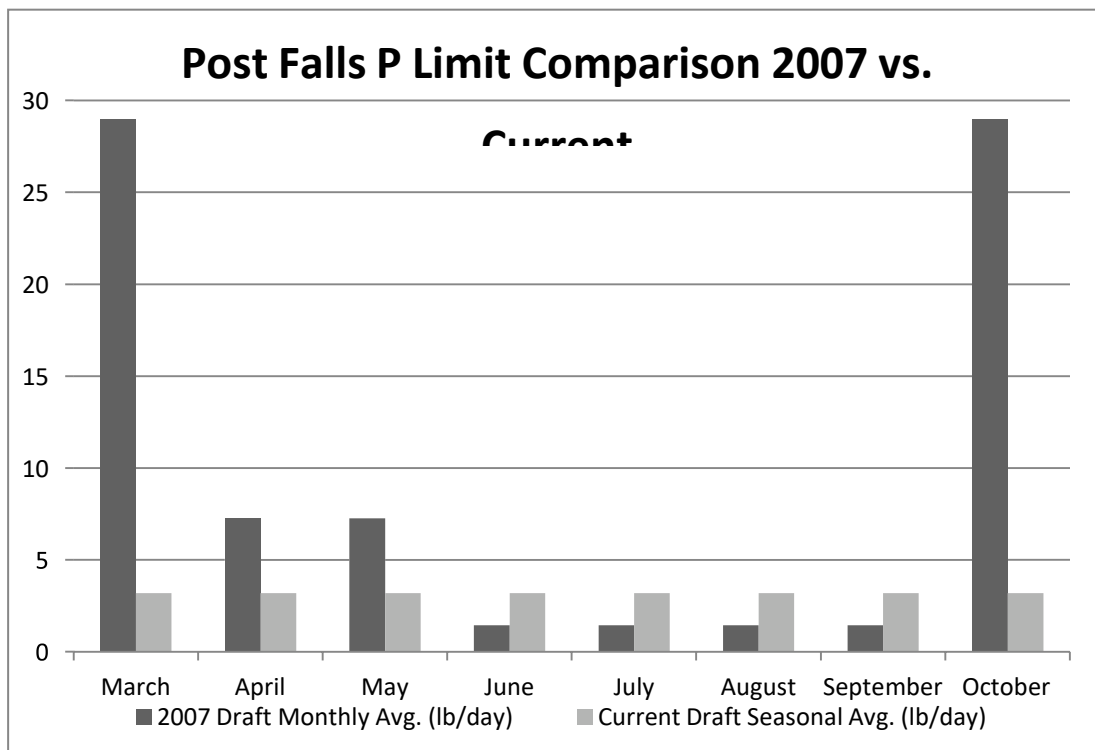


Figure 7



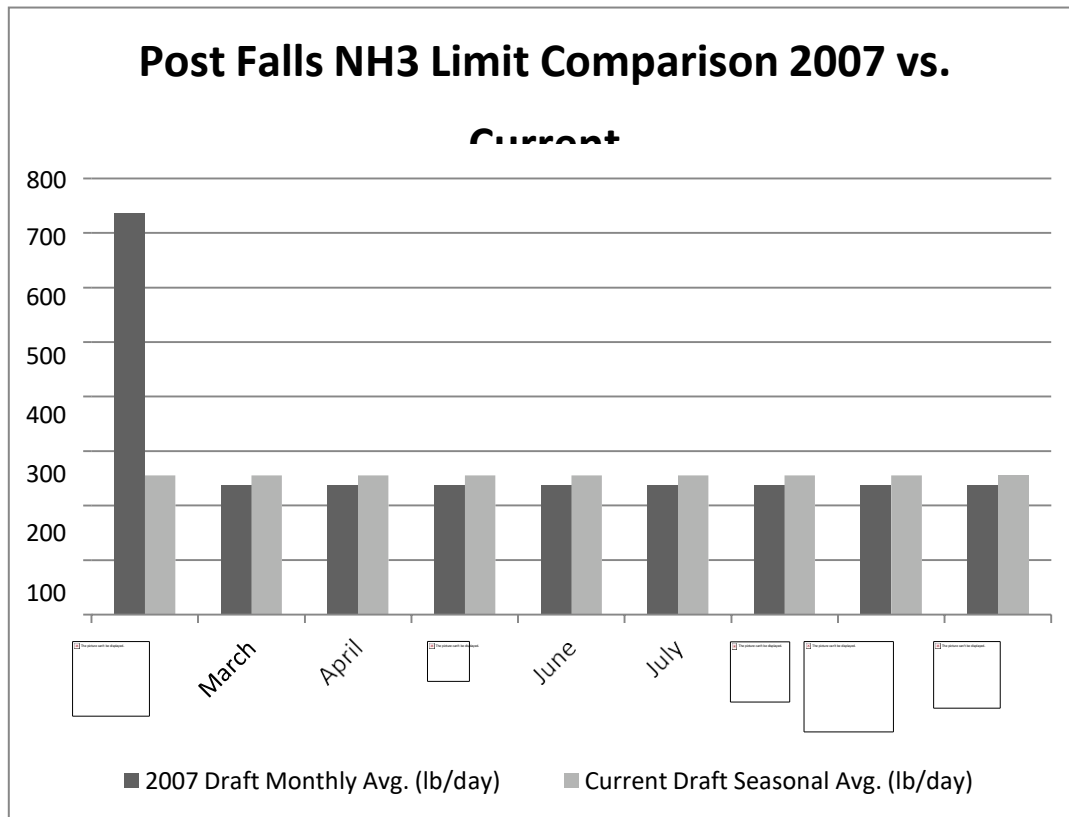
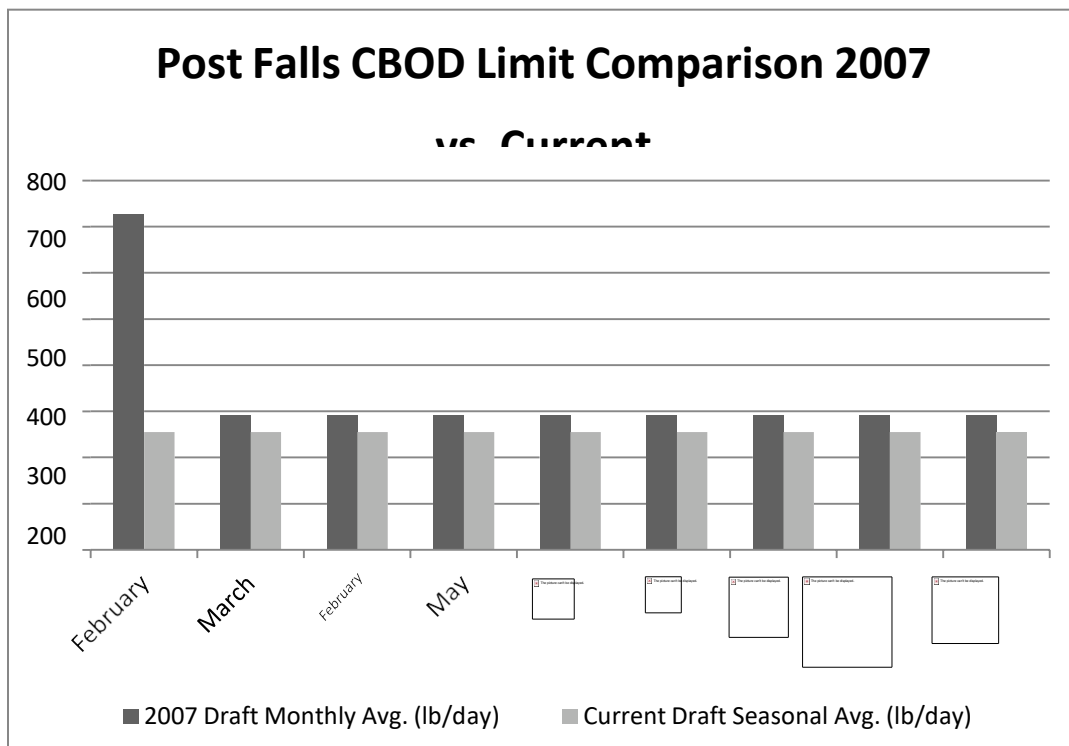


Figure 9



F. Effect of the Proposed Effluent Limits***Lake Spokane***

As explained above, modeling shows that the proposed effluent limits for TP, CBOD₅ and ammonia, considered cumulatively with the effluent limits for Washington point sources in their NPDES permits and the load allocations for Washington non-point sources and the DO improvements required of Avista in the DO TMDL, will ensure compliance with Washington's water quality criterion for DO in Lake Spokane.

State Line

The memoranda from Portland State University and LimnoTech do not specifically analyze the effect of the proposed effluent limits at the state line. Therefore, as explained below, the EPA has analyzed the model output and determined that, in compliance with 40 CFR 122.4(d) and 40CFR 122.44(d)(4), the proposed effluent limits for the Idaho point sources will ensure that Washington's and Idaho's water quality standards are met at the state line.

Dissolved Oxygen

Even with zero discharge of human-caused pollution in Idaho, Washington's numeric criterion for dissolved oxygen (8.0 mg/L) would only be attained at the state line about 96% of the time. That is to say, the remaining 4% of the time, the natural background DO concentration at the state line is less than 8.0 mg/L. However, this does not mean that Washington's water quality standards would not be attained. Washington's water quality standards state that, "when a waterbody's DO is lower than the (numeric) criteria...(or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the DO of that water body to decrease more than 0.2 mg/L" (WAC 173-201A-200(1)(d)(i)).

At times when the model predicts that DO is less than 8.2 mg/L (i.e., within 0.2 mg/L of the numeric criterion), with zero discharge of human-caused pollution in Idaho, the maximum DO decrease attributable to the Idaho dischargers, including stormwater discharges, at the state line, is 0.13 mg/L below natural conditions, which is less than the decrease allowed by the standards (0.2 mg/L). Therefore, the effluent limits will ensure compliance with Washington's water quality standards for dissolved oxygen at the state line.

In Idaho, in waters designated for salmonid spawning, the applicable numeric dissolved oxygen criterion is 6.0 mg/L or 90% of saturation, whichever is greater. Modeling predicts that, under the proposed effluent limits, the DO concentration at the state line will be greater than 6.0 mg/L at all times (the minimum DO is 7.65 mg/L). The dissolved oxygen concentration will be greater than 90% of saturation, 99.96% of the time, under both the no source (i.e., zero discharge) and effluent limit scenarios. Therefore, the effluent limits will ensure compliance with Idaho's numeric DO criteria 99.96% of the time, and the very infrequent excursions below the numeric criteria (0.04% of the time) occur due to natural background conditions and do not violate Idaho's water quality standards (see IDAPA 58.01.02.200.09).

pH

The Washington pH criterion for the Spokane River at the state line is "pH shall be within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.5 units"

(WAC 173-201A, Table 200(1)(g)). Idaho's water quality standard is "within the range of six point five (6.5) to nine point zero (9.0)" (IDAPA 58.01.02.250.01.a).

Under the proposed effluent limits, the predicted minimum and maximum pH at the state line are 7.12 and 7.96 standard units, respectively, which complies with the criteria for pH range for both Idaho and Washington. The maximum human-caused pH changes are an increase of 0.21 standard units, and a decrease of 0.26 standard units, which are less than the 0.5 unit human-caused variation allowed by the Washington standards. Therefore, the proposed effluent limits ensure compliance with both Washington's and Idaho's water quality standards for pH, at the state line.

Phosphorus

Neither Idaho nor Washington has statewide numeric water quality criteria for TP. However, Idaho does have a narrative criterion for nutrients (IDAPA 58.01.02.200.06), and the Spokane River is 303(d) listed for TP in Idaho. The EPA has a Clean Water Act Section 304(a) recommended water quality criterion for TP, for the western forested mountains ecoregion, which is 10 µg/L (EPA 822-B-00-015, Table 2). The criteria document recommends that nutrient criteria be applied using a seasonal or annual averaging period (Page 6).

The model predicts that, with the proposed effluent limits in place, the median TP concentration at the state line, from February through October, will be 9.1 µg/L. This is less than the EPA-recommended criterion for TP, for this ecoregion, which is 10.0 µg/L (EPA 2000). The model predicts that the proposed effluent limits will result in only a 0.8 µg/L increase relative to the February – October median TP concentration predicted under the "no source" scenario (i.e., with no discharge from any Idaho point sources, including storm water). The concentration of TP at the State line, from February through October, will be less than 10 µg/L 55% of the time, with the proposed effluent limits in place. Therefore, the effluent limits proposed in the draft permits will ensure compliance with Idaho's and Washington's narrative criteria for nutrients and aesthetics (IDAPA 58.01.02.200.06, WAC 173-201A-260(2)(b)).

Temperature

The Washington water quality standard for temperature in the Spokane River at the state line is: "Temperature shall not exceed a 1-DMax of 20.0°C due to human activities. When natural conditions exceed a 1-DMax of 20.0°C no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; nor shall such temperature increases, at any time exceed $t=34/(T+9)$ " (WAC 173-201A-602).

The capital "T" represents the background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge (WAC 173-201A-200(1)(c)(ii)(A)). Modeling predicts that the maximum temperature with no discharge from any Idaho point sources at the state line is 26.4 °C; the value of $34/(T + 9)$ therefore equals 0.96 °C. The maximum temperature increase attributable to the Idaho dischargers, at any time, is 0.27 °C, which is much less than the allowable increase (0.96 °C). At times when the predicted temperature, with no discharge from Idaho point sources, is greater than or equal to 20 °C, the maximum temperature increase attributable to the Idaho point sources is 0.13 °C, less than half the increase allowed by the criterion (0.3 °C).

Therefore, the Idaho dischargers do not have the reasonable potential to cause or contribute to excursions above water quality standards for temperature in the State of Washington, and it is not necessary to include effluent limits for temperature in these permits, in order to ensure compliance with Washington's water quality criteria for temperature.

Furthermore, the EPA has determined that the Idaho dischargers do not have the reasonable potential to cause or contribute to excursions above water quality standards for temperature, in waters of the State of Idaho (Nickel 2007, 2012). Therefore, the permits do not require water quality-based effluent limits for temperature.

Ammonia

The model predicts that, under the proposed ammonia effluent limits, the maximum instantaneous concentration of ammonia at the state line will be 0.42 mg/L, which is less than either State's chronic numeric water quality criteria for ammonia, under critical conditions for temperature and pH. Thus, the effluent limits in the draft permits will ensure compliance with both States' numeric water quality criteria for ammonia, at the state line.

The State of Washington's Antidegradation Policy

In addition to ensuring compliance with the State of Washington's water quality criteria, the draft permits for the City of Coeur d'Alene, City of Post Falls, and HARSB ensure compliance with the State of Washington's antidegradation requirements (WAC 173-201A-300 – 330).

In the State of Washington, the Spokane River is currently 303(d) listed for dissolved oxygen, lead, temperature, total dissolved gas, dioxin, and PCBs. The Spokane River is therefore not of higher quality than the applicable water quality criteria for these parameters. Therefore, the affected waters of the State of Washington are not afforded "Tier II" antidegradation protection under WAC 173-201A-320, for these parameters.

The Spokane River and Lake Spokane are 303(d)-listed for DO in the State of Washington. Washington's antidegradation policy states that "for waters that do not meet assigned criteria, or protect existing or designated uses, the department will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards." As explained above, the effluent limits for TP, CBOD₅, and ammonia ensure compliance with Washington's water quality criteria for dissolved oxygen. The permits contain effluent limits that ensure compliance with Idaho's water quality criteria for lead (which are more stringent than Washington's criteria) at the end-of-pipe. Thus, the lead limits are also stringent enough to ensure compliance with Washington's water quality criteria for lead. Furthermore, as explained above, these discharges do not have the reasonable potential to cause or contribute to excursions above Washington's water quality criteria for temperature. Washington's EPA-approved water quality criteria for these parameters ensure that existing and designated uses are maintained and protected, thereby ensuring compliance with Washington's Tier I antidegradation requirements (WAC 173-201A-310).

No antidegradation analysis is necessary for PCBs or dioxin because the Idaho permits do not contain effluent limits for these parameters and there is no information demonstrating that the Idaho permittees discharge these parameters. Therefore the discharges do not allow lower water quality due to these pollutants. The permits include monitoring requirements for PCBs and dioxin. The monitoring data will be used to determine if the discharges have the reasonable

potential to cause or contribute to excursions above water quality standards for PCBs or dioxin. Available data indicate that the Spokane River does not exceed either State's Clean Water Act effective PCB criterion at the State line (Serdar et al. 2011).

For other parameters, in general, the effluent limits in the draft permits are as stringent as or more stringent than the corresponding effluent limits in the previous permits. In those cases, the permits are not new or expanded relative to the 1999 permits, thus they will not cause a lowering of water quality under Washington's Tier II antidegradation provisions (WAC 173-201A-320).

The Spokane River has not been designated an outstanding resource water. Therefore, the Tier III antidegradation protections of WAC 173-201A-330 do not apply to the Spokane River.

Summary

The effluent limits that the EPA is proposing for TP, ammonia and CBOD₅ ensure a level of water quality that is derived from and complies with the applicable water quality standards of the States of Idaho and Washington, for dissolved oxygen, pH, ammonia, and nutrients, based on the cumulative impact of all human actions. Therefore, the level of water quality to be achieved by these effluent limits is derived from and complies with the applicable water quality standards of the States of Washington and Idaho, in compliance with federal regulations (40 CFR 122.4(d), 122.44(d)(1)(vii)(A), 122.44(d)(4)).

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Spokane River DO TMDL Collaboration Flows and Loadings Workgroup. 2005. Memorandum to Steering Group and Full Group. Subject: Flows and Loadings. September 19, 2005.

Appendix E. Your Right to Appeal

You have a right to appeal this permit to the Board of Environmental Quality within 28 days of the date of receipt of the final permit. A Petition for Review must be filed with the Department's Hearing Coordinator within twenty eight (28) days after the Department serves notice of the final permit decision under Section 107 (Decision Process).

All documents concerning actions governed by these rules must be filed with the Hearing Coordinator at the following address: Hearing Coordinator, Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255. Documents may also be filed by FAX at FAX No. (208) 373-0481 or may be filed electronically. The originating party is responsible for retaining proof of filing by FAX. The documents are deemed to be filed on the date received by the Hearing Coordinator. Upon receipt of the filed document, the Hearing Coordinator will provide a confirmed copy to the originating party.

Appendix F. Public Involvement and Public Comments

A. Public Involvement Information

DEQ placed a Public Notice of Application on July 28, 2023 and September 23, 2023 in Coeur d'Alene Press to inform the public about the submitted application and to invite comment on the reissuance/issuance of this permit.

The notice:

- Tells where copies of the draft permit and fact sheet are available for public evaluation (a local public library, the closest regional or field office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Asks people to tell us how well the draft permit would protect the receiving water.
- Invites people to suggest fairer conditions, limits, and requirements for the permit.
- Invites comments on DEQ's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the comment period.
- Tells how to request a public hearing about the draft IPDES permit.
- Explains the next step(s) in the permitting process.

DEQ SEEKS COMMENT ON DRAFT IDAHO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR CITY OF POST FALLS

PROPOSED ACTION: The City of Post Falls applied to the Department of Environmental Quality (DEQ) for an Idaho Pollutant Discharge Elimination System (IPDES) wastewater discharge permit for its municipal water reclamation facility located in Post Falls, ID. DEQ is seeking public comment on the draft IPDES permit, associated fact sheet, and application for the City of Post Falls water reclamation facility. This proposed permit authorizes the discharge of treated municipal wastewater year-round to the Spokane River for five years. The permit identifies the pollutants of concern and specifies associated discharge limits. Additionally, the permit specifies monitoring and reporting requirements necessary to ensure compliance, protect human health, and assure the integrity of Idaho's environment.

PUBLIC COMMENT PERIOD: Notice is given that DEQ has scheduled a period to receive public comments. Written comments on the draft permit and fact sheet will be accepted through August 28th, 2023, at 5 p.m. MST. A public meeting may be held if requested in writing by August 11th, 2023. The draft permit and fact sheet are available for public review at DEQ's state office (1410 N. Hilton St., Boise, ID), DEQ's Coeur d'Alene Regional Office (2110 Ironwood Parkway, Coeur d'Alene, ID 838142), and on DEQ's website. <https://www.deq.idaho.gov/public-information/newsroom/>

SUBMISSION OF WRITTEN COMMENTS—ASSISTANCE ON TECHNICAL

QUESTIONS: Anyone may submit written comments regarding the proposed permit. To be most effective, comments should address water quality considerations and include supporting materials where available. Comments, requests, and questions regarding the public comment process should be directed to Matt Stutzman at the address below, or to the DEQ Web site at <https://www.deq.idaho.gov/public-information/newsroom/>. Please reference the City of Post Falls and permit number (ID0025852) when sending comments or questions. All information regarding this matter, including the issuance of the final permit, will be available on DEQ's Web site.

Submit requests for a public meeting on the draft permit and fact sheet electronically on DEQ's website, by mail, or email to Matt Stutzman.

Matt Stutzman
Idaho Department of Environmental Quality
Surface & Wastewater Division
1410 N. Hilton St.
Boise, ID 83706
Email: matthew.stutzman@deq.idaho.gov

**DEQ SEEKS COMMENT ON DRAFT IDAHO POLLUTANT DISCHARGE
ELIMINATION SYSTEM PERMIT FOR CITY OF POST FALLS**

PROPOSED ACTION: The City of Post Falls applied to the Department of Environmental Quality (DEQ) for an Idaho Pollutant Discharge Elimination System (IPDES) wastewater discharge permit for its municipal water reclamation facility located in Post Falls, ID. On September 25, 2023, DEQ is reopening the public comment period on the draft IPDES permit, and associated fact sheet for the City of Post Falls water reclamation facility to correct a mistake in the original draft. The draft fact sheet outlines the correction and all affected areas of the permit. Pursuant to 40 CFR 124.14(c), at this time, DEQ is only accepting comments on aspects of the revised draft permit that are different from those in the draft permit that was issued for public comment on July 28, 2023. This proposed permit authorizes the discharge of treated municipal wastewater year-round to the Spokane River for five years. The permit identifies the pollutants of concern and specifies associated discharge limits. Additionally, the permit specifies monitoring and reporting requirements necessary to ensure compliance, protect human health, and assure the integrity of Idaho's environment.

PUBLIC COMMENT PERIOD: Notice is given that DEQ has scheduled a period to receive public comments. Written comments on the draft permit and fact sheet will be accepted through October 24th, 2023, at 5 p.m. MST. A public meeting may be held if requested in writing by October 9th, 2023. The draft permit and fact sheet are available for public review at DEQ's state office (1410 N. Hilton St., Boise, ID), DEQ's Coeur d'Alene Regional Office (2110 Ironwood Parkway, Coeur d'Alene, ID 838142), and on DEQ's website. <https://www.deq.idaho.gov/public-information/newsroom/>

SUBMISSION OF WRITTEN COMMENTS—ASSISTANCE ON TECHNICAL

QUESTIONS: Anyone may submit written comments regarding the proposed permit. To be most effective, comments should address water quality considerations and include supporting materials where available. Comments, requests, and questions regarding the public comment process should be directed to Matt Stutzman at the address below, or to the DEQ Web site at <https://www.deq.idaho.gov/public-information/newsroom/>. Please reference the City of Post Falls and permit number (ID0025852) when sending comments or questions. All information regarding this matter, including the issuance of the final permit, will be available on DEQ's Web site.

Submit requests for a public meeting on the draft permit and fact sheet electronically on DEQ's website, by mail, or email to Matt Stutzman.

Matt Stutzman
Idaho Department of Environmental Quality
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Q

Home / DEQ seeks comment on draft IPDES permit for city of Post Falls

DEQ seeks comment on draft IPDES permit for city of Post Falls

Accepting Comments from July 28, 2023 to August 28, 2023

The Idaho Department of Environmental Quality (DEQ) seeks comment on a draft Idaho Pollutant Discharge Elimination System (IPDES) permit for the city of Post Falls Publicly Owned Treatment Works (POTW).

The city applied for a wastewater discharge permit for its water reclamation facility, located in Post Falls, Idaho. The proposed permit authorizes the discharge of treated municipal wastewater year round to the Spokane River for five years and identifies the pollutants of concern, required limits for each pollutant or parameter, and monitoring and reporting requirements necessary to ensure compliance with the permit and protect human health and the environment.

Written comments on the draft permit and fact sheet will be accepted through August 28, 2023, at 5 p.m. MDT. The draft permit and fact sheet are available for public review at DEQ's state office (1410 N. Hilton St. Boise, Idaho 83706), DEQ's Coeur d'Alene Regional Office (2110 Ironwood Parkway, Coeur d'Alene, Idaho 838142), and on DEQ's [Public Comment Opportunities](#) page. A public meeting may be held, if requested in writing, by August 11, 2023.

Comments and questions regarding this process should be directed to Matt Stutzman, or at DEQ's [Public Comment Opportunities](#) page. Comments should address water quality considerations, include supporting materials where available, and reference the city of Post Falls POTW and permit number (ID0025852). Submit requests for a public meeting on DEQ's [Public Comment Opportunities](#) page, by mail, or email to Matt Stutzman:

Matt Stutzman
Surface and Wastewater Division
1410 N. Hilton St.
Boise, Idaho 83706
matthew.stutzman@deq.idaho.gov

B. Public Comments and Response to Comments

Idaho Pollutant Discharge Elimination System Discharge Permit No. ID0025852

Response to Comments on Draft Post Falls IPDES Permit

August 28th, 2023, comment deadline.

City of Post Falls [Email letter 8/28/2023]

1. Draft Fact Sheet Page 9, Section 1 Introduction - Permit Issuance.

The first paragraph includes the statement "All comments received will be addressed in Appendix E of the final fact sheet and any resulting changes to the permit or fact sheet documented." Appendix E is listed as "Your Right to Appeal."

RECOMMENDATION -Replace the subject sentence with "All comments received will be addressed in Appendix F of the final fact sheet and any resulting changes to the permit or fact sheet documented."

Response: The reference to Appendix F has been updated.

2. Draft Fact Sheet Page 15, Section 2.1.8 Table 3 Effluent characterization.

Table 3 lists data for Ortho Phosphate but does not include units for the data.

RECOMMENDATION -Include units for the Ortho Phosphate data.

Response: Microgram per liter (µg/L) units have been included for the orthophosphate data in Table 3.

3. Draft Fact Sheet Page 17, Section 2.2, Table 4, Ambient background data.

Table 4 lists hardness and dissolved metals ambient background data and lists the source as Idaho Department of Environmental Quality (IDEQ) from North Idaho College (NIC) from 2013 to 2015. NIC is 10 river miles upstream of the Post Falls Outfall 001 and above the Post Falls dam. The City is concerned this ambient data may not be representative of ambient conditions in the vicinity of Outfall 001.

RECOMMENDATION - Confirm the NIC data is the most representative ambient background data available for hardness and dissolved metals. If not, utilize ambient background data which better represents ambient conditions near Outfall 001.

Response: The North Idaho College (NIC) data was the most representative data available for those parameters during development of the 2023 permit. The 2023 permit addressed the lack of current data by requiring monthly ambient sampling for all necessary parameters.

4. Draft Fact Sheet Page 20, Section 2.3, Pollutants of Concern

Section 2.3 indicates DEQ identifies pollutants of concern for the discharge based on, but not limited to, those which:

- Have a technology-based limit (TBEL)
- Have an assigned WLA from a TMDL
- Had an effluent limit in the previous permit
- Are present in the effluent monitoring data reported in the application, DMRs, or special studies
- Are expected to be in the discharge based on the nature of the discharge
- Are impairing the beneficial uses of the receiving water

The subsequent list of pollutants of concern includes Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS). It is unclear why PFAS is listed as a pollutant of concern. Source water sampling of the City's potable water system as part of the EPA's Fifth Unregulated Contaminant Monitoring Rule (UCMR5) study showed no detections for PFAS. The City has no industrial or other non-residential dischargers known or suspected to use PFAS in any processes therefore discharges of PFAS to the central sewer system are unlikely. The considerable expense of PFAS testing is also an unnecessary burden to our rate payers in the absence of evidence it may be found in our influent.

RECOMMENDATION 4A-Remove PFAS from the list of pollutants of concern in Section 2.3 of the Draft Fact Sheet.

RECOMMENDATION 4B - Remove the requirement for influent, effluent, and biosolids sampling for PFAS from the Draft Permit Sections 2.1.1, 2.1.2, and 3.7.7 respectively.

Alternatively, if PFAS sampling must be retained the City recommends the monitoring frequency correspond to the monitoring for permit renewal effluent monitoring found in Section 2.1.5 of the permit.

Response: Because PFAS are regularly found in surface water, groundwater, soil, and air it is necessary to implement PFAS monitoring in IPDES permits to evaluate PFAS sources [<https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>]. While drinking water (source water) has been a known source of PFAS for many POTWs, it is not the only potential source of PFAS in domestic wastewater. PFAS is expected to be in the Post Falls discharge based on the nature of the discharge. Based on this comment and response, DEQ has included references to two studies to Section 9 that support municipal wastewater effluent being a potential source of PFAS; (Thompson, 2022)(Bothfield, 2022). As explained in the fact sheet, DEQ is implementing EPA's 2022 PFAS discharge guidance memorandum which directs states to leverage discharge permits to

reduce PFAS discharges to waterways as referenced in EPA's PFAS strategic Road Map (EPA 2021). This includes monitoring of effluent, influent, and biosolids for major POTWss. Therefore, it is a pollutant of concern in the 2023 permit.

5. Draft Fact Sheet Page 44, Section 3.3.3.6.1, Lead and Zinc

The City notes that, although neither approximate discharge concentrations nor applicable Idaho Water Quality Standards (WQS) have changed, IDEQ has updated EPA's findings in the City's 2014 Permit which held that the City's discharge has no reasonable potential to exceed Idaho Water Quality Standards. The City agrees that the use of the 2022 Spokane River Metals TMDL (the TMDL), which memorialized EPA's 2014 reasonable potential analysis findings, is the appropriate approach for derivation of metals limits in the Draft Permit.

The City was involved in the Watershed Advisory Group for the TMDL and worked closely with IDEQ staff on that effort. It was the belief of both City staff and IDEQ water quality staff that EPA's reasonable potential analysis findings would continue so long as discharge concentrations and Idaho WQS remained constant. This understanding is clearly reflected in the TMDL: "Since the City of Post Falls and Hayden Regional Sewer Board POTW IPDES permits contain effluent limits for lead and zinc that meet Idaho water quality standards with no mixing zone, [IDEQ] considers those wasteload allocations to already be implemented." (TMDL, 5.5.2.1 - Pg 77).

The City understands that IDEQ developed a different calculation when it applied IDAPA 58.01.02 Section 210.03.c.ii, which IDEQ has indicated requires the use of ambient hardness for a receiving water when calculating aquatic life criteria for metals. EPA previously used effluent hardness, (Response #2-31, Response to Comment on the Draft NPDES Permits for the City of Coeur d'Alene, City of Post Falls, and the Hayden Area Regional Sewer Board, EPA, 2014). The TMDL held these limits to be satisfactory for the goals of the TMDL, "If the current [2014] IPDES permit effluent limits for lead and zinc are carried forward into future permit cycles, those limits are considered consistent with the assumptions of this TMDL." (TMDL, 5.5.2.1 - Pg.77).

RECOMMENDATION - Include the following additional paragraph, capturing the intention of the TMDL and future limits, to Fact Sheet Section 3.3.3.6.1:

The TMDL assumed EPA's use of effluent hardness in conducting reasonable potential analyses would continue in future permit cycles. However, IDEQ must use ambient hardness. A revision of the TMDL allocating future loads, or a revision to Idaho's WQS, would be necessary to implement the TMDL's intended outcome in future permits.

Response: During the permit development process DEQ conducts the reasonable potential analysis (RPA) based on best available data. The hardness data used in the RPA to calculate aquatic life criteria for hardness dependent metals was downstream hardness to best represent the water chemistry at the discharge conditions expected in the Spokane River. This is consistent with IDAPA 58.01.02.210.03.c.ii which states:

"The hardness values used for calculating aquatic life criteria for metals at design discharge conditions shall be representative of the ambient hardness for a receiving water that occur at the design discharge conditions given in Subsection 210.03.b

The RPA process is independent of the approved TMDL and follows protocols to meet all necessary regulations. DEQ disagrees that the TMDL made assumptions that the RPA would be conducted otherwise. As explained in the fact sheet, the results of the RPA indicated that zinc had a reasonable potential to exceed (RPTE) water quality criteria (WQC) , but that lead did not have RPTE WQC. Because of this determination, the 2023 permit includes zinc limits that were developed directly from the waste load allocation (WLA) provided in the Spokane River Total Maximum Daily Load Lead and Zinc (DEQ 2022b). That WLA was based on the 2014 permit limits and all assumptions that went into developing those limits.

Reserve for future capacity was provided in the 2022 Metals TMDL (DEQ 2022b) by means of implementing end-of-pipe WQBELs as stated in section 5.4.4.1 on the TMDL:

"While a reserve for future capacity is not calculated into the wastewater treatment plant wasteload allocations, permits can consider reserve for future growth beyond discharges above the wastewater treatment plant design flow allocated in this TMDL if the permitted facility meets end-of-pipe water quality-based effluent limits (WQBELs) that are calculated based on Idaho water quality standards and a reasonable potential analysis. Should a reasonable potential analysis show WQBEL is not required; this is consistent with the TMDL."

This statement indicates that the TMDL's intended consideration for future growth was to develop effluent limits that include concentration based limits that meet Idaho WQC and the associated load limits would increase in conjunction with the facility design flow.

No changes have resulted in response to this comment.

6. Draft Fact Sheet Page 47, Section 3.3.3.6.2 – Silver

Section 3.3.3.6.2 includes the incomplete reference "(Appendix B, Table)"
RECOMMENDATION -Include the full reference.

Response: The reference to Table 26 has been updated.

7. Draft Fact Sheet Page 47, Section 3.3.3.6.3 - Cadmium

Section 3.3.3.6.3 includes the incomplete reference "(Appendix B, Table)"
RECOMMENDATION -Include the full reference (i.e., table number).

Response: The reference to Table 26 has been updated.

8. Draft Fact Sheet Page 48, Section 3.3.3.8.1 - Phosphorus

Section 3.3.3.8.1 includes the statement "Typically, DEQ develops monthly average limits that are consistent with a seasonal average load and will do so after upgrades are operational. This will occur when developing the next permit or earlier if the data set reflects the realized variability."

This statement runs counter to the analysis completed during development of the 2014 City of Post Falls Permit ID0025852 which committed to seasonal average limits for total phosphorus, ammonia, and CBOD. EPA determined in 2014 it was impracticable to express water quality-based effluent limits as monthly average and weekly average limits for total phosphorus, ammonia, and CBOD, the constituents necessary to meet Idaho's allocation in the Spokane River Dissolved Oxygen TMDL and, therefore, Washington's water quality criteria for dissolved oxygen.

Much of this analysis is included in the Draft Fact Sheet Appendix D which starts on page 106. EPA selected the use of seasonal average limits for total phosphorus, ammonia, and CBOD over daily, weekly, or monthly limits on the basis "attainment of dissolved oxygen criteria in Lake Spokane is based on long-term average loadings rather than short-term maximum loadings." They go on to state the control of far-field effects in Lake Spokane, 42.5 miles downstream from the Post Falls Outfall 001, "is insensitive to short-term increases in loading of oxygen-demanding pollutants from Idaho point sources, as long as the seasonal average loadings are less than or equal to the modeled loads." The long period of exposure, far-field area of concern, and average pollutant load of concern for Idaho point source dischargers for Lake Spokane are similar in nature to the Chesapeake Bay which was heavily referenced in Appendix D. That driving basis will remain regardless of how well an effluent coefficient of variation for nutrient discharges to the Spokane River can be calculated. Therefore, average monthly or weekly limits for total phosphorus, ammonia, and CBOD will remain impracticable as they relate to Idaho's Waste Load Allocation in the Spokane River Dissolved Oxygen TMDL.

Significant regional planning has gone into long term strategies to meet seasonal limits, including the acquisition of hundreds of acres of future land application property. The effective use of this alternative discharge option to offset loading to the Spokane River requires more flexibility than monthly limits allow. For example, it is far more practical to apply water to a field for several weeks at a time without discharge to the river. This would offset a seasonal average much more significantly than a monthly average.

DEQs statement is counter to decades of investment, planning, and TMDL implementation coordination and must be revised.

RECOMMENDATION - Replace the second paragraph of Section 3.3.3.8.1 with the sentence "The final phosphorus limit is applied only as a seasonal average limit in the 2023 permit because EPA has previously determined calculation of monthly average limits to be impracticable and unnecessary to implement the Spokane River Dissolved Oxygen TMDL allocations and for the protection of both WA and ID WQC.

Response: The 2014 fact sheet also explained that monthly limits in the 2014 permit were not developed in part due to the lack of representative data to calculate the coefficient of variation (CV). The 2014 fact sheet included requirements to ensure that seasonal limits would be met on a monthly basis:

"The draft permits include additional requirements to ensure that water quality standards are met. These requirements include required reporting of monthly average TP, ammonia, and CBOD loadings. In addition, if, at the end of any month from February through September, the average TP, ammonia and CBOD discharge measured to date is greater than the seasonal average loading limit, the permittee must submit a report explaining how it will lower the loading of the relevant pollutant(s) in order to comply with the seasonal average effluent limitations."

DEQ agrees with EPA's 2014 assessment of the importance of focusing on seasonal inputs for nontoxic pollutants with far-field impacts, but also determined it is important to implement limits that provide year round protection of beneficial uses in the near-field. The Spokane River is listed in DEQ's 2022 Integrated Report (DEQ 2022a) as not supporting the cold water aquatic life (CWAL) beneficial use and the listed cause is total phosphorus. As stated in the 2023 fact sheet, DEQ typically develops monthly average limits to complement annual/seasonal limits. When developing these monthly limits DEQ has the flexibility to implement monthly limits that protects near field uses and also accounts for seasonal variation in both treatment capabilities and potential impacts on water quality. DEQ anticipates the addition of a monthly limit will not impact the City's long-term solutions to comply with TMDL implementation.

No changes have resulted in response to this comment.

9. Draft Fact Sheet Page 49, Section 3.3.3.8.1 - Phosphorus

The last paragraph of Section 3.3.3.8.1 includes the sentence "DEQ determined that average monthly and weekly interim limits are appropriate to maintain the status quo while the facility continuous to work towards meeting final limits."

Response: "Continuous" has been revised to "continues" in this section.

10. Draft Fact Sheet Page 51, Section 3.4

Please see Comment #19 for a discussion regarding Narrative Criteria.

RECOMMENDATION - The phrase "or any violation of narrative WQC" should be removed from the final sentence of Section 3.4. Alternatively, at a minimum "resulting from the discharge" should be added to the final sentence as was done in the joint Fact Sheet for the City of Boise (West Boise) and Lander Street Water Renewal Facility (Lander Street) IPDES Permits (ID0023981 and ID0020443 respectively).

Response: DEQ added "resulting from the discharge" as requested in section 3.4.

11. Draft Fact Sheet Page 57, Section 3.5.2.2- PCBs

Section 3.5.2.2 includes the statement "DEQ expects BMPs in conjunction with tertiary treatment will significantly reduce the facility's contribution of PCBs to the Spokane River." The Draft Fact Sheet goes on to reference PCB effluent concentrations from the Coeur d'Alene WWTP. The listed concentration of 644 pg/L is interpreted as showing the effluent PCB concentration for water treated at the Coeur d'Alene facility to secondary treatment standards.

The listed effluent concentration of 289 pg/L is interpreted as the facility effluent PCB concentration following commissioning of Coeur d'Alene's tertiary treatment Membrane Bioreactor (MBR) technology.

A direct comparison between Coeur d'Alene and Post Falls is inappropriate as our facilities employ different secondary treatment technologies. When complete, the phosphorus removal tertiary treatment technology selected by Post Falls will also differ from the MBR technology chosen by Coeur d'Alene for tertiary treatment.

The problem with using this direct comparison approach is shown in data from both systems. The average PCB concentration in the Post Falls secondary effluent is listed in the Draft Fact Sheet Section 2.1.8 as 46.3 pg/L. This treatment performance through existing secondary treatment systems represents an average PCB removal of 99%. Post Falls' effluent, treated via secondary treatment and without any tertiary treatment, is already at one-sixth the value of Coeur d'Alene's effluent which has been treated using tertiary membrane filtration. The opportunity for further reductions in Post Falls' PCB concentrations, even with tertiary treatment (which is not designed to treat or reduce PCBs and is not being added for this purpose), may not be statistically significant.

With regard to tertiary treatment, Post Falls will be implementing a multistage tertiary treatment strategy for efficient phosphorus removal. This technology differs significantly from the MBR technology utilized by Coeur d'Alene. This highly innovative tertiary treatment strategy is comprised of high-rate plate settlers that provide tertiary clarification. This tertiary clarification process has been designed to complete the majority of additional seasonal phosphorus removal during typical secondary treatment performance. Tertiary clarified effluent can be routed through ultra filtration membrane modules as necessary to provide additional phosphorus removal prior to river discharge. The additional filtration process will ensure effluent limits for total phosphorus can be met through a wide range of secondary treatment performance scenarios and allow for treated effluent to meet Class A reuse standards. Further details on the various tertiary treatment technologies and operational strategies can be found in the documents "City of Post Falls Water Reclamation Facility Tertiary Treatment Pilot Study Report" and "City of Post Falls Water Reclamation Facility Preliminary Engineering Report", which were previously submitted to and approved by DEQ.

Section 3.5.2.2 of the Draft Fact Sheet also explains that BMPs (referring to the requirements of a Toxics Management Plan in the 2014 permit) are to be updated and continued. The City agrees with this approach to addressing PCBs in the permit. However, DEQ's reliance on a single

study comparing secondary treatment to membrane filtration at other facilities is inadequate to conclude that Post Falls' forthcoming tertiary treatment processes will "significantly reduce" the concentration of PCBs discharged. One important reason is this technology is not designed to treat PCBs and is not being added for this purpose. Any PCB reductions from the tertiary treatment are incidental to its purpose for seasonal phosphorus removal. As discussed above, Post Falls' existing secondary treatment system is already performing at a level similar to treatment facilities with tertiary membrane filtration. Site specific information following commissioning of the various tertiary treatment processes would be helpful to inform if IDEQ's expectation that further reductions in PCB concentration are possible.

RECOMMENDATION -Replace "DEQ expects BMPs in conjunction with tertiary treatment will significantly reduce the facility's contribution of PCBs to the Spokane River" with "These tertiary treatment processes, although designed for seasonal removal of phosphorus, might have the ancillary benefit of further reducing PCBs beyond levels achieved through BMPs and the existing secondary treatment process. DEQ expects BMPs in conjunction with secondary treatment will continue to provide significant reductions in PCBs discharged to the Spokane River."

Response: DEQ has no evidence to support that the City of Post Falls chosen tertiary treatment technology will not contribute to continued reductions in effluent PCB concentrations and does expect BMPs in conjunction with tertiary treatment to significantly reduce the facility's contribution of PCBs to the Spokane River. As stated in this section of the fact sheet, DEQ determined this expectation is supported by (Rodenburg 2021) and justifies the antidegradation analysis findings for potential loss of assimilative capacity. DEQ appreciates that the City of Post Falls chosen tertiary treatment technology is not identical to the City of Coeur d'Alene's, or Spokane County's for that matter, but that does not necessarily mean that the processes of clarification and filtration are functionally different to the point that the similar results cannot be expected.

DEQ acknowledges the City's concern regarding the comparison of the 2021 Rodenburg data to the data DEQ included in this fact sheet. It is important to consider that the 2021 Rodenburg study utilized a 1x blank correction while DEQ has used a 10x blank correction when compiling PCB data collected using EPA method 1668. For example, when considering Post Falls PCB effluent data collected from December 2018 through May 2022 the 50th percentile value increases to 446.1 pg/L using a 1x blank correction from the previously mentioned 46.3 pg/L using the 10x blank correction. When the Post Falls PCB influent data and effluent data from that same data set are considered together the percent removal for PCBs drops to 92.5 % removal (1x blank correction) from 98.1 % removal (10x blank correction).

DEQ has reviewed the City of Coeur d'Alene's quarterly PCB effluent data reported as required by their NPDES permit and when processed using the 10x blank correction, as done with City of Post Falls data (Draft Fact Sheet Section 2.1.8), the City of Coeur d'Alene's post

tertiary treatment PCB effluent data had a 50th percentile value of 2.0 pg/L. This value is substantially lower than the 46.3 pg/L listed as the 50th percentile PCB effluent value for the City of Post Falls in the Draft Fact Sheet Section 2.1.8.

Additionally, DEQ does not agree that because the treatment technology was chosen to treat for phosphorus necessarily precludes it from treating other pollutants. In fact, the two treatment facilities representing facilities with tertiary treatment capabilities were both designed to target phosphorus and resulted in significant PCB load reductions (Rodenburg 2021).

“At Coeur d’Alene, the average concentrations of dioxin-like PCBs dropped to 9.3 pg/L after upgrade from 23 pg/L before, a 60% decrease.” (Rodenburg 2021)

DEQ’s expectation of increased PCB treatment is supported and worth documenting in the antidegradation analysis as it is central to the determination that there is no expected (or insignificant) loss of assimilative capacity considering the increase in design flow the known data limitations.

No changes have been made to the 2023 fact sheet based on this comment.

12. Draft Fact Sheet Page 61, Section 4.1 Influent Monitoring

Table 15 lists BODs as an influent monitoring requirement.

RECOMMENDATION -Replace BOD₅ with CBOD₅ to remain consistent with the rest of the permit.

Response: DEQ replaced BOD₅ with CBOD₅ in Table 15.

13. Draft Fact Sheet Page 62, Section 4.1 Influent Monitoring

Table 15 subscript b. includes the statement "the permittee must monitor grab measurement daily between 7 a.m. and 4 p.m."

RECOMMENDATION -Replace "8 a.m. and 5 p.m." with "7 a.m. and 4 p.m." to better match operating hours of the Post Falls Water Reclamation Facility. The same recommendation is requested for Table 16 subscript b. on page 64, Table 18 subscript c. on page 67, and Table 19 subscript b. and g. on page 70.

Response: DEQ has updated the fact sheet to reflect the operating hours as suggested and the time frame required in the 2023 permit.

14. Draft Fact Sheet Page 67, Section 4.3 Table 18

Table 18 includes continuous flow monitoring requirements for the Spokane River. Subscript b. indicates:

If the USGS continues to monitor at station 12419000, the permittee must report the average monthly and maximum daily average flow for compliance. If the USGS monitoring is discontinued, the flow monitoring will become the responsibility of the permittee.

This subscript differs from the Draft Permit Section 2.1.4 Table 8 subscript b. which indicates:

If the USGS continues to monitor at station 12419000, the permittee must report the average monthly and maximum daily average flow for compliance. If the USGS monitoring is discontinued, representative flow monitoring data must be sourced from another approved source or collected by the permittee.

The City understand the USGS collects its river data under federal law that is distinct from the CWA, and that the data is available to the public, including IDEQ and the City, on the USGS website. The City does not think it is appropriate for it to analyze and report federally collected data to a state agency. The City is concerned this inefficient pass-through reporting methodology provides an opportunity for errors or discrepancies in analysis which may result in unnecessary instances of non-compliance.

Further, the Draft Fact Sheet (page 33) discusses the use of specific flow calculations, such as 7Q10 for metals and 30Q5 for ammonia, which cannot be derived using the monthly average and maximum day flows required in the Draft Permit. Submitting this data will not provide DEQ, or any other interested party, with meaningful data which could be used in developing future permits.

RECOMMENDATION - Remove the requirement for reporting of receiving water flow.

Alternatively, if the flow monitoring requirement remains, the City agrees with the option to source representative data from other approved sources and appreciates the inclusion in the Draft Permit Section 2.1.4 Table 8 subscript b. and recommends revising the verbiage of Draft Fact Sheet Section 4.3 Table 18 subscript b. to match that of Draft Permit Section 2.1.4 Table 8 subscript b.

Response: DEQ requires IPDES permittees to gather and report all data necessary for IPDES permit development. DEQ appreciates that USGS flow is publicly available but has determined it is the permittee's responsibility to process and report the data required for permit development. The permit does not preclude the permittee from collecting and reporting its own flow data. DEQ disagrees that monthly instantaneous minimum and average flows cannot provide meaningful information. DEQ may choose to use this

information to assess monthly (or seasonal) loads and assimilative capacity in the receiving water or in modeling scenarios.

The Table 18 footnote referenced in this comment has been revised to require reporting of instantaneous minimum flow instead of the maximum daily average, as reflected in Table 8 of permit and Table 18 of the fact sheet. DEQ also revised those footnotes to clarify that the permit does not preclude the permittee from collecting and reporting its own receiving water flow data.

15. Draft Fact Sheet Page 77, Section 5.4.1 Toxics Management Practices Plan (TMP)

Section 5.4.1 includes the sentence "The 2023 permit also requires the permittee to update the TMP to include components necessary to consider PCB removal and to operate all treatment processes year-round."

The City is concerned the phrasing "operate all treatment processes year-round" could be misconstrued as requiring operation of all tertiary treatments technologies year round. The tertiary treatment technologies currently under construction at the Post Falls Water Reclamation Facility were selected for and will be optimized for seasonal phosphorus removal. As outlined in the approved Pilot Study Report (2018) and the Preliminary Engineering Report (2019), and in the City's Permit Application, to meet the new phosphorus limits, Post Falls will be relying heavily on tertiary clarification for phosphorus removal. The City will only rely on membrane filtration on an as-needed basis for final polishing, in times of reduced secondary treatment performance such as during a biological upset, and when effluent will be utilized for Class A land application. In the planning documents (Pilot Study, PER, Permit Application) the City has expressed our intention to operate the tertiary clarification equipment year-round, except for periods of essential maintenance during the non-critical phosphorus season.

Because the tertiary treatment process is not designed to treat or reduce PCBs and is not being added or operated for this purpose, it is inappropriate to require operation of this process as a year-round PCB control measure simply because the City has volunteered to operate tertiary clarification year-round for operational convenience. The draft requirement disincentivizes voluntary measures such as the City has proposed. It also would be inconsistent with Section 3.16.1 of the Draft Permit which only requires consideration of tertiary treatment processes as a toxics control measure. Such consideration should also weigh the highly effective existing system of secondary treatment and BMPs.

RECOMMENDATION - Replace the subject sentence with "The 2023 permit also requires the permittee to continue source control efforts and consider operation of existing and planned treatment technologies for PCB removal based on relevant and available information."

Response: DEQ has determined that BMPs are currently the best available approach to control or abate the discharge of PCBs in the 2023 IPDES permits. As explained in the fact

sheet section 3.5.2.3 and the response to comment #11, DEQ determined that tertiary treatment technology as utilized at the Post Falls WRF is a valuable tool in controlling the discharge of PCBs to the Spokane River. As such, the 2023 permit requires the operation of the tertiary treatment upgrades "...year round to the extent possible without compromising equipment integrity or surpassing design specifications". This statement was included to clearly preclude the permittee from only using the technology when necessary to target permit phosphorus limits. Conversely, the statement clearly requires the tertiary treatment upgrades to be utilized at all times of the year but does not require the permittee to expand the treatment capacity or alter the upgrades to do so. DEQ understands that the tertiary treatment system was not designed to treat PCBs and does not require any additional treatment designs to be considered to target PCBs. DEQ has identified the inherent potential for tertiary treatment to treat PCBs and is requiring that already chosen technology is used for the year round control of PCBs.

Additionally, the decision to require year round tertiary treatment use was not based on the City's intention to do so. The determination that year round tertiary treatment was necessary is based entirely on the information provided in the fact sheet. Specifically, that the facility effluent contains PCBs (Table 3), BMPs are required to control the discharge of PCBs (section 3.3.3.9), and that tertiary treatment has been documented to provide greater PCB level reductions when compared to secondary treatment alone (section 3.5.2.3 and the response to comment #11).

No changes have resulted in response to this comment.

16. Draft Fact Sheet Page 86, Appendix B.

The opening sentence of Appendix B references a section "O"

RECOMMENDATION - Update the reference to the appropriate section when finalized.

Response: This reference has been updated to section 3.2, 3.3 , and 3.5.2.

17. Draft Permit Page 2, Submission Schedule

The Submission Schedule indicates the initial submittal date for the Annual Equivalent Dwelling Unit (EDU) Reporting is "05/31/2023."

RECOMMENDATION - Replace "05/31/2023" with "05/31/2024" as the listed initial submittal date has already passed.

Response: This date has been revised to 05/31/2024.

18. Draft Permit Page 6, Section 1.1 Discharge Authorization

The section includes the sentence "The issuance of, or coverage under, this permit does not convey any property rights or any exclusive privilege, nor does it authorize any injury to persons

or property or invasion of other private rights, or any infringement of state or local law or regulations (including but not limited to Clean Water Act § 311, Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) § 106, 40 CFR 503, IDAPA 58.01.16, and IDAPA 58.01.17)."

The parenthetical references go beyond the scope of the statement state or local law and run counter to Idaho Administrative Code 58.01.25.100.

RECOMMENDATION - Remove the paratheatrical references and replace the subject sentence with "The issuance of, or coverage under, this permit does not convey any property rights or any exclusive privilege, nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations."

Response: DEQ agrees that some of the referenced laws are federal laws, and not state or local laws. Those refences have been replaced with references to state laws that implement those federal laws in section 1.1 of the permit.

19. Draft Permit Page 11, Section 1.2.2 Narrative Limits

The Draft Permit Section 1.2.2 discusses narrative limits. The City understands the ultimate responsibility lies with permitted facilities and other regulated entities using or affecting the Spokane River to comply with the applicable narrative criteria listed in IDAPA 58.01.02.200. The City disagrees with language in the Draft Permit which requires weekly observation and logging of the receiving water. It is unclear how observations of floating, suspended, or submerged matter within the receiving water would be tied to facility effluent; the receiving water may be in violation of the narrative criteria from natural causes, other users of the River system, etc. regardless of the City's discharge. Therefore, compliance determinations should be based on observations and logging of the facility effluent - not the receiving water - for floating, suspended, or submerged matter prior to discharge.

Additionally, requiring observation for narrative criteria beyond IDAPA 58.01.02.200.05 (i.e., floating, suspended, or submerged matter) is both impracticable and unnecessary. Any observation requirement should be limited to floating, suspended, or submerged matter rather than required for all narrative criteria listed in IDAPA 58.01.02.200. Compliance with most narrative criteria listed in IDAPA 58.01.02.200 cannot be determined with the human eye.

Additionally, the permit already contains effluent limitations and monitoring requirements (including WET testing and expanded effluent testing) that directly address many of the narrative criteria listed in IDAPA 58.0 1.02.200. Narrative criteria are the basis for WET testing in NPDES permits (see 40 CFR 122.44(d)(I)).

RECOMMENDATION - Section 1.2.2 of the Draft Permit should be modified to:

The permittee's discharge must not result in floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses in the receiving surface water. The permittee must observe the effluent downstream of the disinfection process, prior to discharge through outfall 001 once per week. The permittee must maintain a log of each observation that includes photos, date, time, observer, and whether there is presence of floating, suspended, or submerged matter in the effluent. The log must be retained onsite and made available to IDEQ upon request.

Alternatively, Section 1.2.2 of the Draft Permit should be consistent with language West Boise and Lander Street IPDES Permits and modified to:

The permittee's discharge must not result in floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated uses in the receiving water. The permittee's discharge must comply with all narrative criteria at IDAPA 58.01.02.200. The permittee must observe the effluent prior to discharge and the mixing area at Outfall 001 once per week. The permittee must maintain a log of each observation that includes date, time, and whether there is any floating, suspended, or submerged matter in the effluent or resulting from the discharge. The log must be retained onsite and made available to DEQ upon request.

Response: DEQ disagrees that violations of narrative criteria cannot be observed and notes that Idaho WQC at IDAPA 58.01.02.200.05 and IDAPA 58.01.02.200.06 specifically refer to conditions that would be visible on the water surface. A photo record of the receiving water in the vicinity of where the effluent enters the surface water can provide evidence that discharge may be causing or contributing to narrative criteria violations, and it can also provide evidence that the discharge may not be causing or contributing to downstream narrative criteria violations. Two clear scenario examples are visual observations of surface foam or algal mats associated with the discharge location and only the discharge location.

DEQ agrees that compliance with all narrative criteria cannot be determined with visual observations and records alone. However, DEQ has determined that observations can provide valuable information in regard to narrative criteria evaluations (e.g. floating and submerged substances, visible slime growth, discoloration of receiving water). The permit requires the permittee to observe the receiving water and maintain a log of observations and record "...whether there is presence of floating, suspended or submerged matter; or other indications that the discharge causes a violation of IDAPA 58.01.02.200 narrative criteria." This statement requires the permittee to document visible indications (or signs) that the receiving water in the vicinity of concern is violating narrative WQC. The statement does not require the permittee to determine compliance with narrative WQC, nor does it state that a recorded sign is, by itself, a permit violation.

DEQ agrees that WET monitoring is a valuable tool in evaluating discharge toxicity (IDAPA 58.01.02.200.02). However, WET testing only assesses toxicity and only on an annual basis. Weekly observations provide more frequent assurance that narrative WQC are being addressed.

The first suggested language change has been rejected because it seems to apply Idaho WQC to the effluent while IDAPA 58.01.02.200 is specific to "...surface waters of the state...". DEQ has determined that the alternative suggested language change has no functional implications in the permit and therefore DEQ will make the suggested change with some revisions. Both versions of the language include the same permit requirements and include the statement that the permittee "must comply with all narrative criteria at IDAPA 58.01.02.200". The suggested alternative language has been revised to retain the photo requirement for each observation and also replaced "mixing area" with the more general "vicinity of" in reference to where the observation must be made.

20. Draft Permit Page 11, Section 1.3 Regulatory Mixing Zone

Section 1.3 discusses an authorized mixing zone for copper and silver within the larger Section 1 which discusses Effluent Limits. Section 1.3 appears to be included in error as the Draft Permit does not include effluent limits for copper and silver.

RECOMMENDATION - Remove the discussion in Section 1.3 since it is not relevant to this permit.

Response: As documented in the fact sheet copper and silver were authorized a mixing zone in the RPA that resulted in no RPTE WQC and therefore did not require effluent limits. Because the authorization of a mixing zone has the potential to directly impact the need for effluent limits and the value of the limit, DEQ has determined this is the correct section to include this information.

21. Draft Permit Page 19, Section 2.1.4 Receiving Water Monitoring, Table 8.

Table 8 includes requirements for upstream receiving water monitoring including the requirement for the City to monitor flow in the Spokane River. As discussed in Comment #14 above, the City does not feel a pass through data share of USGS-collected information by the City plus a requirement to evaluate federal data and report to a state agency is an appropriate use of resources.

RECOMMENDATION - Remove upstream flow monitoring from the Permit. Should the requirement remain please include information in the Fact Sheet and Permit for how to

calculate average monthly and maximum daily average flow. Please also ensure the associated Tables and subscripts are consistent between the Fact Sheet and Permit.

Response: See response to comment #14. See the definitions section of the permit for information on average monthly and maximum daily average.

The footnote referenced in this comment has been revised to require reporting of instantaneous minimum flow instead of the maximum daily average as reflected in Table 8 of permit and Table 18 of the fact sheet.

22. Draft Permit Page 25, Section 2.1.6 Analytical and Sampling Procedures

The second paragraph of Section 2.1.6 is:

For parameters with effluent limits, the permittee must use methods that can achieve a minimum level (ML) less than the current applicable effluent limit. For parameters that do not have effluent limits, or have effluent limits that are less than the most sensitive 40 CFR 136 approved method, and IDEQ has not specified a ML in Table 13 for that parameter, the permittee must use sufficiently sensitive methods.

This paragraph is somewhat circular and possibly contradictory as written, as well as somewhat ambiguous.

RECOMMENDATION - Include a reference to the federally promulgated definition for "sufficiently sensitive".

Response: See the definition sections for the definition of "sufficiently sensitive" and refer to section 2 of the permit for additional information.

No changes have resulted in response to this comment.

23. Draft Permit Page 27, Section 2.2.2 Reporting Procedures

Part 3 of Section 2.2.2 includes several items which would be inappropriate for parameters which are monitored continuously.

RECOMMENDATION - Remove the following bullet points from the list of required information:

- Name and contact information of laboratory
- Analytical result

- Detection limit and definition (e.g., method detection limit [MDL])
- Analytical method

Response: DEQ agrees that some of these parameters are not applicable to every permit and requests permittees enter "NA" or the like for parameters that are not applicable. To this point, section 2.2.2 part 3 states "The file must be in the format of one analytical result per row and include the following information, when applicable".

24. Draft Permit Page 31, Section 2.3 Permit Renewal

Section 2.3 includes the sentence "Submit permit renewal application including required monitoring data in Section 2.1.5 through the IPDES E-Permitting System as required in section 4.2.2, by Insert date."

RECOMMENDATION -Replace the subject sentence with "The Permittee must submit a permit renewal application including required monitoring data in Section 2.1.5 through the IPDES E-Permitting System as required in section 4.2.2, at least 180 days prior to the permit Expiration Date."

Response: DEQ agrees and will retain the Application for Permit Renewal Due Date only on the permit cover page. Section 2.3 has been revised to refer the reader to section 4.2.2 for the application submittal timing. Section 4.2.2 has also been updated to refer the reader to the permit renewal application due date.

25. Draft Permit Page 32, Section 3.1.1 Total Phosphorus Compliance Schedule

Section 3.1.1 discusses the compliance schedule for total phosphorus including requirements to "Complete Required Work by 11/30/2023 and Comply with Permit Limits by 11/30/2025."

The City continues to drive towards construction completion as soon as possible on those facilities necessary to achieve final effluent limits for total phosphorus. Even with this push, continued delays in construction material deliveries and other factors originating with the COVID-19 pandemic have the potential to push construction completion beyond the date listed in the Draft Permit. The City will continue to actively monitor the situation to ensure construction completion deadlines are met as soon as possible.

A 120-day extension to the construction completion date is requested to ensure adequate time is provided to meet the compliance schedule deadline without impacting the final compliance date. This is in alignment with current schedule discussions between the City and the City's contractor.

RECOMMENDATION A-Replace the listed date to Complete Required Work in the Draft Permit Section 3.1.1 and Draft Fact Sheet Section 5.1.1 to 03/29/2024.

RECOMMENDATION B -Additionally, the City is currently working under a Compliance Agreement Schedule (CAS) between DEQ and the City, extending the deadlines for the compliance schedule to account for the factors referenced above. In the event that CAS is amended prior to permit issuance, the City requests that the CAS dates be used in the final permit, as they will reflect the most current knowledge of DEQ and the City.

Response: DEQ develops compliance schedules with the ultimate goal of getting dischargers into compliance with effluent limits, and that they do so as soon as possible. DEQ appreciates the efforts the City has made and acknowledges the impressive achievements made towards meeting all permit effluent limits. IDAPA 58.01.25.201.03.c provides DEQ with the ability to extend the interim date of a compliance schedule up to 120 days as long as it does not affect the final compliance date in the permit. Therefore, DEQ will approve this request for a revision of the compliance schedule. The version of the 2023 permit that was released for public comment on 7/28/2023 included the due date 11/30/2023 for task 1 in Section 3.1.1. Adding 120 days to the task 1 due date makes the new due date 03/29/24.

Change in permit: Permit Section 3.1.1 has been revised to replace the due date for task 1 from 11/30/2023 to 03/29/2024.

26. Draft Permit Page 49, Section 3.16.1 Part 11 Toxics Management Plan

Permit Section 3.16.1 Part 11 indicates "Once the tertiary treatment upgrades are operational the permittee must operate this technology year round to the extent possible without compromising equipment integrity or surpassing design specifications."

The City intends to operate the various tertiary treatment unit processes for seasonal phosphorus removal as described in these comments, above, as well in prior planning documents, as required in the City's compliance schedule, and as memorialized in the Draft Fact Sheet Section 2.1.2.

The various tertiary treatment unit processes described in Comment #11 were designed and sized to ensure consistent treatment performance such that seasonal phosphorus effluent limits can be met through a wide range of secondary treatment performance scenarios and anticipated population growth models. As discussed in Comment #11 and Comment #15, it is arbitrary to impose requirements to operate treatment processes beyond design purposes. However, the City is willing to evaluate and consider PCB removal in tertiary treatment operations.

As written, the subject section may be misinterpreted as requiring every available tertiary unit process must be operated year-round upon system commissioning. The City understands the intent of this section is to direct the operation tertiary treatment technologies in general rather

than requiring every tertiary process be operated year round. As described in numerous planning documents and summarized in Draft Fact Sheet Section 2.1.2, tertiary clarification, will be operated year-round except for down time for essential maintenance to assure efficient operation and meet seasonal phosphorus limits. Tertiary membrane filtration will be operated as needed to ensure seasonal phosphorus limits are met, if tertiary clarification treatment alone is not sufficient.

RECOMMENDATION -Delete Draft Permit Section 3.16.1 Part 11. Alternatively, please revise to "Once the tertiary treatment upgrades are operational, the permittee will operate this the tertiary clarification technology year-round except for periods of essential maintenance. The tertiary membrane filtration technology need not be operated year round; instead it may be operated as needed to ensure seasonal phosphorus limits are met, if tertiary clarification treatment alone is not sufficient."

Response: See responses to comments #11 and # 15 for more information.

The 2023 permit requires the operation of the tertiary treatment upgrades "...year round to the extent possible without compromising equipment integrity or surpassing design specifications". This statement was included to clearly preclude the permittee from only using the technology when necessary to target permit phosphorus limits. Conversely, the statement clearly requires the tertiary treatment upgrades to be utilized at all times of the year but does not require the permittee to expand the treatment capacity or alter the upgrades to do so. DEQ understands that the tertiary treatment system was not designed to treat PCBs and does not require any additional treatment designs to be considered to target PCBs. DEQ has identified the inherent potential for tertiary treatment to treat PCBs and is requiring that already chosen technology to be used for the year round control of PCBs.

27. Draft Permit Page 52, Section 4.1.2 Operation and Maintenance Manual

Section 4.1.2 includes the sentence "In addition to the requirements specified in section 4.2.5, the permittee must submit an Operation and Maintenance (O&M) Manual Notification to DEQ through the IPDES E-Permitting System by insert date [6 months from effective date] certifying that an O&M manual for the current wastewater treatment facility has been developed and implemented."

RECOMMENDATION -Insert the relevant date when certification that the O&M manual has been developed and implemented must be submitted to DEQ.

Response: DEQ updates all "from effective date" dates in the permit when the effective date of the permit is determined.

28. Use of the word "permittee"

The Draft Permit and Draft Fact Sheet use the word "permittee" at various locations including Draft Fact Sheet sections 2.1, Table 7 subscripts, Table 16 subscripts and Draft Permit Table 6 subscripts, Table 15 subscripts.

RECOMMENDATION -Replace "permittee" with permittee.

Response: DEQ has replaced "permittee" with "permittee" throughout the documents.

29. Consistency of Tables and their subscripts between the Fact Sheet and Permit

Several tables intended to be consistent between the Draft Fact Sheet and Draft Permit show inconsistencies.

Response: Thank you for the comment. The requirements represented in the various tables in the documents are designed to be consistent. However, the tables in the permit and fact sheet are not necessarily identical. Tables in the permit reflect the effluent limits and monitoring requirements that must be met to be in compliance with the permit. DEQ has rechecked the tables in the fact sheet for consistency with the permit. The following revisions have been made to the fact sheet. Table 15 of the fact sheet was revised to replace "Max daily average" with "Daily maximum" for flow monitoring, and "2/month" was replaced by "1/week" for CBOD₅ and TSS sample frequency.

Appendix F. Public Involvement and Public Comments

A. Public Involvement Information

DEQ placed a Public Notice of Application on July 28, 2023 and September 23, 2023 in Coeur d'Alene Press to inform the public about the submitted application and to invite comment on the reissuance/issuance of this permit.

The notice:

- Tells where copies of the draft permit and fact sheet are available for public evaluation (a local public library, the closest regional or field office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Asks people to tell us how well the draft permit would protect the receiving water.
- Invites people to suggest fairer conditions, limits, and requirements for the permit.
- Invites comments on DEQ's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the comment period.
- Tells how to request a public hearing about the draft IPDES permit.
- Explains the next step(s) in the permitting process.

**DEQ SEEKS COMMENT ON DRAFT IDAHO POLLUTANT DISCHARGE
ELIMINATION SYSTEM PERMIT FOR CITY OF POST FALLS**

PROPOSED ACTION: The City of Post Falls applied to the Department of Environmental Quality (DEQ) for an Idaho Pollutant Discharge Elimination System (IPDES) wastewater discharge permit for its municipal water reclamation facility located in Post Falls, ID. DEQ is seeking public comment on the draft IPDES permit, associated fact sheet, and application for the City of Post Falls water reclamation facility. This proposed permit authorizes the discharge of treated municipal wastewater year-round to the Spokane River for five years. The permit identifies the pollutants of concern and specifies associated discharge limits. Additionally, the permit specifies monitoring and reporting requirements necessary to ensure compliance, protect human health, and assure the integrity of Idaho's environment.

PUBLIC COMMENT PERIOD: Notice is given that DEQ has scheduled a period to receive public comments. Written comments on the draft permit and fact sheet will be accepted through August 28th, 2023, at 5 p.m. MST. A public meeting may be held if requested in writing by August 11th, 2023. The draft permit and fact sheet are available for public review at DEQ's state office (1410 N. Hilton St., Boise, ID), DEQ's Coeur d'Alene Regional Office (2110 Ironwood Parkway, Coeur d'Alene, ID 838142), and on DEQ's website. <https://www.deq.idaho.gov/public-information/newsroom/>

SUBMISSION OF WRITTEN COMMENTS—ASSISTANCE ON TECHNICAL

QUESTIONS: Anyone may submit written comments regarding the proposed permit. To be most effective, comments should address water quality considerations and include supporting materials where available. Comments, requests, and questions regarding the public comment process should be directed to Matt Stutzman at the address below, or to the DEQ Web site at <https://www.deq.idaho.gov/public-information/newsroom/>. Please reference the City of Post Falls and permit number (ID0025852) when sending comments or questions. All information regarding this matter, including the issuance of the final permit, will be available on DEQ's Web site.

Submit requests for a public meeting on the draft permit and fact sheet electronically on DEQ's website, by mail, or email to Matt Stutzman.

Matt Stutzman
Idaho Department of Environmental Quality
Surface & Wastewater Division
1410 N. Hilton St.
Boise, ID 83706
Email: matthew.stutzman@deq.idaho.gov

DEQ SEEKS COMMENT ON DRAFT IDAHO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR CITY OF POST FALLS

PROPOSED ACTION: The City of Post Falls applied to the Department of Environmental Quality (DEQ) for an Idaho Pollutant Discharge Elimination System (IPDES) wastewater discharge permit for its municipal water reclamation facility located in Post Falls, ID. On September 25, 2023, DEQ is reopening the public comment period on the draft IPDES permit, and associated fact sheet for the City of Post Falls water reclamation facility to correct a mistake in the original draft. The draft fact sheet outlines the correction and all affected areas of the permit. Pursuant to 40 CFR 124.14(c), at this time, DEQ is only accepting comments on aspects of the revised draft permit that are different from those in the draft permit that was issued for public comment on July 28, 2023. This proposed permit authorizes the discharge of treated municipal wastewater year-round to the Spokane River for five years. The permit identifies the pollutants of concern and specifies associated discharge limits. Additionally, the permit specifies monitoring and reporting requirements necessary to ensure compliance, protect human health, and assure the integrity of Idaho's environment.

PUBLIC COMMENT PERIOD: Notice is given that DEQ has scheduled a period to receive public comments. Written comments on the draft permit and fact sheet will be accepted through October 24th, 2023, at 5 p.m. MST. A public meeting may be held if requested in writing by October 9th, 2023. The draft permit and fact sheet are available for public review at DEQ's state office (1410 N. Hilton St., Boise, ID), DEQ's Coeur d'Alene Regional Office (2110 Ironwood Parkway, Coeur d'Alene, ID 838142), and on DEQ's website. <https://www.deq.idaho.gov/public-information/newsroom/>

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Submit requests for a public meeting on the draft permit and fact sheet electronically on DEQ's website, by mail, or email to Matt Stutzman.

Matt Stutzman
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DEQ seeks comment on draft IPDES permit for city of Post Falls

Accepting Comments from July 28, 2023 to August 28, 2023

The Idaho Department of Environmental Quality (DEQ) seeks comment on a draft Idaho Pollutant Discharge Elimination System (IPDES) permit for the city of Post Falls Publicly Owned Treatment Works (POTW).

The city applied for a wastewater discharge permit for its water reclamation facility, located in Post Falls, Idaho. The proposed permit authorizes the discharge of treated municipal wastewater year round to the Spokane River for five years and identifies the pollutants of concern, required limits for each pollutant or parameter, and monitoring and reporting requirements necessary to ensure compliance with the permit and protect human health and the environment.

Written comments on the draft permit and fact sheet will be accepted through August 28, 2023, at 5 p.m. MDT. The draft permit and fact sheet are available for public review at DEQ's state office (1410 N. Hilton St. Boise, Idaho 83706), DEQ's Coeur d'Alene Regional Office (2110 Ironwood Parkway, Coeur d'Alene, Idaho 838142), and on DEQ's [Public Comment Opportunities](#) page. A public meeting may be held, if requested in writing, by August 11, 2023.

Comments and questions regarding this process should be directed to Matt Stutzman, or at DEQ's [Public Comment Opportunities](#) page. Comments should address water quality considerations, include supporting materials where available, and reference the city of Post Falls POTW and permit number (ID0025852). Submit requests for a public meeting on DEQ's [Public Comment Opportunities](#) page, by mail, or email to Matt Stutzman:

Matt Stutzman
Surface and Wastewater Division
1410 N. Hilton St.
Boise, Idaho 83706
matthew.stutzman@deq.idaho.gov

B. Public Comments and Response to Comments

Idaho Pollutant Discharge Elimination System Discharge Permit No. ID0025852

Response to Comments on Draft Post Falls IPDES Permit

August 28th, 2023, comment deadline.

City of Post Falls [Email letter 8/28/2023]

1. Draft Fact Sheet Page 9, Section 1 Introduction - Permit Issuance.

The first paragraph includes the statement "All comments received will be addressed in Appendix E of the final fact sheet and any resulting changes to the permit or fact sheet documented." Appendix E is listed as "Your Right to Appeal."

RECOMMENDATION -Replace the subject sentence with "All comments received will be addressed in Appendix F of the final fact sheet and any resulting changes to the permit or fact sheet documented."

Response: The reference to Appendix F has been updated.

2. Draft Fact Sheet Page 15, Section 2.1.8 Table 3 Effluent characterization.

Table 3 lists data for Ortho Phosphate but does not include units for the data.

RECOMMENDATION -Include units for the Ortho Phosphate data.

Response: Microgram per liter (µg/L) units have been included for the orthophosphate data in Table 3.

3. Draft Fact Sheet Page 17, Section 2.2, Table 4, Ambient background data.

Table 4 lists hardness and dissolved metals ambient background data and lists the source as Idaho Department of Environmental Quality (IDEQ) from North Idaho College (NIC) from 2013 to 2015. NIC is 10 river miles upstream of the Post Falls Outfall 001 and above the Post Falls dam. The City is concerned this ambient data may not be representative of ambient conditions in the vicinity of Outfall 001.

RECOMMENDATION - Confirm the NIC data is the most representative ambient background data available for hardness and dissolved metals. If not, utilize ambient background data which better represents ambient conditions near Outfall 001.

Response: The North Idaho College (NIC) data was the most representative data available for those parameters during development of the 2023 permit. The 2023 permit addressed the lack of current data by requiring monthly ambient sampling for all necessary parameters.

4. Draft Fact Sheet Page 20, Section 2.3, Pollutants of Concern

Section 2.3 indicates DEQ identifies pollutants of concern for the discharge based on, but not limited to, those which:

- Have a technology-based limit (TBEL)
- Have an assigned WLA from a TMDL
- Had an effluent limit in the previous permit
- Are present in the effluent monitoring data reported in the application, DMRs, or special studies
- Are expected to be in the discharge based on the nature of the discharge
- Are impairing the beneficial uses of the receiving water

The subsequent list of pollutants of concern includes Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS). It is unclear why PFAS is listed as a pollutant of concern. Source water sampling of the City's potable water system as part of the EPA's Fifth Unregulated Contaminant Monitoring Rule (UCMR5) study showed no detections for PFAS. The City has no industrial or other non-residential dischargers known or suspected to use PFAS in any processes therefore discharges of PFAS to the central sewer system are unlikely. The considerable expense of PFAS testing is also an unnecessary burden to our rate payers in the absence of evidence it may be found in our influent.

RECOMMENDATION 4A-Remove PFAS from the list of pollutants of concern in Section 2.3 of the Draft Fact Sheet.

RECOMMENDATION 4B - Remove the requirement for influent, effluent, and biosolids sampling for PFAS from the Draft Permit Sections 2.1.1, 2.1.2, and 3.7.7 respectively.

Alternatively, if PFAS sampling must be retained the City recommends the monitoring frequency correspond to the monitoring for permit renewal effluent monitoring found in Section 2.1.5 of the permit.

Response: Because PFAS are regularly found in surface water, groundwater, soil, and air it is necessary to implement PFAS monitoring in IPDES permits to evaluate PFAS sources [<https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>]. While drinking water (source water) has been a known source of PFAS for many POTWs, it is not the only potential source of PFAS in domestic wastewater. PFAS is expected to be in the Post Falls discharge based on the nature of the discharge. Based on this comment and response, DEQ has included references to two studies to Section 9 that support municipal wastewater effluent being a potential source of PFAS; (Thompson, 2022)(Bothfield, 2022). As explained in the fact sheet, DEQ is implementing EPA's 2022 PFAS discharge guidance memorandum which directs states to leverage discharge permits to

reduce PFAS discharges to waterways as referenced in EPA's PFAS strategic Road Map (EPA 2021). This includes monitoring of effluent, influent, and biosolids for major POTWss. Therefore, it is a pollutant of concern in the 2023 permit.

5. Draft Fact Sheet Page 44, Section 3.3.3.6.1, Lead and Zinc

The City notes that, although neither approximate discharge concentrations nor applicable Idaho Water Quality Standards (WQS) have changed, IDEQ has updated EPA's findings in the City's 2014 Permit which held that the City's discharge has no reasonable potential to exceed Idaho Water Quality Standards. The City agrees that the use of the 2022 Spokane River Metals TMDL (the TMDL), which memorialized EPA's 2014 reasonable potential analysis findings, is the appropriate approach for derivation of metals limits in the Draft Permit.

The City was involved in the Watershed Advisory Group for the TMDL and worked closely with IDEQ staff on that effort. It was the belief of both City staff and IDEQ water quality staff that EPA's reasonable potential analysis findings would continue so long as discharge concentrations and Idaho WQS remained constant. This understanding is clearly reflected in the TMDL: "Since the City of Post Falls and Hayden Regional Sewer Board POTW IPDES permits contain effluent limits for lead and zinc that meet Idaho water quality standards with no mixing zone, [IDEQ] considers those wasteload allocations to already be implemented." (TMDL, 5.5.2.1 - Pg 77).

The City understands that IDEQ developed a different calculation when it applied IDAPA 58.01.02 Section 210.03.c.ii, which IDEQ has indicated requires the use of ambient hardness for a receiving water when calculating aquatic life criteria for metals. EPA previously used effluent hardness, (Response #2-31, Response to Comment on the Draft NPDES Permits for the City of Coeur d'Alene, City of Post Falls, and the Hayden Area Regional Sewer Board, EPA, 2014). The TMDL held these limits to be satisfactory for the goals of the TMDL, "If the current [2014] IPDES permit effluent limits for lead and zinc are carried forward into future permit cycles, those limits are considered consistent with the assumptions of this TMDL." (TMDL, 5.5.2.1 - Pg.77).

RECOMMENDATION - Include the following additional paragraph, capturing the intention of the TMDL and future limits, to Fact Sheet Section 3.3.3.6.1:

The TMDL assumed EPA's use of effluent hardness in conducting reasonable potential analyses would continue in future permit cycles. However, IDEQ must use ambient hardness. A revision of the TMDL allocating future loads, or a revision to Idaho's WQS, would be necessary to implement the TMDL's intended outcome in future permits.

Response: During the permit development process DEQ conducts the reasonable potential analysis (RPA) based on best available data. The hardness data used in the RPA to calculate aquatic life criteria for hardness dependent metals was downstream hardness to best represent the water chemistry at the discharge conditions expected in the Spokane River. This is consistent with IDAPA 58.01.02.210.03.c.ii which states:

"The hardness values used for calculating aquatic life criteria for metals at design discharge conditions shall be representative of the ambient hardness for a receiving water that occur at the design discharge conditions given in Subsection 210.03.b

The RPA process is independent of the approved TMDL and follows protocols to meet all necessary regulations. DEQ disagrees that the TMDL made assumptions that the RPA would be conducted otherwise. As explained in the fact sheet, the results of the RPA indicated that zinc had a reasonable potential to exceed (RPTE) water quality criteria (WQC) , but that lead did not have RPTE WQC. Because of this determination, the 2023 permit includes zinc limits that were developed directly from the waste load allocation (WLA) provided in the Spokane River Total Maximum Daily Load Lead and Zinc (DEQ 2022b). That WLA was based on the 2014 permit limits and all assumptions that went into developing those limits.

Reserve for future capacity was provided in the 2022 Metals TMDL (DEQ 2022b) by means of implementing end-of-pipe WQBELs as stated in section 5.4.4.1 on the TMDL:

"While a reserve for future capacity is not calculated into the wastewater treatment plant wasteload allocations, permits can consider reserve for future growth beyond discharges above the wastewater treatment plant design flow allocated in this TMDL if the permitted facility meets end-of-pipe water quality-based effluent limits (WQBELs) that are calculated based on Idaho water quality standards and a reasonable potential analysis. Should a reasonable potential analysis show WQBEL is not required; this is consistent with the TMDL."

This statement indicates that the TMDL's intended consideration for future growth was to develop effluent limits that include concentration based limits that meet Idaho WQC and the associated load limits would increase in conjunction with the facility design flow.

No changes have resulted in response to this comment.

6. Draft Fact Sheet Page 47, Section 3.3.3.6.2 – Silver

Section 3.3.3.6.2 includes the incomplete reference "(Appendix B, Table)"
RECOMMENDATION -Include the full reference.

Response: The reference to Table 26 has been updated.

7. Draft Fact Sheet Page 47, Section 3.3.3.6.3 - Cadmium

Section 3.3.3.6.3 includes the incomplete reference "(Appendix B, Table)"
RECOMMENDATION -Include the full reference (i.e., table number).

Response: The reference to Table 26 has been updated.

8. Draft Fact Sheet Page 48, Section 3.3.3.8.1 - Phosphorus

Section 3.3.3.8.1 includes the statement "Typically, DEQ develops monthly average limits that are consistent with a seasonal average load and will do so after upgrades are operational. This will occur when developing the next permit or earlier if the data set reflects the realized variability."

This statement runs counter to the analysis completed during development of the 2014 City of Post Falls Permit ID0025852 which committed to seasonal average limits for total phosphorus, ammonia, and CBOD. EPA determined in 2014 it was impracticable to express water quality-based effluent limits as monthly average and weekly average limits for total phosphorus, ammonia, and CBOD, the constituents necessary to meet Idaho's allocation in the Spokane River Dissolved Oxygen TMDL and, therefore, Washington's water quality criteria for dissolved oxygen.

Much of this analysis is included in the Draft Fact Sheet Appendix D which starts on page 106. EPA selected the use of seasonal average limits for total phosphorus, ammonia, and CBOD over daily, weekly, or monthly limits on the basis "attainment of dissolved oxygen criteria in Lake Spokane is based on long-term average loadings rather than short-term maximum loadings." They go on to state the control of far-field effects in Lake Spokane, 42.5 miles downstream from the Post Falls Outfall 001, "is insensitive to short-term increases in loading of oxygen-demanding pollutants from Idaho point sources, as long as the seasonal average loadings are less than or equal to the modeled loads." The long period of exposure, far-field area of concern, and average pollutant load of concern for Idaho point source dischargers for Lake Spokane are similar in nature to the Chesapeake Bay which was heavily referenced in Appendix D. That driving basis will remain regardless of how well an effluent coefficient of variation for nutrient discharges to the Spokane River can be calculated. Therefore, average monthly or weekly limits for total phosphorus, ammonia, and CBOD will remain impracticable as they relate to Idaho's Waste Load Allocation in the Spokane River Dissolved Oxygen TMDL.

Significant regional planning has gone into long term strategies to meet seasonal limits, including the acquisition of hundreds of acres of future land application property. The effective use of this alternative discharge option to offset loading to the Spokane River requires more flexibility than monthly limits allow. For example, it is far more practical to apply water to a field for several weeks at a time without discharge to the river. This would offset a seasonal average much more significantly than a monthly average.

DEQs statement is counter to decades of investment, planning, and TMDL implementation coordination and must be revised.

RECOMMENDATION - Replace the second paragraph of Section 3.3.3.8.1 with the sentence "The final phosphorus limit is applied only as a seasonal average limit in the 2023 permit because EPA has previously determined calculation of monthly average limits to be impracticable and unnecessary to implement the Spokane River Dissolved Oxygen TMDL allocations and for the protection of both WA and ID WQC.

Response: The 2014 fact sheet also explained that monthly limits in the 2014 permit were not developed in part due to the lack of representative data to calculate the coefficient of variation (CV). The 2014 fact sheet included requirements to ensure that seasonal limits would be met on a monthly basis:

"The draft permits include additional requirements to ensure that water quality standards are met. These requirements include required reporting of monthly average TP, ammonia, and CBOD loadings. In addition, if, at the end of any month from February through September, the average TP, ammonia and CBOD discharge measured to date is greater than the seasonal average loading limit, the permittee must submit a report explaining how it will lower the loading of the relevant pollutant(s) in order to comply with the seasonal average effluent limitations."

DEQ agrees with EPA's 2014 assessment of the importance of focusing on seasonal inputs for nontoxic pollutants with far-field impacts, but also determined it is important to implement limits that provide year round protection of beneficial uses in the near-field. The Spokane River is listed in DEQ's 2022 Integrated Report (DEQ 2022a) as not supporting the cold water aquatic life (CWAL) beneficial use and the listed cause is total phosphorus. As stated in the 2023 fact sheet, DEQ typically develops monthly average limits to complement annual/seasonal limits. When developing these monthly limits DEQ has the flexibility to implement monthly limits that protects near field uses and also accounts for seasonal variation in both treatment capabilities and potential impacts on water quality. DEQ anticipates the addition of a monthly limit will not impact the City's long-term solutions to comply with TMDL implementation.

No changes have resulted in response to this comment.

9. Draft Fact Sheet Page 49, Section 3.3.3.8.1 - Phosphorus

The last paragraph of Section 3.3.3.8.1 includes the sentence "DEQ determined that average monthly and weekly interim limits are appropriate to maintain the status quo while the facility continuous to work towards meeting final limits."

Response: "Continuous" has been revised to "continues" in this section.

10. Draft Fact Sheet Page 51, Section 3.4

Please see Comment #19 for a discussion regarding Narrative Criteria.

RECOMMENDATION - The phrase "or any violation of narrative WQC" should be removed from the final sentence of Section 3.4. Alternatively, at a minimum "resulting from the discharge" should be added to the final sentence as was done in the joint Fact Sheet for the City of Boise (West Boise) and Lander Street Water Renewal Facility (Lander Street) IPDES Permits (ID0023981 and ID0020443 respectively).

Response: DEQ added "resulting from the discharge" as requested in section 3.4.

11. Draft Fact Sheet Page 57, Section 3.5.2.2- PCBs

Section 3.5.2.2 includes the statement "DEQ expects BMPs in conjunction with tertiary treatment will significantly reduce the facility's contribution of PCBs to the Spokane River." The Draft Fact Sheet goes on to reference PCB effluent concentrations from the Coeur d'Alene WWTP. The listed concentration of 644 pg/L is interpreted as showing the effluent PCB concentration for water treated at the Coeur d'Alene facility to secondary treatment standards.

The listed effluent concentration of 289 pg/L is interpreted as the facility effluent PCB concentration following commissioning of Coeur d'Alene's tertiary treatment Membrane Bioreactor (MBR) technology.

A direct comparison between Coeur d'Alene and Post Falls is inappropriate as our facilities employ different secondary treatment technologies. When complete, the phosphorus removal tertiary treatment technology selected by Post Falls will also differ from the MBR technology chosen by Coeur d'Alene for tertiary treatment.

The problem with using this direct comparison approach is shown in data from both systems. The average PCB concentration in the Post Falls secondary effluent is listed in the Draft Fact Sheet Section 2.1.8 as 46.3 pg/L. This treatment performance through existing secondary treatment systems represents an average PCB removal of 99%. Post Falls' effluent, treated via secondary treatment and without any tertiary treatment, is already at one-sixth the value of Coeur d'Alene's effluent which has been treated using tertiary membrane filtration. The opportunity for further reductions in Post Falls' PCB concentrations, even with tertiary treatment (which is not designed to treat or reduce PCBs and is not being added for this purpose), may not be statistically significant.

With regard to tertiary treatment, Post Falls will be implementing a multistage tertiary treatment strategy for efficient phosphorus removal. This technology differs significantly from the MBR technology utilized by Coeur d'Alene. This highly innovative tertiary treatment strategy is comprised of high-rate plate settlers that provide tertiary clarification. This tertiary clarification process has been designed to complete the majority of additional seasonal phosphorus removal during typical secondary treatment performance. Tertiary clarified effluent can be routed through ultra filtration membrane modules as necessary to provide additional phosphorus removal prior to river discharge. The additional filtration process will ensure effluent limits for total phosphorus can be met through a wide range of secondary treatment performance scenarios and allow for treated effluent to meet Class A reuse standards. Further details on the various tertiary treatment technologies and operational strategies can be found in the documents "City of Post Falls Water Reclamation Facility Tertiary Treatment Pilot Study Report" and "City of Post Falls Water Reclamation Facility Preliminary Engineering Report", which were previously submitted to and approved by DEQ.

Section 3.5.2.2 of the Draft Fact Sheet also explains that BMPs (referring to the requirements of a Toxics Management Plan in the 2014 permit) are to be updated and continued. The City agrees with this approach to addressing PCBs in the permit. However, DEQ's reliance on a single

study comparing secondary treatment to membrane filtration at other facilities is inadequate to conclude that Post Falls' forthcoming tertiary treatment processes will "significantly reduce" the concentration of PCBs discharged. One important reason is this technology is not designed to treat PCBs and is not being added for this purpose. Any PCB reductions from the tertiary treatment are incidental to its purpose for seasonal phosphorus removal. As discussed above, Post Falls' existing secondary treatment system is already performing at a level similar to treatment facilities with tertiary membrane filtration. Site specific information following commissioning of the various tertiary treatment processes would be helpful to inform if IDEQ's expectation that further reductions in PCB concentration are possible.

RECOMMENDATION -Replace "DEQ expects BMPs in conjunction with tertiary treatment will significantly reduce the facility's contribution of PCBs to the Spokane River" with "These tertiary treatment processes, although designed for seasonal removal of phosphorus, might have the ancillary benefit of further reducing PCBs beyond levels achieved through BMPs and the existing secondary treatment process. DEQ expects BMPs in conjunction with secondary treatment will continue to provide significant reductions in PCBs discharged to the Spokane River."

Response: DEQ has no evidence to support that the City of Post Falls chosen tertiary treatment technology will not contribute to continued reductions in effluent PCB concentrations and does expect BMPs in conjunction with tertiary treatment to significantly reduce the facility's contribution of PCBs to the Spokane River. As stated in this section of the fact sheet, DEQ determined this expectation is supported by (Rodenburg 2021) and justifies the antidegradation analysis findings for potential loss of assimilative capacity. DEQ appreciates that the City of Post Falls chosen tertiary treatment technology is not identical to the City of Coeur d'Alene's, or Spokane County's for that matter, but that does not necessarily mean that the processes of clarification and filtration are functionally different to the point that the similar results cannot be expected.

DEQ acknowledges the City's concern regarding the comparison of the 2021 Rodenburg data to the data DEQ included in this fact sheet. It is important to consider that the 2021 Rodenburg study utilized a 1x blank correction while DEQ has used a 10x blank correction when compiling PCB data collected using EPA method 1668. For example, when considering Post Falls PCB effluent data collected from December 2018 through May 2022 the 50th percentile value increases to 446.1 pg/L using a 1x blank correction from the previously mentioned 46.3 pg/L using the 10x blank correction. When the Post Falls PCB influent data and effluent data from that same data set are considered together the percent removal for PCBs drops to 92.5 % removal (1x blank correction) from 98.1 % removal (10x blank correction).

DEQ has reviewed the City of Coeur d'Alene's quarterly PCB effluent data reported as required by their NPDES permit and when processed using the 10x blank correction, as done with City of Post Falls data (Draft Fact Sheet Section 2.1.8), the City of Coeur d'Alene's post

tertiary treatment PCB effluent data had a 50th percentile value of 2.0 pg/L. This value is substantially lower than the 46.3 pg/L listed as the 50th percentile PCB effluent value for the City of Post Falls in the Draft Fact Sheet Section 2.1.8.

Additionally, DEQ does not agree that because the treatment technology was chosen to treat for phosphorus necessarily precludes it from treating other pollutants. In fact, the two treatment facilities representing facilities with tertiary treatment capabilities were both designed to target phosphorus and resulted in significant PCB load reductions (Rodenburg 2021).

"At Coeur d'Alene, the average concentrations of dioxin-like PCBs dropped to 9.3 pg/L after upgrade from 23 pg/L before, a 60% decrease." (Rodenburg 2021)

DEQ's expectation of increased PCB treatment is supported and worth documenting in the antidegradation analysis as it is central to the determination that there is no expected (or insignificant) loss of assimilative capacity considering the increase in design flow the known data limitations.

No changes have been made to the 2023 fact sheet based on this comment.

12. Draft Fact Sheet Page 61, Section 4.1 Influent Monitoring

Table 15 lists BODs as an influent monitoring requirement.

RECOMMENDATION -Replace BOD₅ with CBOD₅ to remain consistent with the rest of the permit.

Response: DEQ replaced BOD₅ with CBOD₅ in Table 15.

13. Draft Fact Sheet Page 62, Section 4.1 Influent Monitoring

Table 15 subscript b. includes the statement "the permittee must monitor grab measurement daily between 7 a.m. and 4 p.m."

RECOMMENDATION -Replace "8 a.m. and 5 p.m." with "7 a.m. and 4 p.m." to better match operating hours of the Post Falls Water Reclamation Facility. The same recommendation is requested for Table 16 subscript b. on page 64, Table 18 subscript c. on page 67, and Table 19 subscript b. and g. on page 70.

Response: DEQ has updated the fact sheet to reflect the operating hours as suggested and the time frame required in the 2023 permit.

14. Draft Fact Sheet Page 67, Section 4.3 Table 18

Table 18 includes continuous flow monitoring requirements for the Spokane River. Subscript b. indicates:

If the USGS continues to monitor at station 12419000, the permittee must report the average monthly and maximum daily average flow for compliance. If the USGS monitoring is discontinued, the flow monitoring will become the responsibility of the permittee.

This subscript differs from the Draft Permit Section 2.1.4 Table 8 subscript b. which indicates:

If the USGS continues to monitor at station 12419000, the permittee must report the average monthly and maximum daily average flow for compliance. If the USGS monitoring is discontinued, representative flow monitoring data must be sourced from another approved source or collected by the permittee.

The City understand the USGS collects its river data under federal law that is distinct from the CWA, and that the data is available to the public, including IDEQ and the City, on the USGS website. The City does not think it is appropriate for it to analyze and report federally collected data to a state agency. The City is concerned this inefficient pass-through reporting methodology provides an opportunity for errors or discrepancies in analysis which may result in unnecessary instances of non-compliance.

Further, the Draft Fact Sheet (page 33) discusses the use of specific flow calculations, such as 7Q10 for metals and 30Q5 for ammonia, which cannot be derived using the monthly average and maximum day flows required in the Draft Permit. Submitting this data will not provide DEQ, or any other interested party, with meaningful data which could be used in developing future permits.

RECOMMENDATION - Remove the requirement for reporting of receiving water flow.

Alternatively, if the flow monitoring requirement remains, the City agrees with the option to source representative data from other approved sources and appreciates the inclusion in the Draft Permit Section 2.1.4 Table 8 subscript b. and recommends revising the verbiage of Draft Fact Sheet Section 4.3 Table 18 subscript b. to match that of Draft Permit Section 2.1.4 Table 8 subscript b.

Response: DEQ requires IPDES permittees to gather and report all data necessary for IPDES permit development. DEQ appreciates that USGS flow is publicly available but has determined it is the permittee's responsibility to process and report the data required for permit development. The permit does not preclude the permittee from collecting and reporting its own flow data. DEQ disagrees that monthly instantaneous minimum and average flows cannot provide meaningful information. DEQ may choose to use this

information to assess monthly (or seasonal) loads and assimilative capacity in the receiving water or in modeling scenarios.

The Table 18 footnote referenced in this comment has been revised to require reporting of instantaneous minimum flow instead of the maximum daily average, as reflected in Table 8 of permit and Table 18 of the fact sheet. DEQ also revised those footnotes to clarify that the permit does not preclude the permittee from collecting and reporting its own receiving water flow data.

15. Draft Fact Sheet Page 77, Section 5.4.1 Toxics Management Practices Plan (TMP)

Section 5.4.1 includes the sentence "The 2023 permit also requires the permittee to update the TMP to include components necessary to consider PCB removal and to operate all treatment processes year-round."

The City is concerned the phrasing "operate all treatment processes year-round" could be misconstrued as requiring operation of all tertiary treatments technologies year round. The tertiary treatment technologies currently under construction at the Post Falls Water Reclamation Facility were selected for and will be optimized for seasonal phosphorus removal. As outlined in the approved Pilot Study Report (2018) and the Preliminary Engineering Report (2019), and in the City's Permit Application, to meet the new phosphorus limits, Post Falls will be relying heavily on tertiary clarification for phosphorus removal. The City will only rely on membrane filtration on an as-needed basis for final polishing, in times of reduced secondary treatment performance such as during a biological upset, and when effluent will be utilized for Class A land application. In the planning documents (Pilot Study, PER, Permit Application) the City has expressed our intention to operate the tertiary clarification equipment year-round, except for periods of essential maintenance during the non-critical phosphorus season.

Because the tertiary treatment process is not designed to treat or reduce PCBs and is not being added or operated for this purpose, it is inappropriate to require operation of this process as a year-round PCB control measure simply because the City has volunteered to operate tertiary clarification year-round for operational convenience. The draft requirement disincentivizes voluntary measures such as the City has proposed. It also would be inconsistent with Section 3.16.1 of the Draft Permit which only requires consideration of tertiary treatment processes as a toxics control measure. Such consideration should also weigh the highly effective existing system of secondary treatment and BMPs.

RECOMMENDATION - Replace the subject sentence with "The 2023 permit also requires the permittee to continue source control efforts and consider operation of existing and planned treatment technologies for PCB removal based on relevant and available information."

Response: DEQ has determined that BMPs are currently the best available approach to control or abate the discharge of PCBs in the 2023 IPDES permits. As explained in the fact

sheet section 3.5.2.3 and the response to comment #11, DEQ determined that tertiary treatment technology as utilized at the Post Falls WRF is a valuable tool in controlling the discharge of PCBs to the Spokane River. As such, the 2023 permit requires the operation of the tertiary treatment upgrades "...year round to the extent possible without compromising equipment integrity or surpassing design specifications". This statement was included to clearly preclude the permittee from only using the technology when necessary to target permit phosphorus limits. Conversely, the statement clearly requires the tertiary treatment upgrades to be utilized at all times of the year but does not require the permittee to expand the treatment capacity or alter the upgrades to do so. DEQ understands that the tertiary treatment system was not designed to treat PCBs and does not require any additional treatment designs to be considered to target PCBs. DEQ has identified the inherent potential for tertiary treatment to treat PCBs and is requiring that already chosen technology is used for the year round control of PCBs.

Additionally, the decision to require year round tertiary treatment use was not based on the City's intention to do so. The determination that year round tertiary treatment was necessary is based entirely on the information provided in the fact sheet. Specifically, that the facility effluent contains PCBs (Table 3), BMPs are required to control the discharge of PCBs (section 3.3.3.9), and that tertiary treatment has been documented to provide greater PCB level reductions when compared to secondary treatment alone (section 3.5.2.3 and the response to comment #11).

No changes have resulted in response to this comment.

16. Draft Fact Sheet Page 86, Appendix B.

The opening sentence of Appendix B references a section "O"

RECOMMENDATION - Update the reference to the appropriate section when finalized.

Response: This reference has been updated to section 3.2, 3.3 , and 3.5.2.

17. Draft Permit Page 2, Submission Schedule

The Submission Schedule indicates the initial submittal date for the Annual Equivalent Dwelling Unit (EDU) Reporting is "05/31/2023."

RECOMMENDATION - Replace "05/31/2023" with "05/31/2024" as the listed initial submittal date has already passed.

Response: This date has been revised to 05/31/2024.

18. Draft Permit Page 6, Section 1.1 Discharge Authorization

The section includes the sentence "The issuance of, or coverage under, this permit does not convey any property rights or any exclusive privilege, nor does it authorize any injury to persons

or property or invasion of other private rights, or any infringement of state or local law or regulations (including but not limited to Clean Water Act § 311, Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) § 106, 40 CFR 503, IDAPA 58.01.16, and IDAPA 58.01.17)."

The parenthetical references go beyond the scope of the statement state or local law and run counter to Idaho Administrative Code 58.01.25.100.

RECOMMENDATION - Remove the paratheatrical references and replace the subject sentence with "The issuance of, or coverage under, this permit does not convey any property rights or any exclusive privilege, nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations."

Response: DEQ agrees that some of the referenced laws are federal laws, and not state or local laws. Those refences have been replaced with references to state laws that implement those federal laws in section 1.1 of the permit.

19. Draft Permit Page 11, Section 1.2.2 Narrative Limits

The Draft Permit Section 1.2.2 discusses narrative limits. The City understands the ultimate responsibility lies with permitted facilities and other regulated entities using or affecting the Spokane River to comply with the applicable narrative criteria listed in IDAPA 58.01.02.200. The City disagrees with language in the Draft Permit which requires weekly observation and logging of the receiving water. It is unclear how observations of floating, suspended, or submerged matter within the receiving water would be tied to facility effluent; the receiving water may be in violation of the narrative criteria from natural causes, other users of the River system, etc. regardless of the City's discharge. Therefore, compliance determinations should be based on observations and logging of the facility effluent - not the receiving water - for floating, suspended, or submerged matter prior to discharge.

Additionally, requiring observation for narrative criteria beyond IDAPA 58.01.02.200.05 (i.e., floating, suspended, or submerged matter) is both impracticable and unnecessary. Any observation requirement should be limited to floating, suspended, or submerged matter rather than required for all narrative criteria listed in IDAPA 58.01.02.200. Compliance with most narrative criteria listed in IDAPA 58.01.02.200 cannot be determined with the human eye.

Additionally, the permit already contains effluent limitations and monitoring requirements (including WET testing and expanded effluent testing) that directly address many of the narrative criteria listed in IDAPA 58.0 1.02.200. Narrative criteria are the basis for WET testing in NPDES permits (see 40 CFR 122.44(d)(I)).

RECOMMENDATION - Section 1.2.2 of the Draft Permit should be modified to:

The permittee's discharge must not result in floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses in the receiving surface water. The permittee must observe the effluent downstream of the disinfection process, prior to discharge through outfall 001 once per week. The permittee must maintain a log of each observation that includes photos, date, time, observer, and whether there is presence of floating, suspended, or submerged matter in the effluent. The log must be retained onsite and made available to IDEQ upon request.

Alternatively, Section 1.2.2 of the Draft Permit should be consistent with language West Boise and Lander Street IPDES Permits and modified to:

The permittee's discharge must not result in floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated uses in the receiving water. The permittee's discharge must comply with all narrative criteria at IDAPA 58.01.02.200. The permittee must observe the effluent prior to discharge and the mixing area at Outfall 001 once per week. The permittee must maintain a log of each observation that includes date, time, and whether there is any floating, suspended, or submerged matter in the effluent or resulting from the discharge. The log must be retained onsite and made available to DEQ upon request.

Response: DEQ disagrees that violations of narrative criteria cannot be observed and notes that Idaho WQC at IDAPA 58.01.02.200.05 and IDAPA 58.01.02.200.06 specifically refer to conditions that would be visible on the water surface. A photo record of the receiving water in the vicinity of where the effluent enters the surface water can provide evidence that discharge may be causing or contributing to narrative criteria violations, and it can also provide evidence that the discharge may not be causing or contributing to downstream narrative criteria violations. Two clear scenario examples are visual observations of surface foam or algal mats associated with the discharge location and only the discharge location.

DEQ agrees that compliance with all narrative criteria cannot be determined with visual observations and records alone. However, DEQ has determined that observations can provide valuable information in regard to narrative criteria evaluations (e.g. floating and submerged substances, visible slime growth, discoloration of receiving water). The permit requires the permittee to observe the receiving water and maintain a log of observations and record "...whether there is presence of floating, suspended or submerged matter; or other indications that the discharge causes a violation of IDAPA 58.01.02.200 narrative criteria." This statement requires the permittee to document visible indications (or signs) that the receiving water in the vicinity of concern is violating narrative WQC. The statement does not require the permittee to determine compliance with narrative WQC, nor does it state that a recorded sign is, by itself, a permit violation.

DEQ agrees that WET monitoring is a valuable tool in evaluating discharge toxicity (IDAPA 58.01.02.200.02). However, WET testing only assesses toxicity and only on an annual basis. Weekly observations provide more frequent assurance that narrative WQC are being addressed.

The first suggested language change has been rejected because it seems to apply Idaho WQC to the effluent while IDAPA 58.01.02.200 is specific to "...surface waters of the state...". DEQ has determined that the alternative suggested language change has no functional implications in the permit and therefore DEQ will make the suggested change with some revisions. Both versions of the language include the same permit requirements and include the statement that the permittee "must comply with all narrative criteria at IDAPA 58.01.02.200". The suggested alternative language has been revised to retain the photo requirement for each observation and also replaced "mixing area" with the more general "vicinity of" in reference to where the observation must be made.

20. Draft Permit Page 11, Section 1.3 Regulatory Mixing Zone

Section 1.3 discusses an authorized mixing zone for copper and silver within the larger Section 1 which discusses Effluent Limits. Section 1.3 appears to be included in error as the Draft Permit does not include effluent limits for copper and silver.

RECOMMENDATION - Remove the discussion in Section 1.3 since it is not relevant to this permit.

Response: As documented in the fact sheet copper and silver were authorized a mixing zone in the RPA that resulted in no RPTE WQC and therefore did not require effluent limits. Because the authorization of a mixing zone has the potential to directly impact the need for effluent limits and the value of the limit, DEQ has determined this is the correct section to include this information.

21. Draft Permit Page 19, Section 2.1.4 Receiving Water Monitoring, Table 8.

Table 8 includes requirements for upstream receiving water monitoring including the requirement for the City to monitor flow in the Spokane River. As discussed in Comment #14 above, the City does not feel a pass through data share of USGS-collected information by the City plus a requirement to evaluate federal data and report to a state agency is an appropriate use of resources.

RECOMMENDATION - Remove upstream flow monitoring from the Permit. Should the requirement remain please include information in the Fact Sheet and Permit for how to

calculate average monthly and maximum daily average flow. Please also ensure the associated Tables and subscripts are consistent between the Fact Sheet and Permit.

Response: See response to comment #14. See the definitions section of the permit for information on average monthly and maximum daily average.

The footnote referenced in this comment has been revised to require reporting of instantaneous minimum flow instead of the maximum daily average as reflected in Table 8 of permit and Table 18 of the fact sheet.

22. Draft Permit Page 25, Section 2.1.6 Analytical and Sampling Procedures

The second paragraph of Section 2.1.6 is:

For parameters with effluent limits, the permittee must use methods that can achieve a minimum level (ML) less than the current applicable effluent limit. For parameters that do not have effluent limits, or have effluent limits that are less than the most sensitive 40 CFR 136 approved method, and IDEQ has not specified a ML in Table 13 for that parameter, the permittee must use sufficiently sensitive methods.

This paragraph is somewhat circular and possibly contradictory as written, as well as somewhat ambiguous.

RECOMMENDATION - Include a reference to the federally promulgated definition for "sufficiently sensitive".

Response: See the definition sections for the definition of "sufficiently sensitive" and refer to section 2 of the permit for additional information.

No changes have resulted in response to this comment.

23. Draft Permit Page 27, Section 2.2.2 Reporting Procedures

Part 3 of Section 2.2.2 includes several items which would be inappropriate for parameters which are monitored continuously.

RECOMMENDATION - Remove the following bullet points from the list of required information:

- Name and contact information of laboratory
- Analytical result

- Detection limit and definition (e.g., method detection limit [MDL])
- Analytical method

Response: DEQ agrees that some of these parameters are not applicable to every permit and requests permittees enter "NA" or the like for parameters that are not applicable. To this point, section 2.2.2 part 3 states "The file must be in the format of one analytical result per row and include the following information, when applicable".

24. Draft Permit Page 31, Section 2.3 Permit Renewal

Section 2.3 includes the sentence "Submit permit renewal application including required monitoring data in Section 2.1.5 through the IPDES E-Permitting System as required in section 4.2.2, by Insert date."

RECOMMENDATION -Replace the subject sentence with "The Permittee must submit a permit renewal application including required monitoring data in Section 2.1.5 through the IPDES E-Permitting System as required in section 4.2.2, at least 180 days prior to the permit Expiration Date."

Response: DEQ agrees and will retain the Application for Permit Renewal Due Date only on the permit cover page. Section 2.3 has been revised to refer the reader to section 4.2.2 for the application submittal timing. Section 4.2.2 has also been updated to refer the reader to the permit renewal application due date.

25. Draft Permit Page 32, Section 3.1.1 Total Phosphorus Compliance Schedule

Section 3.1.1 discusses the compliance schedule for total phosphorus including requirements to "Complete Required Work by 11/30/2023 and Comply with Permit Limits by 11/30/2025."

The City continues to drive towards construction completion as soon as possible on those facilities necessary to achieve final effluent limits for total phosphorus. Even with this push, continued delays in construction material deliveries and other factors originating with the COVID-19 pandemic have the potential to push construction completion beyond the date listed in the Draft Permit. The City will continue to actively monitor the situation to ensure construction completion deadlines are met as soon as possible.

A 120-day extension to the construction completion date is requested to ensure adequate time is provided to meet the compliance schedule deadline without impacting the final compliance date. This is in alignment with current schedule discussions between the City and the City's contractor.

RECOMMENDATION A-Replace the listed date to Complete Required Work in the Draft Permit Section 3.1.1 and Draft Fact Sheet Section 5.1.1 to 03/29/2024.

RECOMMENDATION B -Additionally, the City is currently working under a Compliance Agreement Schedule (CAS) between DEQ and the City, extending the deadlines for the compliance schedule to account for the factors referenced above. In the event that CAS is amended prior to permit issuance, the City requests that the CAS dates be used in the final permit, as they will reflect the most current knowledge of DEQ and the City.

Response: DEQ develops compliance schedules with the ultimate goal of getting dischargers into compliance with effluent limits, and that they do so as soon as possible. DEQ appreciates the efforts the City has made and acknowledges the impressive achievements made towards meeting all permit effluent limits. IDAPA 58.01.25.201.03.c provides DEQ with the ability to extend the interim date of a compliance schedule up to 120 days as long as it does not affect the final compliance date in the permit. Therefore, DEQ will approve this request for a revision of the compliance schedule. The version of the 2023 permit that was released for public comment on 7/28/2023 included the due date 11/30/2023 for task 1 in Section 3.1.1. Adding 120 days to the task 1 due date makes the new due date 03/29/24.

Change in permit: Permit Section 3.1.1 has been revised to replace the due date for task 1 from 11/30/2023 to 03/29/2024.

26. Draft Permit Page 49, Section 3.16.1 Part 11 Toxics Management Plan

Permit Section 3.16.1 Part 11 indicates "Once the tertiary treatment upgrades are operational the permittee must operate this technology year round to the extent possible without compromising equipment integrity or surpassing design specifications."

The City intends to operate the various tertiary treatment unit processes for seasonal phosphorus removal as described in these comments, above, as well in prior planning documents, as required in the City's compliance schedule, and as memorialized in the Draft Fact Sheet Section 2.1.2.

The various tertiary treatment unit processes described in Comment #11 were designed and sized to ensure consistent treatment performance such that seasonal phosphorus effluent limits can be met through a wide range of secondary treatment performance scenarios and anticipated population growth models. As discussed in Comment #11 and Comment #15, it is arbitrary to impose requirements to operate treatment processes beyond design purposes. However, the City is willing to evaluate and consider PCB removal in tertiary treatment operations.

As written, the subject section may be misinterpreted as requiring every available tertiary unit process must be operated year-round upon system commissioning. The City understands the intent of this section is to direct the operation tertiary treatment technologies in general rather

than requiring every tertiary process be operated year round. As described in numerous planning documents and summarized in Draft Fact Sheet Section 2.1.2, tertiary clarification, will be operated year-round except for down time for essential maintenance to assure efficient operation and meet seasonal phosphorus limits. Tertiary membrane filtration will be operated as needed to ensure seasonal phosphorus limits are met, if tertiary clarification treatment alone is not sufficient.

RECOMMENDATION -Delete Draft Permit Section 3.16.1 Part 11. Alternatively, please revise to "Once the tertiary treatment upgrades are operational, the permittee will operate this the tertiary clarification technology year-round except for periods of essential maintenance. The tertiary membrane filtration technology need not be operated year round; instead it may be operated as needed to ensure seasonal phosphorus limits are met, if tertiary clarification treatment alone is not sufficient."

Response: See responses to comments #11 and # 15 for more information.

The 2023 permit requires the operation of the tertiary treatment upgrades "...year round to the extent possible without compromising equipment integrity or surpassing design specifications". This statement was included to clearly preclude the permittee from only using the technology when necessary to target permit phosphorus limits. Conversely, the statement clearly requires the tertiary treatment upgrades to be utilized at all times of the year but does not require the permittee to expand the treatment capacity or alter the upgrades to do so. DEQ understands that the tertiary treatment system was not designed to treat PCBs and does not require any additional treatment designs to be considered to target PCBs. DEQ has identified the inherent potential for tertiary treatment to treat PCBs and is requiring that already chosen technology to be used for the year round control of PCBs.

27. Draft Permit Page 52, Section 4.1.2 Operation and Maintenance Manual

Section 4.1.2 includes the sentence "In addition to the requirements specified in section 4.2.5, the permittee must submit an Operation and Maintenance (O&M) Manual Notification to DEQ through the IPDES E-Permitting System by insert date [6 months from effective date] certifying that an O&M manual for the current wastewater treatment facility has been developed and implemented."

RECOMMENDATION -Insert the relevant date when certification that the O&M manual has been developed and implemented must be submitted to DEQ.

Response: DEQ updates all "from effective date" dates in the permit when the effective date of the permit is determined.

28. Use of the word "permittee"

The Draft Permit and Draft Fact Sheet use the word "permitee" at various locations including Draft Fact Sheet sections 2.1, Table 7 subscripts, Table 16 subscripts and Draft Permit Table 6 subscripts, Table 15 subscripts.

RECOMMENDATION -Replace "permitee" with permittee.

Response: DEQ has replaced "permitee" with "permittee" throughout the documents.

29. Consistency of Tables and their subscripts between the Fact Sheet and Permit

Several tables intended to be consistent between the Draft Fact Sheet and Draft Permit show inconsistencies.

Response: Thank you for the comment. The requirements represented in the various tables in the documents are designed to be consistent. However, the tables in the permit and fact sheet are not necessarily identical. Tables in the permit reflect the effluent limits and monitoring requirements that must be met to be in compliance with the permit. DEQ has rechecked the tables in the fact sheet for consistency with the permit. The following revisions have been made to the fact sheet. Table 15 of the fact sheet was revised to replace "Max daily average" with "Daily maximum" for flow monitoring, and "2/month" was replaced by "1/week" for CBOD₅ and TSS sample frequency.

Appendix 3-B

Hydroelectric Operation and Flows

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For water quality management, it is helpful to understand the hydrodynamics of the Spokane River. The river flows from the Coeur d'Alene Lake outlet west/northwest 111 miles to its confluence with the Columbia River at Lake Roosevelt behind the Grand Coulee Dam. Lake Spokane, also known as Long Lake, is approximately 30 miles northwest of Spokane, Washington. It is impounded by Long Lake Dam 64 river miles downstream from the Idaho/Washington border. Completed by the Washington Waterpower Company (now Avista Utilities) in 1915, the Long Lake Hydroelectric Development can produce 71 megawatts (MW) of electricity to meet the energy needs of approximately 35,000 households. The 23.5-mile-long reservoir has a maximum depth of approximately 200 feet. At an elevation of 1,533 feet, Lake Spokane impounds 105,000 acre-feet of water. It is the largest of Avista's Spokane River facilities with an average annual discharge flow of almost 8,000 cfs and historic maximums and minimums of 50,000 cfs and 90 cfs, respectively. It has no minimum discharge flow requirements.

Avista applied to the Federal Energy Regulatory Commission (FERC) for re-licensing of its entire "Spokane River Project" in July 2005. The Spokane River Project includes the Post Falls Dam in Idaho plus the Upper Falls, Monroe Street, Nine Mile, and Long Lake dams in Washington. Avista separately requested State Water Quality Certification from the Washington State Department of Ecology (WDOE) and the Idaho Department of Environmental Quality (IDEQ) under Section 401 of the Clean Water Act (CWA) for the project's dams. They proceeded to conduct public outreach and completed reports on potential project impacts on metals, water quality, sediment routing, and total dissolved gases to support their FERC applications.

IDEQ and WDOE issued Water Quality Certifications in 2008. The certifications are intended to regulate minimum stream flows and dissolved gases, among other conditions, to meet water quality requirements. Idaho's certification requires Post Falls Dam to discharge a minimum of 600 cfs through the critical low flow period from June through September. There is a drought year provision to reduce minimum summer flow to 500 cfs after Coeur d'Alene Lake levels fall by at least one foot below normal summer pool. These flows are well above the historical low discharge rates of 200-300 cfs for the Post Falls Dam operating under its previous FERC license and are being incorporated into reviews of water quality attainment. The City has requested to IDEQ that current FERC defined low-flow requirements be utilized for future permitting assessments but has not received a response from IDEQ regarding the request.

WDOE's certification included compliance with dissolved oxygen (DO) levels in Lake Spokane through a required Dissolved Oxygen Water Quality Attainment Plan (DO WQAP). Avista is required to evaluate and implement reasonable and feasible measures to improve DO conditions in Lake Spokane in proportion to its level of responsibility. WDOE included a 10-year compliance schedule. WDOE is also considering a minimum in-stream flow requirement for the Spokane Gage below the Monroe Street Dam of 850 cfs. This is above historical low flows about 10 percent of the time and it is unclear how it would be enforced.

Additionally, Avista has chosen to manage the population of carp and aquatic weeds to control DO levels. They have proposed that by managing carp populations phosphorus loading could be reduced

by approximately 4,183 kg/year. For aquatic weed management they plan on removing invasive weeds from the water as they believe this will limit the oxygen demand from photosynthesis and the phosphorus increase from decomposition at the end of the weed's life cycle. Multiple weeds were identified to manage with the most critical being Yellow Floating Heart, Eurasian Watermilfoil, and Water Lily. They estimate a reduction in phosphorus loading between 481 and 3852 kg/year.

Appendix 3-C

History of PCBs In Spokane River

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Polychlorinated biphenyls (PCBs) were originally developed in the 1940s. Due to their high boiling point and nonflammability they were used extensively in products like transformers. In 1979 the manufacturing and import of PCBs was banned due to evidence of their toxicity. During the early 1980s PCBs were analyzed in the Spokane River. This analysis led to fish consumption advisories and segments of the river being 303(d) listed for PCBs. A draft TMDL was created in 2006 but never implemented. In 2011 the Spokane River Regional Toxics Task Force (SRRTTF) was formed with the goal to reduce toxic compounds in the Spokane River. In 2016 the Washington Department of Ecology drafted an NPDES permit with PCB effluent limits based of 170 pg/L. This permit was based off a fish consumption rate of 175 g/day and a cancer risk level of 2.3×10^{-5} . 143 of the Human Health Criteria (HHC) were rejected by the EPA including PCBs and the EPA established a new HHC of 7.0 pg/L. This new limit was petitioned in 2017 and despite objections from the State and several Tribes, the new HHC were reversed and the 170 pg/L was reimplemented in 2020. This again was challenged which has led to the EPA reimplementing the 7.0 pg/L which was implemented in December of 2022. The EPA has a consent decree that orders them to create a TMDL for PCBs in the Spokane River by September 30, 2024.

CHAPTER 4

EXISTING WRF EVALUATION

City of Post Falls WRF Facility Plan

May 2024

Prepared by:



J·U·B ENGINEERS, INC.



**ESVELT
ENVIRONMENTAL
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4 EXISTING WRF EVALUATION

4.1 Facility Overview

The City of Post Falls' wastewater collection system routes sanitary wastewater from the service area to the Post Falls Water Reclamation Facility (WRF) via a combination of gravity sewers, pump stations, and force mains. The City of Rathdrum operates their own collection system which also routes sanitary wastewater to the Post Falls WRF.

The City of Post Falls (the City) pumps wastewater to their WRF through a system of approximately 30 lift stations and force mains. The treatment plant also receives wastewater from the City of Rathdrum's 8-mile parallel force main. Wastewater from Rathdrum is blended with City of Post Falls' wastewater and treated at the WRF.

The WRF is a secondary extended aeration activated sludge wastewater treatment plant. Wastewater is screened and de-gritted during preliminary treatment. Flow is then directed to an equalization (EQ) basin. From there it is split between two portions of the plant for biological nutrient removal using oxidations ditches and circular clarifiers. Flows from each half of the plant are then re-combined and pumped to tertiary treatment system. This system uses chemical additives and plate settlers to clarify the flow which then can be directed to membrane filtration. Flow is then disinfected via ultraviolet (UV) disinfection. Treated flow is currently discharged to the Spokane River downstream of the Post Falls Dam. Biosolids wasted from the secondary processes are dewatered utilizing belt filter presses and are then trucked off site for land application and/or composting. A diagram of the existing facility is shown in **Appendix 4-A**.

4.2 Recent WRF Upgrades

The Post Falls WRF is located on the south side of Seltice Way between McGuire Road and Chase Road. The treatment plant was originally constructed in 1984 and has undergone periodic upgrades since then. A synopsis of the WRF improvements include:

- 1984 Treatment Plant Construction
- 1987 Phase 1 Stage 2 – 1.0 million gallons per day (MGD) Treatment Plant Expansion
- 1988 Sludge Dewatering Facilities
- 1990 Phase 2 Stage 1 – 1.5 MGD Treatment Plant Expansion
- 1995 Phase 2 Stage 2A – New Headworks
- 1996 Phase 2 Stage 2B – Treatment Plant Expansion (including biological phosphorus removal)
- 2001 Ultraviolet (UV) Disinfection and Standby Power
- 2001 Vactor Truck Dump Station
- 2002 Headworks Bypass Piping and Channel Protection Coating
- 2002 Sludge Holding Tank 2 Aeration

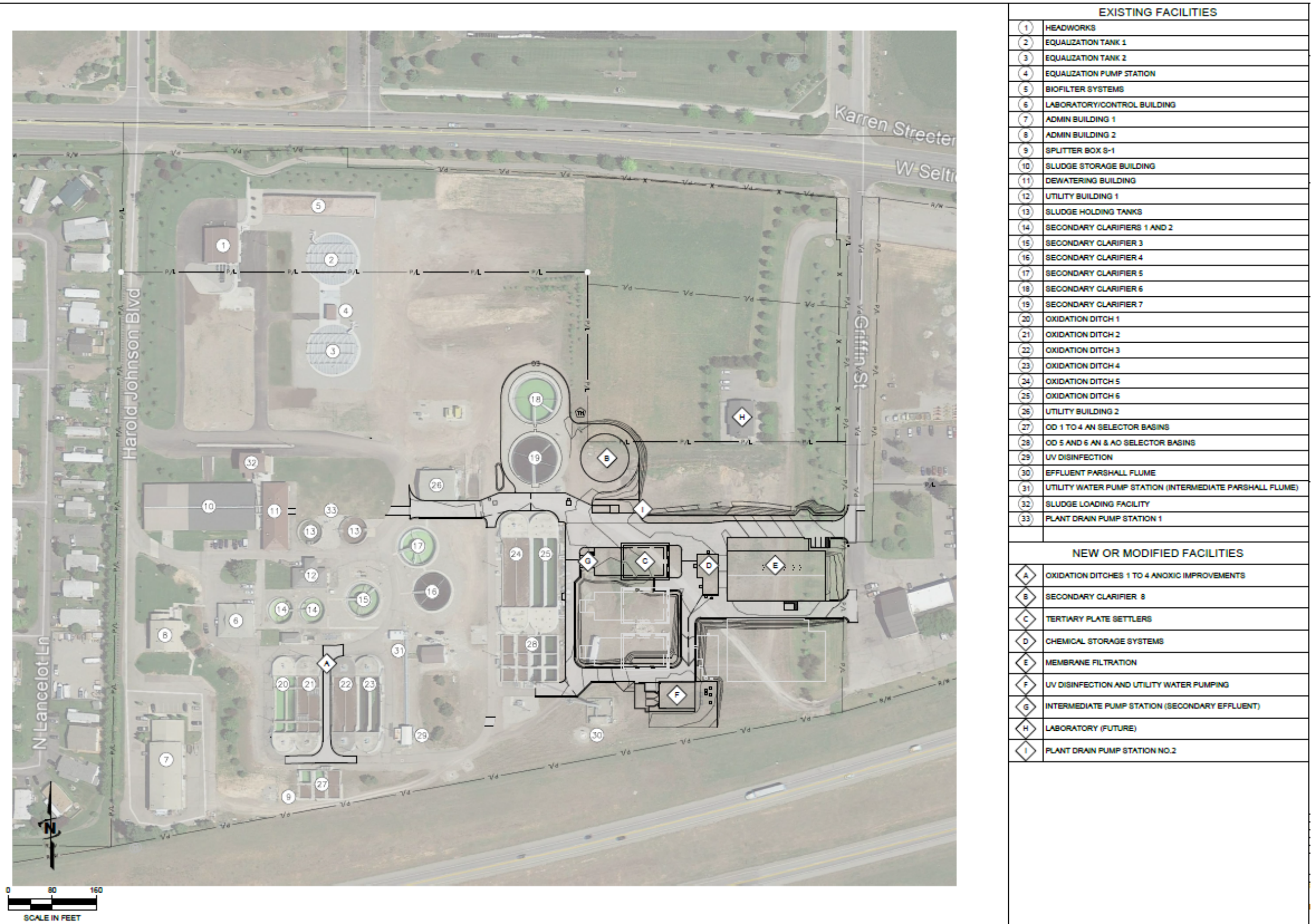
- 2003 Oxidation Ditch 2 Aeration Equipment
- 2006 Oxidation Ditches 1 and 3 and Clarifier Upgrades
- 2011 Upgrades:
 - Biological Nutrient Removal (BNR) Facilities
 - Secondary Treatment Expansion
 - Headworks Screening and Odor Control
 - Belt Filter Press Expansion
 - Electrical and Standby Power Improvements
- 2015-2017 Headworks, Equalization and Biosolids Handling
 - New Headworks
 - Equalization Basins
 - Biofilter System
 - Sludge Loading Facility
- 2020-2023 Tertiary Treatment Improvements
 - Oxidation Ditch 6 Secondary BNR Capacity Expansion
 - Oxidation Ditch 1 to 4, A²O conversion
 - Secondary Clarifier 8
 - Intermediate Pump Station
 - Tertiary Clarification (Plate settlers)
 - Tertiary Membrane Filtration
 - UV Disinfection Upgrades
 - Utility Water Pump Station

4.3 Existing Unit Process Capacity and Performance

4.3.1 Introduction

Each of the existing unit processes at the WRF have been evaluated to determine its current treatment capacity, performance, as well as to identify deficiencies and capacity limitations. Data gathered from the past six years have been utilized to evaluate the performance of these processes. The detailed description of each unit process and its evaluation is included in subsequent sections. The plant process diagrams are shown in **Appendix 4-A**, and an aerial photo showing the existing location of the major unit processes and facilities on the WRF site is shown in **Figure 4-1**.

Figure 4-1 – Post Falls WRF Aerial Photo and Site Layout



4.4 Headworks

Preliminary treatment occurs at the headworks where the influent wastewater is screened and de-gritted and the influent flow rate is measured. Influent flow measurement is used for process control. Sampling is used for process control and is required by the Idaho Pollutant Discharge Elimination System (IPDES) Permit.

The WRF receives wastewater from both the City of Post Falls and the City of Rathdrum. Separate Parshall flumes are provided for each city so that the flows may be independently measured and sampled. Following the flumes, the flows are combined for treatment. Flow can then be injected with magnesium hydroxide for pH adjustment and alkalinity addition to support nitrification.

The combined flow travels through one of two screens that remove garbage and debris. The screenings are washed to remove organics, then dewatered and compacted and sent to the landfill for disposal. Following the screens, the wastewater passes to the vortex grit removal system. After grit removal, the wastewater leaves the headworks and flows to either the equalization system or to Splitter Box S-1 for distribution to the oxidation ditch biological nutrient reduction system. A schematic of the Headworks is shown in **Figure 4-2** and **Figure 4-3** with an overview of the headworks in **Table 4-1**.

Figure 4-2 – Headworks Layout-Upper Level

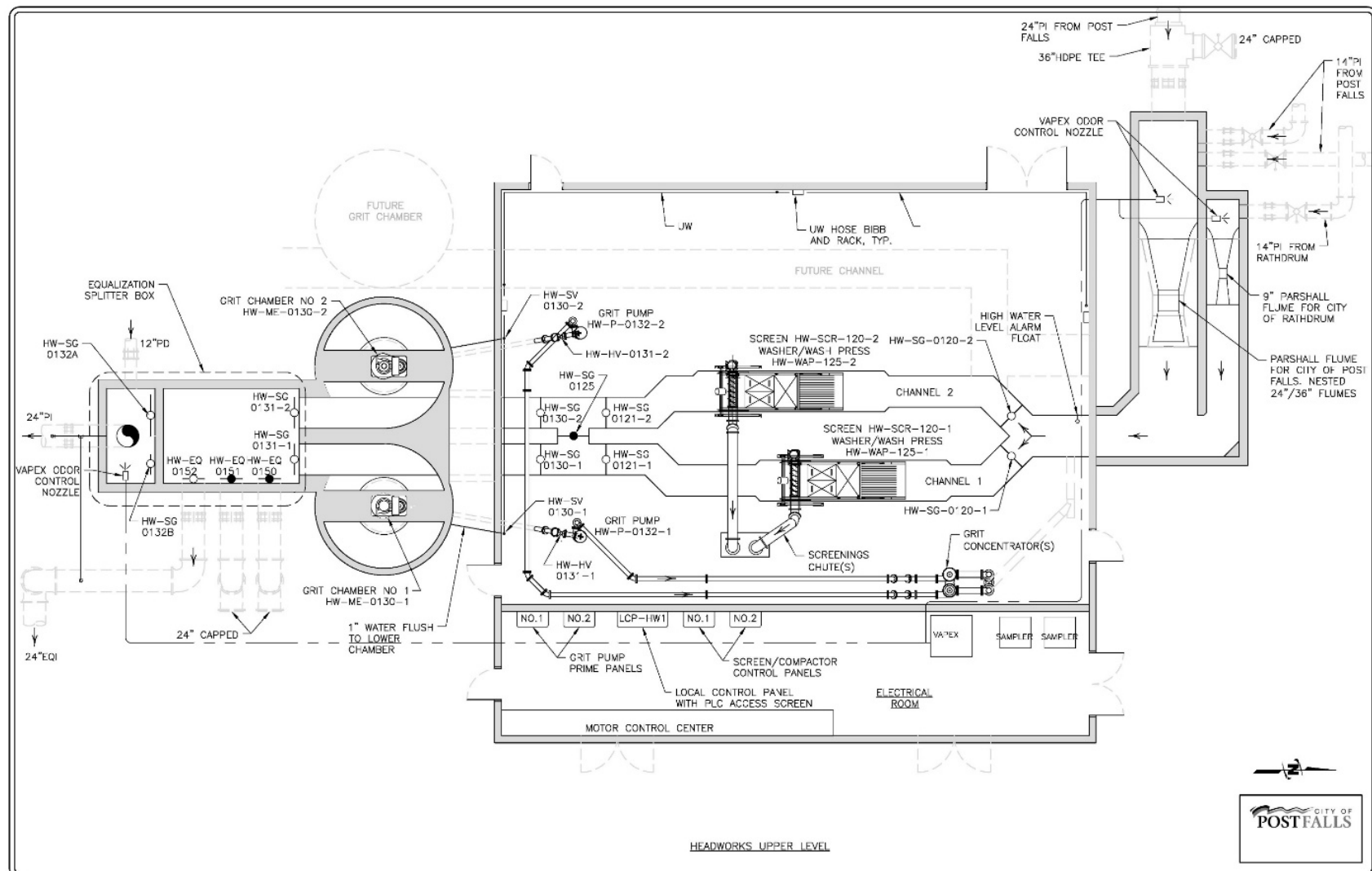


Figure 4-3 – Headworks Layout, Continued - Lower Level

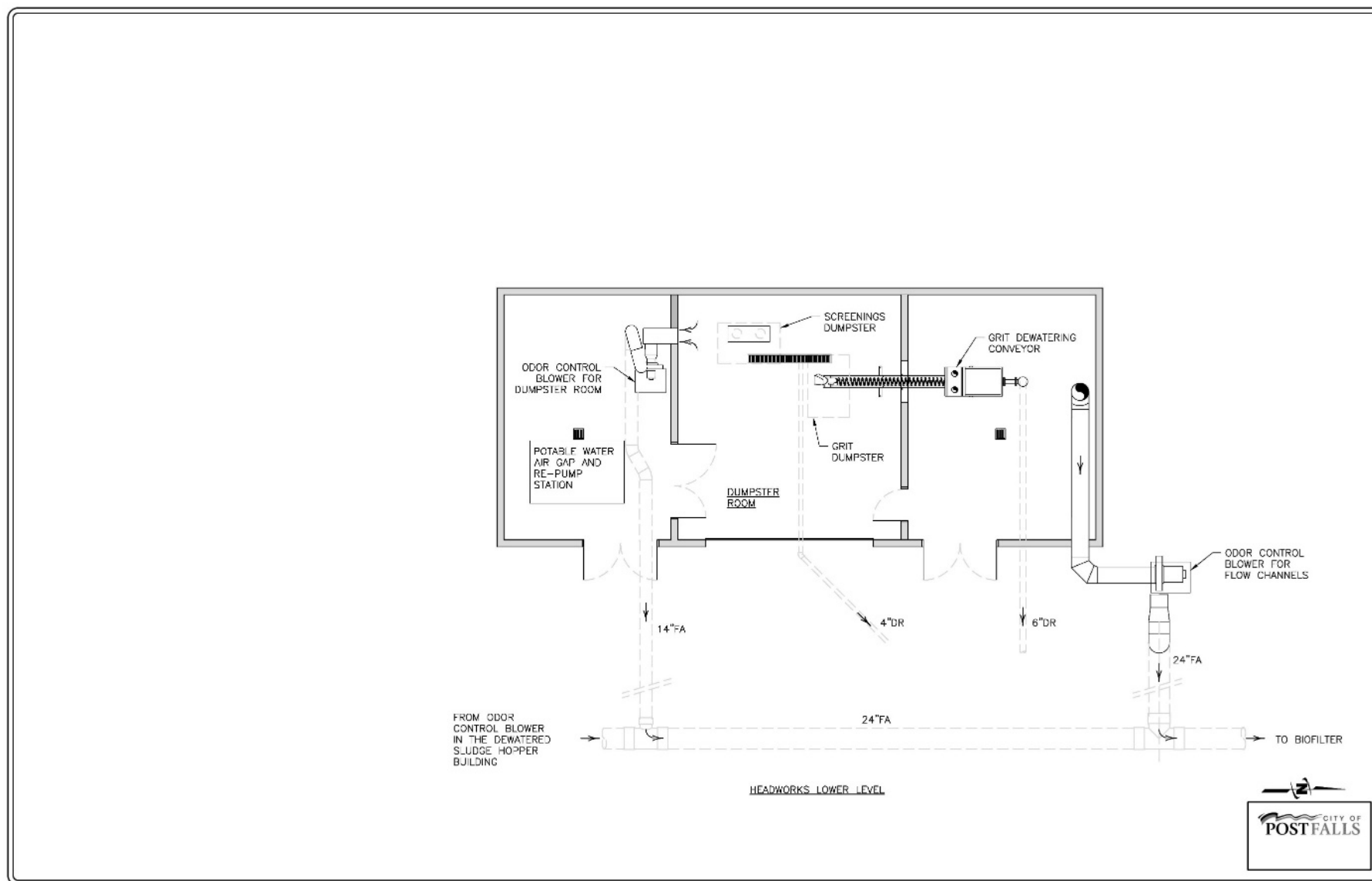


Table 4-1 – Headworks Design Criteria

Parameter	Value
Fine Screens	
Quantity	2
Type	Step Screen
Opening	3 mm
Capacity	12 MGD (each)
Grit Removal	
Quantity	2
Type	Vortex
Capacity	12 MGD (each)
Classifier	1 shared
PH Chemical System	
Chemical	Magnesium Hydroxide
Storage	Bulk
Delivery	Bulk Liquid Delivery

Performance: No significant performance issues have been identified in the current vapex odor control system (including the NPW2 air-gap booster pump system has been taken out of service).

Reliability: There is no passive screening bypass channel. In the event of a complete power or component failure the influent screens continue to bind with debris and upstream water levels rise and will eventually overtop the channel walls. The screening and grit equipment age varies from 2009 to 2016 and will be nearing the end of its useful life within the planning period.

Safety: No safety concerns have been identified with the current system.

Observed Deficiencies: No deficiencies with this system have been identified; however, coordination with Odor Control improvements and future collection system (force main) connection into the headworks need coordinated. Future phases of collection system work will require additional collection box expansion at the influent channel to the headworks. Additionally, the city operations staff have discussed potentially expanding the building or sealed cover system over these channels/boxes as a method of improving odor control and to mitigate freezing issues and long sample pipe runs associated with the automatic composite sampler system.

4.5 Flow Equalization

The primary objective of flow equalization for municipal wastewater plants is simply to dampen the diurnal flow variation, thereby achieving a constant or nearly constant flow rate through the downstream treatment processes. The system also dampens the concentration and mass flow of wastewater constituents (i.e., BOD, TSS, $\text{NH}_3\text{-N}$, TP, etc.) by blending the wastewater in the equalization basin. The result is a more uniform loading of the treatment processes. Flow equalization can significantly improve the treatment performance and reduces the required size of downstream facilities for managing hydraulic and organic peak loading. A schematic of the equalization system is shown in Figure 4-4.

Figure 4-4 – Equalization Schematic

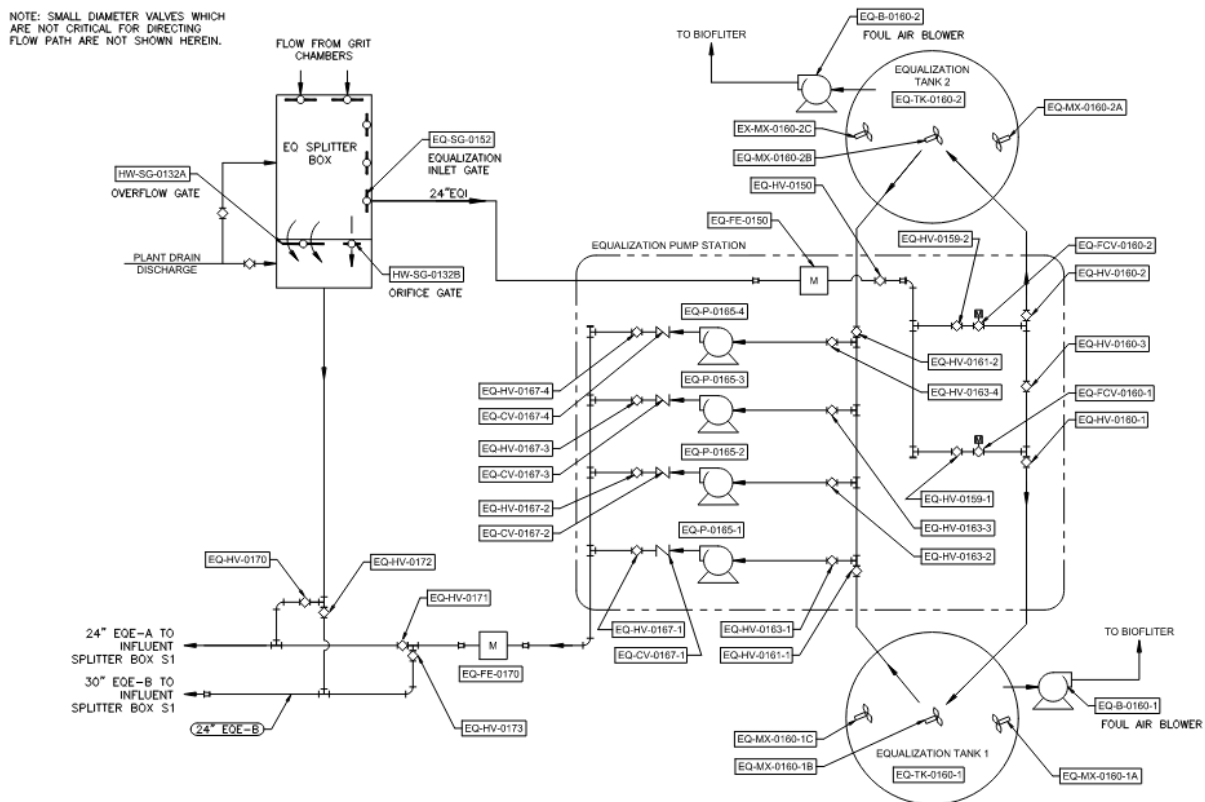


Table 4-2 – Flow Equalization Criteria

Parameter	Value
Equalization Basin	
Quantity	2
Volume (each)	810,000 gal
Mixers	
Type	Submersible axial
Quantity	3 (per basin)
Power	2 at 15.4 HP, 1 at 5.4 HP (per basin)
Pumps	
Type	Dry Pit
Quantity	4
Capacity	12 MGD (all pumps at peak)
Power	2 at 20 HP, 2 at 50 HP

Performance: This system has proven to be able to dampen peak flow variations significantly and provides for short-term forward flow diversion during maintenance and construction activities.

Reliability: No issues have been identified with the reliability of this system.

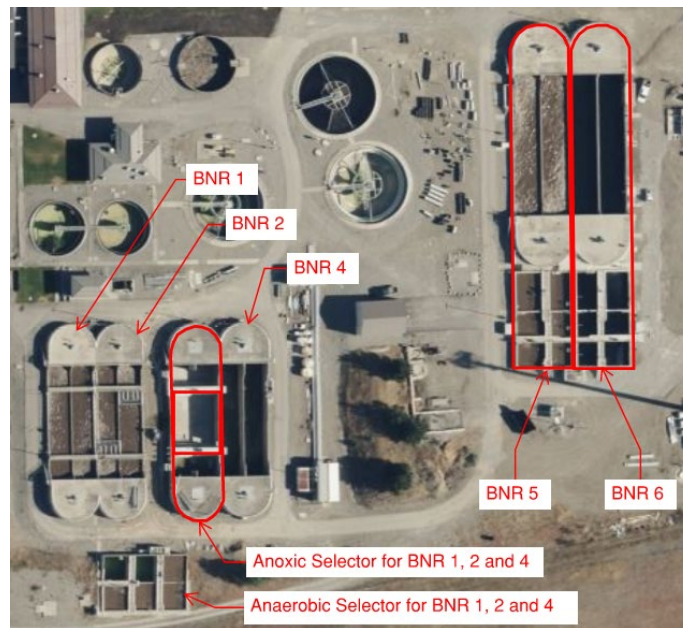
Safety: No safety concerns have been identified with this system.

Observed Deficiencies: The system does not respond quickly to extreme variations in flow during peak diurnal fluctuations. The current programming approach allows some fraction of those peaks to pass to the downstream Splitter S-1. Additional (quicker) responsiveness would likely require increased wear on the automated EQ feed control valves and has not been implemented to date but is under testing as part of the current SCADA improvements. Alternatively, another strategy to mitigate extreme peak handling would be to direct all flow to EQ, and then use the EQ pump station to pump to S-1, but this would drastically increase pumping (electrical costs).

4.6 Biological Treatment

The WRF has two secondary biological treatment trains. Biological treatment utilizes microorganism populations to remove contaminants, including carbonaceous biochemical oxygen demand (CBOD), the conventional measure of wastewater pollutant load. The biological treatment system at the WRF is designed with enhanced capability to also remove ammonia and phosphorus. Both trains incorporate anaerobic, anoxic, and aerobic process tanks with sludge recycle and internal recirculation to provide enhanced biological nutrient removal. The BNR Facilities are shown in Figure 4-5.

Figure 4-5 – BNR Facilities Overview



Removal of CBOD and ammonia have been excellent and consistent, with typical effluent discharges well under limits listed in the City's discharge permit. Phosphorus removal has also been outstanding. Effluent phosphorus concentrations are representative of state-of-the-art biological phosphorus reduction performance.

Operations have been adapted over the years to ensure consistent phosphorus removal which meets very low effluent limitations through seasonal transitions that can temporarily limit removal efficiency and put permit compliance at risk. When needed, the facility operators have the option to utilize chemical addition. Aluminum Chlorohydrate can be added as necessary to precipitate dissolved phosphorus into particulate form that will settle in the secondary clarifiers and be removed with the biological sludge.

The East Train (the newer train BNR Train 5 and 6) was specifically designed for nitrogen removal in addition to conventional pollutants, ammonia, and phosphorus. Nitrogen removal capability was added to the West Train (Oxidation Ditches 1 through 4) during the 2020-2023 upgrade project. The revisions to the West Train converted some of the existing aerobic volume (Oxidation Ditch 3) to serve as additional anoxic volume, where denitrification occurs by recirculating mixed liquor at a high rate. Denitrification is the biological conversion of nitrate nitrogen to nitrogen gas, which is released to the atmosphere. The conversion of Oxidation Ditch 3 effectively reduced CBOD and ammonia removal capacity in the West Train in order to add the nitrogen removal capability. The anoxic volume also improves biological phosphorus removal by removing nitrates, which interfere with phosphorus removal efficiency. Since the biological treatment process reduces phosphorus and nitrogen, it is classified as a Biological Nutrient Removal (BNR) plant.

4.6.1 West Side BNR Trains 1, 2 and 4

The West side biological treatment facilities include the original biological treatment facilities (Oxidation Ditch 1), and the tanks installed in the subsequent expansion projects. Oxidation Ditches 2, 3 and 4 were added to keep up with growth, and the anaerobic tanks were installed later to achieve biological phosphorus removal.

The conversion of Oxidation Ditch 3 to anoxic tanks in the 2020-2023 project has resulted in the West Train having equivalent nutrient removal capability as the newer East Train (BNR Train 5 and 6), which was designed with separate anoxic basins. Oxidation Ditches 1, 2 and 4 are collectively referred to as “Train 1” in the 2016 Facility O&M manual (issued prior to the 2020-2023 upgrades). The West BNR facilities as designed are summarized in **Table 4-3**.

Table 4-3 – West BNR Trains 1, 2 and 4

Parameter	Value
Design Flow (MGD)	
Average Day	1.91
Max Month	2.06
Peak Day (And Peak Hour Downstream of Equalization)	3.21
Design BOD (PPD)	
Average Day	4133
Max Month	4908
Peak Day	5718
Design NH ₃ -N (PPD)	
Average Day	529
Max Month	619
Peak Day	715
RAS Denitrification Tanks	
Total Volume	129,000 gallons
Number of Tanks	2
Anaerobic Basins	
Total Volume	259,000 gallons
Number of tanks	4
Anoxic Tanks	
Total Volume	560,000 gallons

Parameter	Value
Number tanks - one per aeration basin, converted OD3	3
Aeration Basins (Oxidation Ditches)	
OD1 Volume	500,000 gallons
OD1 Aerators – 2 @ 60 HP ea	120 hp
OD2 Volume	500,000 gallons
OD2 Aerators	120 hp
OD4 Volume	560,000 gallons
OD4 Aerators	120 hp

4.6.2 East Side BNR Trains 5 and 6

Concrete structures for new aeration basins (oxidation ditch configuration) and the associated anaerobic and anoxic basins to achieve BNR were constructed in the 2016-2017 expansion project. Half of this train (ditch 5 and its associated anaerobic/anoxic tanks) has been in operation since it came on-line following the 2016-2017 expansion. The other half (ditch 6 and associated anaerobic/anoxic cells) was fitted with process equipment in the 2020-2023 project and has recently been placed in service. A summary of BNR Trains 5 and 6 are shown in **Table 4-4**.

Table 4-4 – East BNR Trains 5, 6

Parameter	Value
Design Flow (MGD)	
Average Day	2.82
Max Month	3.05
Peak Day (And Peak Hour Downstream of Equalization)	4.74
Design CBOD (PPD)	
Average Day	6115
Max Month	7262
Peak Day	8460
Design NH3-N (PPD)	
Average Day	783
Max Month	917
Peak Day	1058
Anaerobic Basins – 117,137 gal per train	234,274 gallons total
Number tanks 2 per train	4 total
Anoxic Tanks – 353,903 gal per train	707,806 gallons total
Number tanks - 2 per train	4 total
Aeration Basins (Oxidation Ditches)	
OD5 Volume	1,154,000 gallons
OD5 Aerators – 2 @ 125 HP ea	250 hp
OD6 Volume	1,154,000 gallons
OD6 Aerators – 2 @ 125 HP ea	250 hp

4.6.3 Design Criteria and Existing Facility Capacity

Capacity was independently calculated for comparison and updates to the documented design capacity. The evaluation was based on existing facility tank volumes and equipment, current operational parameters, and the current influent data, which reflects the distribution of the waste load between carbonaceous and nitrogenous oxygen demand.

A summary of the comparison of total estimated BNR capacity per the existing facility documentation and this independent evaluation is presented below in **Table 4-5**. The table lists only averages to simplify the presentation. The analysis included full evaluation of maximum month and maximum day flows and loading conditions using peaking factors consistent with the projections shown in

Chapter 2. The facilities would handle those maximum month and maximum day conditions associated with the averages presented here.

Table 4-5 – Total BNR Capacity, Existing Facilities

Parameter	Value	Value
	Per 2020 Tertiary Improvements Upgrade Plan Set Design Criteria ^(a)	2023 New Facility Plan Evaluation Capacity ^(b)
Design Flow (MGD)		
Average Day	4.73	4.66
Design CBOD (PPD)		
Average Day	10248	9738
Design NH3-N (PPD)		
Average Day	1312	1727

- a. Proportionally adjusted based on reduction of total aerobic volume due to conversion of OD3 to Anoxic.
- b. Assumes a cold-season operational target design mixed liquor suspended solids (MLSS) inventory of 3750 mg/L. This is higher than reported operating target of 3300 mg/L but is considered reasonable and sustainable over a period of several months given the physical facilities and aeration and mixing capabilities of existing equipment.

Table 4-6 breaks down the capacity evaluation between the West and East Trains, with the intent of showing the incremental increase in capacity from bringing units OD5 and OD6 online. These aeration basins are the presumed size for future expansion increments, and therefore the nominal capacity increase that would be expected for each incremental future expansion in the BNR system.

Table 4-6 – West Train (BNR Train 1,2, and 4) and East Train (BNR Train 5&6) Capacity, Existing Facilities

	TOTAL BNR Capacity	West Train (OD1, OD2, OD4)	East Train (OD5, OD6)
Design Flow (MGD)	4.66	1.88	2.78
Design CBOD (PPD)	9738	3935	5803
Design NH3-N (PPD)	1727	698	1029

The capacity presented in the tables is based on estimating the existing facilities, as currently configured, ability to meet NPDES permit limitations for CBOD and NH3-N. Critical parameters utilized for developing this update to the capacity estimate were based on recent (last three years) operational data.

Table 4-5 shows minor differences in apparent wastewater flow and loading capacity between the design indicated in the plans for the current facility and this evaluation. The differences are due principally to the substantially higher ammonia loading (relative to flow and CBOD), in comparison to the 2020 project design, which was based on influent data collected prior to the 2013 facility

planning efforts. The apparent increase in capacity for NH₃-N but decrease in capacity for CBOD is the result of a shift in how the overall capacity is apportioned between NH₃-N and CBOD, to be consistent with the more recent data showing the higher ammonia relative to flow and CBOD. There were also some minor differences in the calculations and methods for estimating capacity, though new data supports critical kinetic parameters consistent with the previous design for biological treatment upgrades.

There is some uncertainty in the estimation of capacities listed in **Table 4-5** and **Table 4-6**. There was limited data available for Total Kjeldahl Nitrogen (TKN), which includes organic nitrogen largely converted to ammonia prior to being oxidized in the aeration basins. Literature values were used to estimate the organic nitrogen that would contribute to the need for nitrifying organism mass and nitrogenous oxygen demand. The influent TKN was estimated to be 1.6 times the ammonia, based on ratios reported in Metcalf and Eddy¹, for untreated domestic wastewater.

4.6.4 Redundancy

With the largest aeration basin (OD5 OR OD6) out of service, the facility will have capacity to handle the flows and loads as indicted in **Table 4-5**, and corresponding maximum month and maximum day peaks. Maintaining performance and effluent limitations with the largest unit out of service during the coldest months may require adjustments to operational parameters to increase metabolic rates in the aerobic zones. Adjustments could include temporarily higher than normal MLVSS, which could result in encroachment into the safety factor for aerobic solids retention time (SRT). Scheduled maintenance requiring taking a basin out of service should be done outside of the critical weeks of coldest winter weather to reduce impacts to operations and treatment performance. The oxidation ditch is a very robust configuration, and extremely unlikely to need unscheduled time down and is not a redundancy requirement per IDAPA.

A more likely scenario is an aerator is out of service and is required under IDAPA. With one of the largest aerator units out of service, the remaining aerators have enough aeration capacity to meet the needs, but the operators may want to change the flow split to reduce the amount of flow directed to the basin with the aerator out of service. If re-proportioning flow is not possible, the effluent from the under-aerated basin will blend with effluent from the other basins, so only a small fraction would contribute to increasing effluent CBOD or ammonia.

4.6.5 BNR System Observed Deficiencies

The following deficiencies list was derived in part from direct communication with operations staff:

¹ Table 3-15, Wastewater Engineering Treatment and Reuse, Fourth Edition, Metcalf and Eddy, 2003. McGraw-Hill, Boston.

- Splitter S1 flow distribution has limited adjustability. An operational enhancement could include downward opening gates at S1 to increase refinement in how flow is distributed, improving operational flexibility by allowing changes to the flow distribution under some alternative operations scenarios. For example, if one of the oxidation ditches has one aerator out of service, it may be desirable to keep the basin in service but reduce the loading to that basin in comparison to the other tanks. This strategy would maximize capacity and performance if a single aerator is out of service.

It is recommended revisions to Splitter Box S1 be considered in the next expansion project (when OD7 will be constructed). As future units come on-line, the value of improved operational flexibility will increase.

- Maintenance on older equipment is on-going. The facility operators continually assess equipment for needed maintenance and replacement and implement the maintenance projects as needed.

4.6.6 Denitrification and Total Nitrogen Removal Capacity

Total Nitrogen (TN) removal capacity may limit future effluent disposal options. As noted above, the East Train was designed with nitrogen removal capability (with the ability to recycle mixed liquor at high rates through the anoxic volume for denitrification of nitrates). With the 2021-2022 project, the West Train was modified to be able to incorporate denitrification also. At present, there is not a permit limitation for effluent total nitrogen, so denitrification has not been emphasized in operations. Nitrogen data is too limited to allow a site-specific assessment of nitrogen removal capacity based on past performance. Therefore, this evaluation utilized TKN estimates derived as per the above discussion, along with literature values for denitrification rates adjusted for site specific conditions. The purpose of the nitrogen removal capacity evaluation was to independently assess the suitability of the existing facilities to meet current permit limitations and other treatment goals outlined in the previous facility plan, including providing for future total nitrogen reduction with effluent goals not strictly defined. Additional nitrogen data, collected at multiple points within the treatment process over a range of operating strategies, would be necessary to provide a more precise estimate of removal capacity.

This evaluation estimates there is currently capacity for substantial denitrification at existing flow and loads during the warmer half of the year. This is consistent with expectations given the existing facilities were designed with the potential for future nitrogen removal. It is estimated that during the coldest part of the year, denitrification would be very restricted, since organisms responsible for converting nitrite to nitrate and nitrate to nitrogen gas are very sensitive to cold temperatures.

During the main growing season from May to late fall, when basin temperatures are nominally 16°C or higher, denitrification is expected to be significant, with 90 percent or greater removal of total nitrogen if operating with an internal recycle rate of nominally four to five times the influent flow. This level of removal may result in effluent total nitrogen of about 10 mg/L or less for much of the warm part of the year. Current Idaho Class A Recycled water rules require less than 30 mg/L for

residential irrigation and other non-recharge uses. Reuse applications that include groundwater recharge require less than 10 mg/L total Nitrogen (*reference IDAPA 58.01.17- Recycled Water Rules*).

If consistently lower total nitrogen is necessary for the preferred disposal alternative (ie less than 10 mg/L consistently during the warm part of the year, or for a longer season), then future expansions may need to consider additional anoxic volume will need to be constructed. The total amount of new anoxic volume will depend on if the low total nitrogen concentration in the effluent is needed on a seasonal or year-round basis. If it is needed year-round, then the volume of anoxic tanks will ultimately need to be approximately the same volume as the aeration basins.

4.6.7 BNR – Future Expansion Steps and Timeline

BNR facilities were evaluated under projected future loading conditions, as well as with future expansions of the process consistent with current plans. **Table 4-7** presents future capacities with each increment of expansion, along with approximate year when the new facilities will need to be put in service based on projected loads. Capacities are presented as annual average flows to simplify presentation, though the analysis considered flows and loadings for all constituents at projected annual averages, maximum month, and maximum day, consistent with the projections presented in Chapter 2 of this Facility Plan.

Table 4-7 – BNR Facilities Under Projected Future Loading

BNR Facilities	Capacity (Average Annual Flow, MGD)	Year projected to be exceeded
OD1, OD2, OD4, OD5, OD6 (All Existing)	4.66	2028 +/-
All Existing Plus OD7	6.06	2036 +/-
All Existing Plus OD7 AND OD8	7.45	2040 +/-

In the timeline presented in **Table 4-7**, it is assumed operations would be optimized for the plant to perform as projected, with a minimum SRT of 14 days and minimum MLSS of 3750 mg/L during the winter. This MLSS is reasonable and maintainable when loading increases, based on engineering judgement and experience at similar scale facilities with vertical turbine aeration equipment and oxidation ditch tank configuration. Current operations target approximately 3,300 mg/L in the coldest months. At this level of solids inventory, projected nitrification capacity would be reduced by nominally 10 percent.

It is recommended vertical turbine aerators are installed in conjunction with future OD7 and OD8 and be sized consistently with the OD5 and OD6 expansions. Calculations indicate this sizing is adequate and appropriate for meeting oxygen demand under a variety of scenarios, include peak loadings with an aerator out of service, and if denitrification is lost or reduced.

As with the estimate of the existing facility capacity, there is some uncertainty with the above projected capacities, including the unknown organic nitrogen and complexity of some of the organic nitrogen species that must be first oxidized to ammonia before nitrification. There is presently not enough Total Kjeldahl Nitrogen (TKN) data to increase confidence in the timeline projection. It is recommended the City collect additional TKN data (twice per month coordinated with CBOD and ammonia for correlation) from the plant influent, which could help to refine the expansion timeline, by up to a year or two in either direction.

As the flows and loadings approach capacity for each successive incremental expansion, there will be operational challenges to maintain satisfactory performance until the next unit comes online. Specifically, if a basin must be taken out of service in the winter, significant operational adjustment will need to be made – run at higher MLSS and adjust wasting rates. Even with those adjustments, at full capacity if a basin is out of service, the plant will be operating with a lower factor of safety than recommended, so any scheduled removal from service for major tank volumes should be done in the warmer months.

Table 4-7 projected capacities assume primary clarification is not implemented in the interim time frame, along with the associated revisions to solids handling. If primary clarification were to be implemented, it is expected it could relieve nominally 25 percent of the BOD load, which is the largest single source of oxygen demand. The aeration basin volume requirement is tied directly to nitrogen loading – ammonia nitrogen and organic nitrogen. Reduction of nitrogen species in primary clarifier facilities is difficult to estimate however, since the fraction of organic nitrogen can vary significantly at different locations, and the fraction of organic nitrogen removable through sedimentation also varies for different communities and likely varies through the year. Typical literature values for removal of organic nitrogen through primary clarification is 10 percent to 20 percent. This is estimated to represent five to six percent of TKN driving the aeration basin sizing. Additionally, a reduction in BOD load (if primary clarifiers are installed) may shift the activated sludge population toward a higher proportion of nitrifiers, which indirectly can help nitrification capacity. Thus, if primary clarification becomes part of future expansion plans, it is likely to delay the need for each additional aeration basin volume for up to four to five years (if primary clarifiers are in service prior to exceeding capacities listed above).

It is also important to note that the equalization basins are a critical component in this capacity analysis, since it effectively limits peak hour loading of CBOD and ammonia to the maximum day values and ensures hydraulic residence times in the basins do not drop below the minimums caused by maximum day flows.

4.7 Secondary Clarification

Secondary clarifiers separate activated sludge solids from the treated effluent. Most of the solids are returned to the system to treat additional waste using the Return Activated Sludge (RAS) pumps. The activated sludge and BNR process generates excess solids, so a portion of the settled sludge is pumped to waste to maintain control of the sludge inventory.

4.7.1 Secondary Clarifiers 1 to 5

Secondary Clarifiers 1 through 5 serve the West BNR Trains 1, 2 and 4. Flow from the BNR trains goes to a splitter box, where it is combined. The clarifier splitter box allows clarifiers to be taken out of service independently from the aeration basins/biological treatment trains. Clarifiers 1's through 5's properties are summarized in **Table 4-8** and shown in **Figure 4-6**.

Table 4-8 – Clarifiers 1 to 5, West Side BNR Trains 1, 2 and 4

Clarifier (year placed in service)	Diameter (ft)	Sidewall Depth (ft)	Surface Area (sq.ft)	Notes
Clarifier 1 (1983)	50	10	1965	Not used
Clarifier 2 (1983)	50	10	1965	Not used
Clarifier 3 (1990)	60	12	2830	Staggered Plow sludge collection
Clarifier 4 (1996)	65	14	3320	Spiral rake sludge collection
Clarifier 5 (1996)	65	14	3320	

Clarifiers 1 and 2 are the oldest clarifiers at the Post Falls WRF. They are not used because they are impractically small and the mechanisms are not configured with advanced performance enhancement features such as flocculating feed wells, full radius skimmers, and additional depth. Clarifier 3 is not normally used but is maintained to be readily available to put in service if needed.

Clarifiers 3, 4 and 5 have sufficient hydraulic capacity (based on necessary overflow rate for the application) to handle current flows for the West Train and for projected maximum capacity for the West Train.

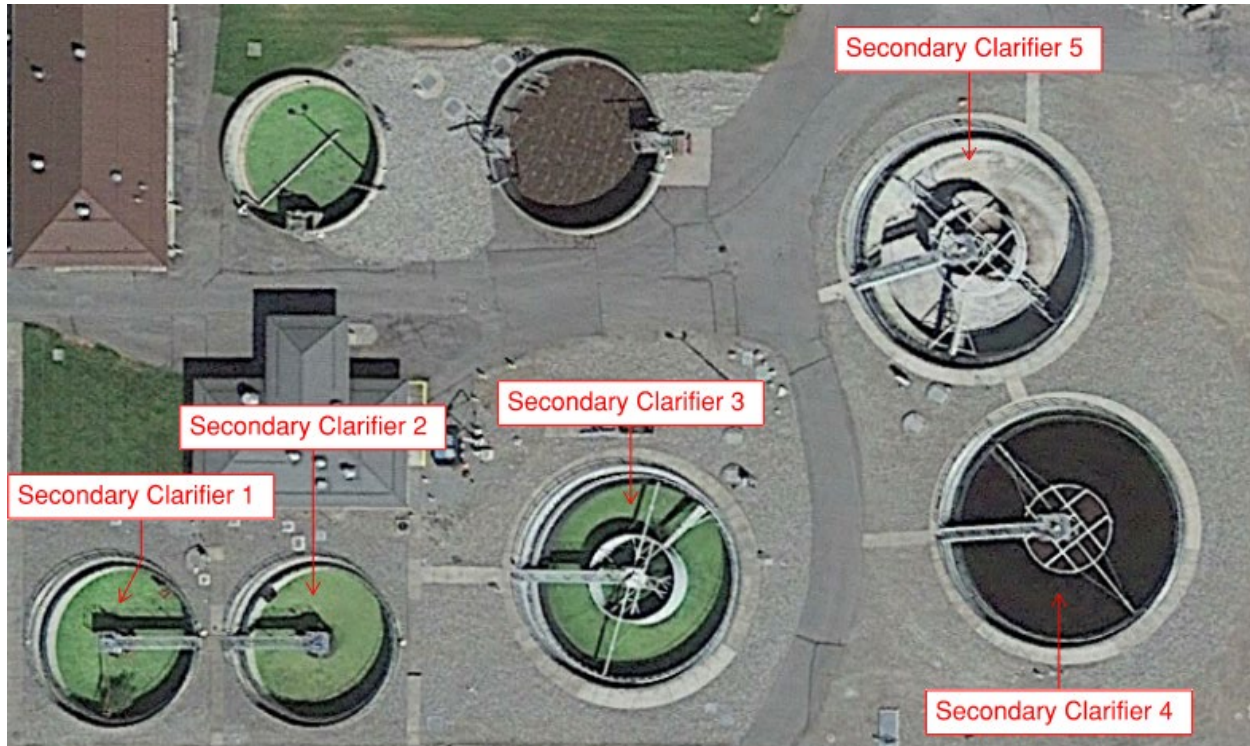
Redundancy, in terms of hydraulic capacity, is adequate. With either clarifiers 4, or 5 out of service, the remaining two units have sufficient hydraulic capacity to handle 100 percent of the projected normal flow that would pass through the West Train (BNR Train 1,2 and 4). However, Clarifier 3 may not perform as efficiently as clarifier 4 or 5 due to it having less depth and a different configuration of the sludge collection mechanism, so overall performance of West BNR trains may be slightly degraded while clarifier 4 or 5 is out of service. Once blended with effluent from East BNR trains, and treated through the tertiary facilities, this slight degradation would not be expected to be measurable.

Solids loading capacity is also sufficient for the West side clarifiers. With one unit out of service, two clarifiers have adequate solids loading capacity to handle 100 percent of the flow through the West Train (BNR Train 1,2 and 4).

Clarifiers 1 and 2 are unlikely to be needed under future conditions, principally due to two elements of recent upgrades at the plant:

1. The implementation of equalization reduces the peak flows through the clarifiers, so capacity is driven by average to maximum day flows, not peak hour or peak instantaneous flows.
2. The project to convert Oxidation Ditch OD3 to anoxic basins reducing the overall BNR capacity that will ultimately be directed to the West Train, reducing the loading to the West Train's clarifiers.

Figure 4-6 – Secondary Clarifiers 1 through 5



4.7.2 Secondary Clarifiers 6 through 8

Secondary Clarifiers 6, 7, and 8 serve the East BNR trains 5 and 6. Flow from the East BNR trains goes to a splitter box, where it is combined. The clarifier splitter box allows clarifiers to be taken out of service independently from the aeration basins/biological treatment trains. Clarifiers 6's through 8's properties are shown in **Table 4-9** and **Figure 4-7**.

Table 4-9 – Clarifiers 6 to 8, East Side BNR Trains 5 and 6

Clarifier (year installed)	Diameter (ft)	Depth (ft)	Surface Area (sq.ft)	Notes
Clarifier 6 (2011)	80	14	5026	Spiral Rake Sludge collection
Clarifier 7 (2011)	80	14	5026	
Clarifier 8 (2022)	80	14	5026	

East Train Clarifiers 6, 7, and 8 have sufficient capacity to treat all flow through the East BNR Trains up to the maximum BNR capacity indicated previously, from both a hydraulic and solids loading capacity standpoint. If one of these clarifiers single clarifier is out of service, the other two clarifiers have enough capacity handle 100 percent of the flow through the East BNR Trains, so redundancy is satisfactory.

Figure 4-7 – Secondary Clarifiers 6 through 8



4.7.3 Secondary Clarifier Capacity, Future Conditions

The West BNR Train 1,2 and 4 is not expected to see secondary treatment capacity expansion. The three clarifiers serving that side of the plant will continue to be adequate, and Clarifiers 1 and 2 may be considered for re-purposing.

The East BNR trains will need clarifier construction to keep up with BNR train expansion. It is predicted each additional clarifier will be needed nominally one to three years after each new incremental expansion of the biological treatment process, if increments of expansion continues with like-sized basins for future oxidation ditches. A summary of the timeline of projected clarifier needs is shown in **Table 4-10**.

The Clarifier capacity expansion timeline incorporates the redundancy requirement, which is the ability to treat the maximum flow with the single largest unit out of service. While there is some ability to shift flows between the West Train and the East Train, for the purposes of programming future clarifier construction, this redundancy requirement will be maintained for each train independent of the other train.

Table 4-10 – Clarifier Facilities Under Projected Future Flows

BNR Facilities	Single Train Capacity (Average Annual Flow, MGD)	Combined (Total Plant) Capacity (Average Annual Flow, MGD)	Year projected to be exceeded
West Train (with one clarifier unit out of service)	1.88	4.9	N/A – Expansion to occur in East Train
East Train Clarifiers 6, 7, 8	3.02	4.9	2031 +/-
East Train expanded – Clarifiers 6, 7, 8 (existing) + 9 (future)	4.52	6.4	2037 +/-
East Train expanded – Clarifiers 6, 7, 8 (existing) + 9 and 10 (future)	6.03	7.91	2042 +/-

4.7.4 RAS and WAS Pumping and Control

The Return Activated Sludge (RAS) pumps draw settled sludge solids from the secondary clarifiers and return it to the BNR trains to consume additional waste. The RAS pumps are designed with considerable flexibility in pumping rates, and with controls to allow the facility operators to have good control over the sludge inventory under a variety of conditions, including variable hydraulic and waste loading, which can impact sludge production, settling rates, and waste uptake rates. A summary of the RAS pumping system is shown in **Table 4-11**.

Typically, RAS pumps must be able to collectively return sludge at about the same rate as the influent flow rate. This allows the operators to maintain control of sludge inventory under normal operating conditions and with normal amounts of variability. Post Falls typically returns sludge at a rate of about 50 percent of the influent flow.

Higher rates of RAS pumping are necessary at times to respond when unexpected settling issues occur. The need to pump at higher rates would normally be short-term, so the pumping system is

designed with a large turn-down capability to save energy and more precisely control sludge return rates in relatively steady state operation. In a BNR plant like Post Falls, the sludge return pumping rate must be optimized to control the sludge blanket depth in the clarifiers to limit the return of nitrates and dissolved oxygen, and to limit phosphorus release from the solids. The existing RAS pumps in Post Falls are capable of this turn-down.

The suction lines from the clarifiers are manifolded to provide pump redundancy. The discharge lines from the RAS pumps are manifolded, with valving to allow sludge to be directed back the same BNR train or combined with RAS from the other train to allow blending of the sludge between trains.

Table 4-11 – Summary of Return Activated Sludge (RAS) Pumps

Tag Number	Equipment Description	Primary Service	Location	Type	Design Capacity	Power	Drive Type
P-UB-3	RAS Pump 1	SC1	UB1	4" Centrifugal	550 GPM @ 65 FT	20 HP	Constant Speed
P-UB-4	RAS Pump 2	SC2	UB1	4" Centrifugal	550 GPM @ 65 FT	20 HP	Constant Speed
P-UB-8	RAS Pump 3	SC3	UB1	6" Centrifugal	800 GPM @ 26 FT	15 HP	Constant Speed
P-UB-10	RAS Pump 4	RAS Spare	UB1	4" Centrifugal	450 GPM @ 28 FT	7.5 HP	Constant Speed
P-418	RAS Pump 5	SC5	UB2	6" Centrifugal	880 GPM @ 30 FT	20 HP	Constant Speed
P-420	RAS Pump 6	RAS Spare	UB2	6" Centrifugal	880 GPM @ 30 FT	20 HP	Constant Speed
P-422	RAS Pump 7	SC4	UB2	6" Centrifugal	880 GPM @ 30 FT	20 HP	Constant Speed
P-601	RAS Pump 8	SC6	UB2	6" Centrifugal	1090 GPM @ 60 FT	30 HP	Variable Frequency
P-603	RAS Pump 10	SC7	UB2	6" Centrifugal	1090 GPM @ 60 FT	30 HP	Variable Frequency
RAS11-P-0608	RAS Pump 11	SC8	UB2	6" Centrifugal	1090 GPM @ 60 FT	40 HP	Variable Frequency

There are three RAS pumps (8, 10, and 11) connected to the sludge underflow lines from Clarifiers 6, 7 and 8. With the largest RAS pump in this BNR Train out of service, the total sludge pumping capacity (East Train) would be 2180 gpm, which is nominally 125 percent of the nominal BNR capacity (forward flow) of the East Train. At full East BNR Train capacity, normal approximate RAS pumping rate for the East BNR Trains would be approximately 930 gpm at average annual flow and about 1045 gpm at maximum month flow and loading. So, there is sufficient capacity for normal operations with one RAS pump out of service (even with all clarifiers in the East Train in service). The

additional pumping capacity is available for alternate operations (for example to help restore normal operation after a biological upset). This excess capacity is important to have available as a tool for the operators to deal with a variety of conditions.

The biological treatment process results in the production of excess biomass. A fraction of the total sludge inventory must be wasted in order to maintain total sludge inventory at appropriate levels. Removing excess active sludge from the process is wasting, and the sludge removed is referred to as Waste Activated Sludge (WAS).

Sludge is removed from Secondary Clarifiers 4 and 5 by their dedicated RAS Pumps 5 and 7 which are in Utility Building 2. RAS Pump 6 can be used to remove sludge from Clarifiers 4 and 5 or pull from the Plant Drain. Discharge from RAS Pumps 5-7 is combined and either wasted from the system or returned to the biological process. WAS is removed from the combined discharge from Clarifiers 4 and 5 via flow control valve. This flow control valve modulates to remove WAS from the combined RAS/WAS line and the WAS flow rate is confirmed with a Flow Meter. The flow control valves can be operated manually or controlled from SCADA.

Sludge is removed from Secondary Clarifiers 6- 8 by their dedicated RAS Pumps 8, 10, and 11 (P-601, P-603, and RAS11-P-608) which are also located in Utility Building No. 2. Discharge from RAS Pumps 8-11 is combined and either wasted from the system or is returned to the biological process. WAS is removed from the combined discharge from Clarifiers 6, 7 and 8 via a separate flow control valve. This flow control valve modulates to remove WAS from the combined RAS/WAS line and the WAS flow rate is confirmed with a dedicated WAS flow meter. The flow control valves can be operated manually or controlled from SCADA. WAS from Clarifiers 6, 7, and 8 is combined with WAS from Clarifiers 4 and 5 and the combined WAS from Utility Building 2 is routed to the Sludge Holding tanks. The WAS pumps located in Utility Building 2 can serve Clarifiers 4 and 5, however they are typically operated to drain a clarifier or for the Vactor Dump Station. Dedicated WAS pumps are summarized in **Table 4-12**.

Table 4-12 – Summary of Waste Activated Sludge Pumps

Name	Type	Capacity gpm/TDH ^(a)	HP	Location
P-UB-5	Piston Pump	50gpm @ 15 ft	3	UB-1
P-WAS-2	Air Diaphragm Pump	70 gpm @ 20 ft	3	UB-2
P-WAS-3	Centrifugal	Unknown	3	UB-2

(a) TDH = Total Dynamic (friction) Head

4.7.5 RAS and WAS Pumping Future Needs

There is no space available in UB-2 for the addition of RAS Pump 9. This pump should be added (and will likely require the construction of the next UB-3) when Clarifier 9 is constructed, and it should match the capacity of RAS Pumps 8, 10, and 11. Future expansion including RAS 9 will require a new

utility building (UB-3). Given these conditions, space for a future utility building and associated yard piping and electrical service should be included in site planning for future Clarifiers 9 and beyond.

4.7.6 Scum Pumping

Scum removed from the clarifier surfaces is directed by the clarifier mechanisms to dedicated scum pump stations so it can be pumped to waste. Scum pumping capability is summarized in **Table 4-13**.

Table 4-13 – Scum Pump Stations

	Clarifiers Served	Additional areas served	Comments
Scum Pump Station 1	1 and 2	UB 1 floor drains and OD 1, 2 Scum pipes (abandoned)	Operators indicate pumps and controls are at end of useful life
Scum Pump Station 2	3	OD 3 and 4 Scum pipes (abandoned)	Operators indicate pumps and controls are at end of useful life
Scum Pump Station 3	4 and 5	UV channel scum troughs (to be abandoned)	---
Scum Pump Station 4	6, 7, and 8	NA	6 and 7 Constructed 2011 8 Constructed 2022

As noted in the table, operators report the pumps and controls in Scum Pump Stations 1 and 2 are at the end of their useful life. Scum Pump Station 1 is not used and not needed, so this space can be re-purposed however the lines draining into SCPS 1 will need collected and re-routed to another lift station. Scum Pump Station 2 is necessary for operation of Clarifier 3, which is only needed to meet redundancy requirements. Pumps and controls should be replaced for Scum Pump Station 2 so it is available to be put into service on very short notice when Clarifier 3 is needed.

4.8 Intermediate Pump Station (IP1)

Effluent from Secondary Clarifiers 1 through 8 is collected and routed to the Intermediate Pump Station 1 (IP1). The pump station was added as part of the tertiary treatment improvements (2021-2023) and at the time of this report has not yet been put into service. Design capacity and anticipated operating conditions are defined in **Table 4-14**. This pump station also receives equalized backwash waste from the Membrane Filtration System. Flow that enters the pump station is lifted via four submersible pumps to an adjacent elevated Rapid-Mix Distribution Channel where it is passed into the Tertiary Clarification System (TC1). **Table 4-14** contains a summary of the intermediate pump station.

Table 4-14 – Design Criteria for Intermediate Pump Station

Equipment Description	Capacity	Power (HP)	Drive
Pump 1	3100 gpm at 16ft TDH	25	VFD
Pump 2	3100 gpm at 16ft TDH	25	VFD
Pump 3	3100 gpm at 16ft TDH	25	VFD
Pump 4	3100 gpm at 16ft TDH	25	VFD

Observed Deficiencies: No concerns identified (not yet in service).

4.9 Tertiary Clarification (TC1) Plate Settlers

To achieve the very low phosphorus limits required by the IPDES permit for the City of Post Falls (the City), soluble phosphorus will be removed by tertiary clarification and when additional treatment is warranted through the use of an additional step with membrane filtration. First and second stage chemical feed and tertiary clarification are used as pretreatment of secondary clarifier effluent prior to tertiary filtration by membranes. Chemical feed of a coagulant both upstream of the tertiary clarifiers and upstream of membranes enhances soluble phosphorus removal.

Normal operations during the phosphorus removal season will include feeding alum before the tertiary clarifiers, to form a precipitate that can be removed by settling. Data from the existing facility shows that of the total phosphorus (TP), the percent that is soluble, and the fraction of the soluble that can be precipitated varies substantially. Typically, the biological nutrient reduction (BNR) system has been shown to produce effluent with a TP concentration of 0.25 to 0.8 mg/L, but excursions to more than 5.0 mg/L have occurred in recent summers. The tertiary clarifiers allow for a high chemical coagulant dose which allows for a high capacity of solids removal with or without the subsequent membrane filtration. Tertiary clarification also provides an ideal pretreatment step, as the membranes have a limited solids handling capacity, with restricted chemical doses. The tertiary clarifiers have sufficient capacity for solids loading to handle the heavy doses of coagulant necessary, even if there is a complete loss of TP removal in the BNR process. Tertiary Clarification is summarized in **Table 4-15**.

Table 4-15 – Design Criteria for Tertiary Clarification

Parameter	Value
Peak Hour Flow, mgd	17.43 (including reject from membranes and plant water recycle flow) ^(a)
Peak Day, mgd	9.96 (including reject from membranes and plant water recycle flow)
Average Day, mgd	6.14 (including reject from membranes and plant water recycle flow)

Parameter	Value
Plate Settler - Rapid Mix	
Number of Basins	2 basins (1 duty/1 standby at Max Month)
Residence Time, minutes at ADF + Recycle	2
Volume, gal, each	8,527
Energy, s-1	250-600
Alum Dose, mg/L	0-180
Caustic Dose, mg/L	0-65
Mixer Type	Top Entry Vertical Turbine
Mixer HP (each basin)	15
Plate Settler - Flocculation	
Number of Trains	2 duty, 1 standby at Average-Day
	3 trains Operating at Peak-Day
Number of Stages per Train	3
Total Number of Flocculation Basins	9
Residence Time, minutes each train at ADF	20
Volume, gal, each train	42,636
Energy, s-1	10-60
Mixer Type	Vertical paddle
Mixer HP (each basin)	1
Plate Settlers	
Number of Basins	3
Treatment capacity, mgd, each with 90% solids capture	3.32
Hydraulic capacity, mgd, each	4.48
Annual chemical sludge, dry tons at ADF	223
Sludge production dry lb/day at design ADF	1,653
Sludge production gal/day at design ADF, 1%	20,000
Scum Removal	Rotating Scum Trough
Sludge Pumping	
Pump Type	Self-Priming Centrifugal
Solids Pumping Rate, gpm	266
TDH, ft	29

Parameter	Value
Power, HP	5
Drain Pumps	
Pump Type	Self-Priming Centrifugal
Pumping Rate, gpm	266
TDH, ft	27
Power, HP	5

(a) *Peak hour influent flows should not be experienced downstream of equalization. Treatment may be compromised but flow will pass through the system hydraulically.*

Observed Deficiencies: No concerns identified (not yet in service).

4.10 Tertiary Membrane Filtration

The primary purpose of the tertiary membrane filtration (TMF) system is phosphorus removal to achieve the mass limits in the facility's NPDES permit. Based on the performance of the facility's biological nutrient removal (BNR) system and expected performance of the plate settler, there may be periods when no additional treatment using the membranes is required and secondary or treated plate settler effluent will be routed directly to the UV system. When the membranes are in use, however, the TMF system will treat secondary effluent pretreated by the plate settlers to further assist with removal of phosphorus, as well as provide high quality filtrate for downstream UV disinfection and future Class A reuse. Tertiary clarified effluent flows to a membrane feed wet well that provides flow equalization ahead of the TMF treatment units and flocculation following a second-stage coagulant dose. Vertical turbine feed pumps equipped with variable frequency controllers (VFCs) feed the automatic strainers and TMF units. Each TMF unit has a dedicated feed pump and automatic strainer. Filtrate from the TMF units is collected in a filtrate header pipe that conveys the filtrate to the downstream UV process with flow splits for river discharge or for Class A reuse.

The TMF process utilizes periodic backwashes for each TMF unit to maintain filtration capacity. Periodic chemical cleaning is conducted to further assist with membrane filtration performance. Waste residuals from the backwash process are collected and recycled to the tertiary plate settler system for removal. Waste residuals from the chemical cleaning processes are neutralized to quench chlorine and adjust pH, and then recycled to the WRF headworks to be diluted with the plant influent flow. **Table 4-16** summarized the membrane filtration system.

Table 4-16 – Membrane Filtration System

Parameter	Value
Peak Capacity (MGD) Initial / Year 2033 Design	7.78 / 8.76
Average Capacity (MGD) Initial / Year 2033 Design	4.63 / 5.21
Minimum Design Temperature (Degrees C)	10
Maximum Instantaneous Flux at Design Temperature, GFD	27
Number Of Duty Units	5
Number of Spare Units	1
Membrane Module Used for Design	DOW 2880XP Hollow Fiber (Ultrafilter)
Membrane Area Per Module, SF	829
Membrane Modules Per Unit - Initial/ Year 2033 Design Flow	82/94
High pH Cleaning Tank, GAL	3084
Low pH Cleaning Tank, GAL	3084
High pH Cleaning Pump Quantity	2
High pH Cleaning Pump Flow, GPM	2620-1080
High pH Cleaning Pump Power, HP	2@ 25
Low pH Cleaning Pump Quantity	1
Low pH Cleaning Pump Flow, GPM	620-1080
Low pH Cleaning Pump Power, HP	25

Observed Deficiencies: No concerns identified (not yet in service).

4.11 Disinfection

Ultraviolet (UV) radiation is commonly used to disinfect wastewater. In this process, treated effluent from the facility is directed through a channel where it is exposed to UV radiation from a series of banks, or modules, containing UV lamps. As the effluent passes through the lamps, the microorganisms within the water are exposed to UV radiation, which leaves them inactive (unable to reproduce), when discharged from the channel.

The Post Falls WRF existing treatment process includes UV disinfection. As part of the 2022 WRF Tertiary Treatment Improvements Project, the existing UV disinfection system will be demolished, and a new UV disinfection system is being constructed downstream of tertiary settling and tertiary membrane filtration.

The UV system is composed of two channels, with the ability to be expanded in the future via a third channel. The system is designed for two separate discharge scenarios:

1. River Discharge and Class A Reclaimed Water Production
2. River Discharge Only

Scenario 1 utilizes Channel 1 to produce river discharge and Channel 2 for Class A reclaimed water production. Under this scenario, Channel 1 receives tertiary clarifier effluent (TCE) from the plate settlers and/or membrane filtered effluent (MFE) from the Membrane Filtration System and Channel 2 receives only MFE from a dedicated discharge pipe from the membrane system.

Scenario 2 can utilize either Channel 1 or Channel 2 to produce river discharge. Under this scenario, either channel can receive TCE and/or MFE for effluent production. Flow to each UV channel is measured by a magnetic flow meter in the pipe prior to each channel. When using Channel 2 for Class A treatment the flow rate signal is sent from the Membrane Filtration Class A Flow split meter (that is more accurate for lower flow regimes). The appropriate flow rate signal is delivered to the UV control system for calculation of the UV dose.

Channels 1 or 2 can treat 7.76 mgd with a minimum UV dose of 36 mJ/cm² at the design minimum UV transmittance of 48 percent for river discharge. When used for Class A reclaimed water, Channel 2 can treat a flow of 1.0 mgd with a minimum UV dose of 80 mJ/cm² at the design minimum UV transmittance of 65 percent.

Flow exits the disinfection channels over the level control weirs into the outlet channel/wet well sumps. From there, disinfection effluent passes either to the suction manifold of the Utility Water Pump Station (and future Class A Reuse pump station) which discharges to the utility water distribution network for use throughout the plant, or discharges to the Spokane River outfall. Automatic sampling occurs prior to flowing to the Spokane River outfall. The disinfection system is summarized in **Table 4-17**.

Table 4-17 – Disinfection Treatment Processes Performance Capacity

Parameter	Channel 1	Channel 2 ^(a)
Peak Flow (MGD)	7.76	1.00
Minimum UVT (%)	48	65
Minimum UV Dose (mJ/cm ²)	36	80

(a) Channel 2 can also be operated as a backup at secondary river discharge operating conditions matching Channel 1.

Observed Deficiencies: No concerns identified (not yet in service).

4.12 Utility Water and Class A Reuse of Reclaimed Wastewater

Water is reclaimed at the WRF for in-plant uses such as washdown, carrier water for chemical delivery, or spray water for foam mitigation.

There are two separate pump manifolds located after the UV system. Channel 1 effluent can be pumped via the plant utility water pump station to be used in plant operation. In the future, Channel 2 effluent can be pumped by the (future) Class A Recycled Water Pump Station that will pump to the recycled water system. Effluent from either channel that is not pumped passes by gravity directly to the outfall through a series of overflow weir gates. **Table 4-18** summarizes the utility water pump station.

Table 4-18 – Utility Water Pump Station Summary

Parameter	Value
Pump Type	Vertical Close-Couple Centrifugal
Pump Quantity	3
Pump Power, HP	36
System Capacity	900 gpm @ 220 ft TDH

The Class A Recycled Water Pump Station is not yet constructed. A dedicated suction pipe from the UV Class A Channel 2 outlet has been installed and stubbed into the current UW pump station room. Space has been allocated within the same room for two dedicated Class A reuse pumps to be added in the future.

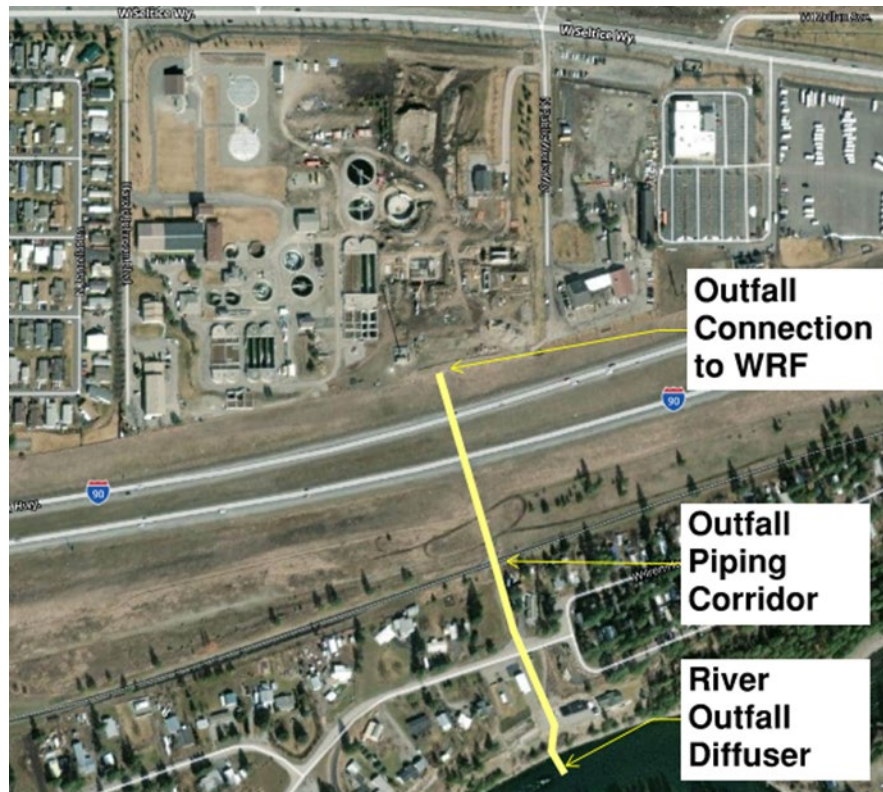
Observed Deficiencies: No concerns identified (not yet in service).

4.13 River Outfall

The existing outfall pipeline and river diffuser were recently upgraded. The pipeline leaves the Post Falls WRF, runs south across I-90, through an 18-inch pipe and then beneath I-90 through a 36-inch steel casing. After leaving the casing the slope increases and the pipe diameter decreases to 15-inch. This pipe flows to a newly constructed manhole at Lundy Boulevard. From here the flow can be diverted to the new outfall piping which consists of 30-inch PVC down to the ordinary high-water mark where it turns to 30-inch Ductile iron which feeds a diffuser assembly of 36-inch HDPE that branches off to two submerged 24-inch diffusers. This replaced the previous (original) outfall diffuser system that consisted of both 12- and 15-inch piping that fed a single 12-inch diffuser. The original 12" line and diffuser is connected and available for use in an emergency, but no longer in service. The new diffuser system was recently put into service and increased capacity of the outfall to approximately 7 mgd (limited only by the existing upstream 15- and 18-inch segments).

The new 30-inch pipe and dual 30-inch diffuser system will be limited by the existing 15- and 18-inch lines upstream across I-90 of the new piping. The second phase of the outfall project aims to replace these smaller 15 and 18-inch lines with 30-inch PVC lines which should further increase the system capacity to 25 mgd, or higher. The layout of the outfall pipe is shown in **Figure 4-8**.

Figure 4-8 – Post Falls Outfall



Performance: No concerns identified.

Reliability: None identified.

Safety: No concerns identified.

Observed Deficiencies: There are deficiencies with the system being able to handle peak flows. Additional projects identified to increase the capacity restriction across the I-90 corridor will increase peak flow capacity (25mgd or higher) of the system in excess of that required through the planning period.

4.14 Water Re-use

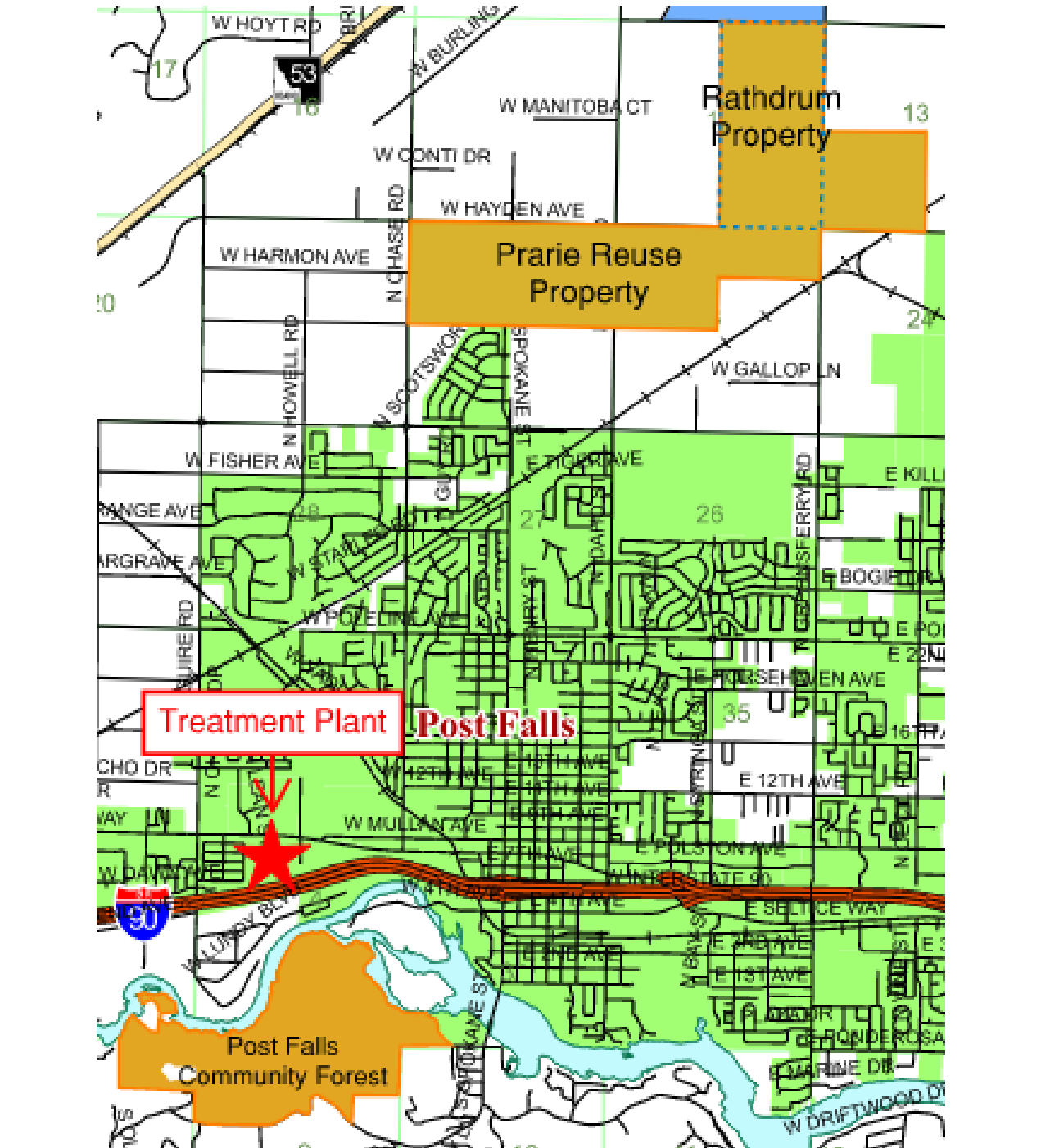
As previously discussed in Chapter 3, on May 18, 2021, the Post Falls City Council finalized the annexation of 717-acres of property of the Rathdrum Prairie with a zoning designation of Public Reserve for open space and land application of recycled wastewater. The Public Reserve Property includes a 70-acre school site owned by the Post Falls School District and 647 acres reserved for open space and the land application of recycled water. The city of Rathdrum has agreed to set aside

an additional 314 acres immediately north of the property for additional re-use. Combined, this totals 1,031 acres of prairie reuse property.

Irrigation must be conducted at agronomic rates that meet the crop needs without percolating reuse water and dissolved constituents into the underlying groundwater. All reuse water must be retained in lined storage ponds awaiting irrigation. The continued use of the Spokane River discharge permit allows Post Falls to match irrigation needs much more closely to recycled water flow to reduce construction of significant (non-growing season) storage ponds. Maintaining the ability to discharge to the Spokane River is critical to managing future needs for expansive land purchases and storage volumes. Further limiting effluent discharge to the Spokane River will have the opposite effect. This “zero discharge” approach to reuse is generally applied across the state but is monitored even more closely over the Rathdrum Prairie Aquifer, which underlies Post Falls’ and Rathdrum’s future reuse sites.

Since the 2013 Facility Plan, the City has purchased nearly 500 acres south of the Spokane River. The City has consolidated this natural multi-use property now called the Community Forest, with the goal of developing and expanding recycled water application on the parcel as a portion of their water reclamation efforts. It is envisioned for this area to serve as a multi-use property for the City, providing an opportunity to reuse highly treated Class A reclaimed water via drip irrigation, serving as an educational forest, and providing outdoor recreational opportunities to citizens and visitors. Exhibits showing the location of the various properties identified for potential future reuse are included in **Figure 4-9** and more detailed information in **Appendix 4-B**.

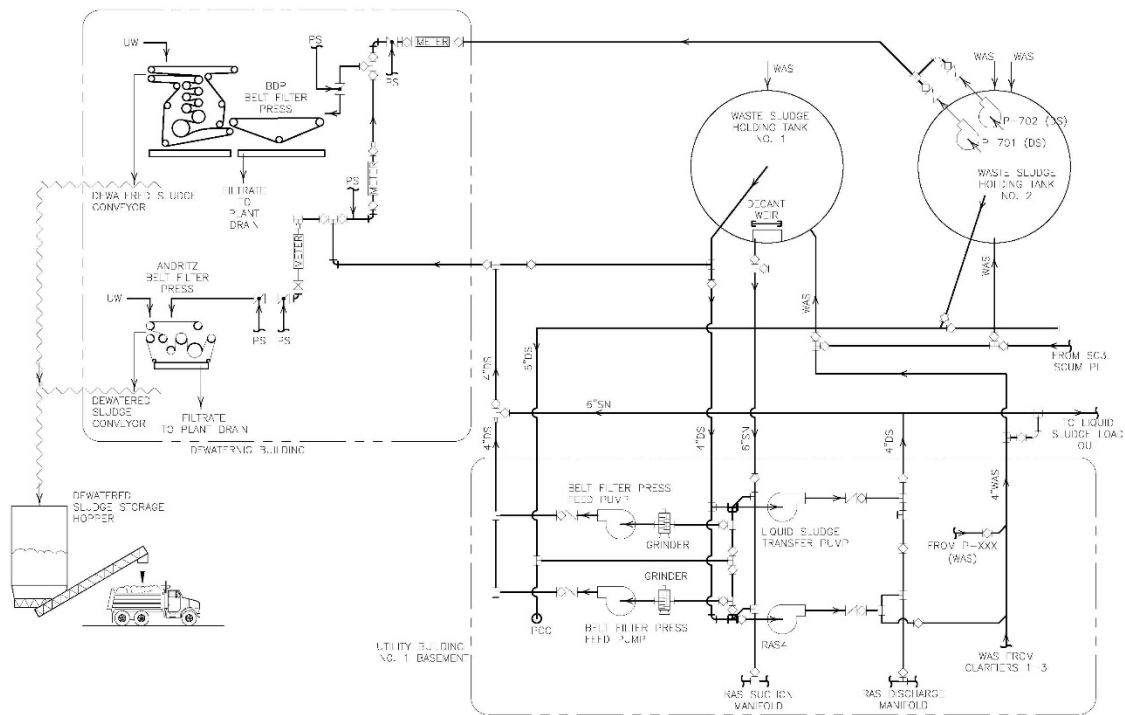
The City is currently in the preliminary planning and permitting phase with the Idaho Department of Environmental Quality (IDEQ) for the Community Forest Site. Hydrogeologic and geophysical evaluations are being performed on the site to identify areas suitable for the infrastructure needs to develop the site for reuse including storage, hydraulic application sites, access roads, and recreational opportunities.



The purpose of the residuals handling system is to process the WAS and (Tertiary Chemical) TC solids from the biological treatment process, so it is amenable for further treatment and final disposal. The Post Falls WRF employs sludge dewatering to prepare the sludge for disposal. The objective of

sludge dewatering is to reduce the volume of sludge to be handled by removing water from the sludge. A schematic of the residuals handling system at the WRF is shown in **Figure 4-10**.

Figure 4-10 – Residuals Handling System



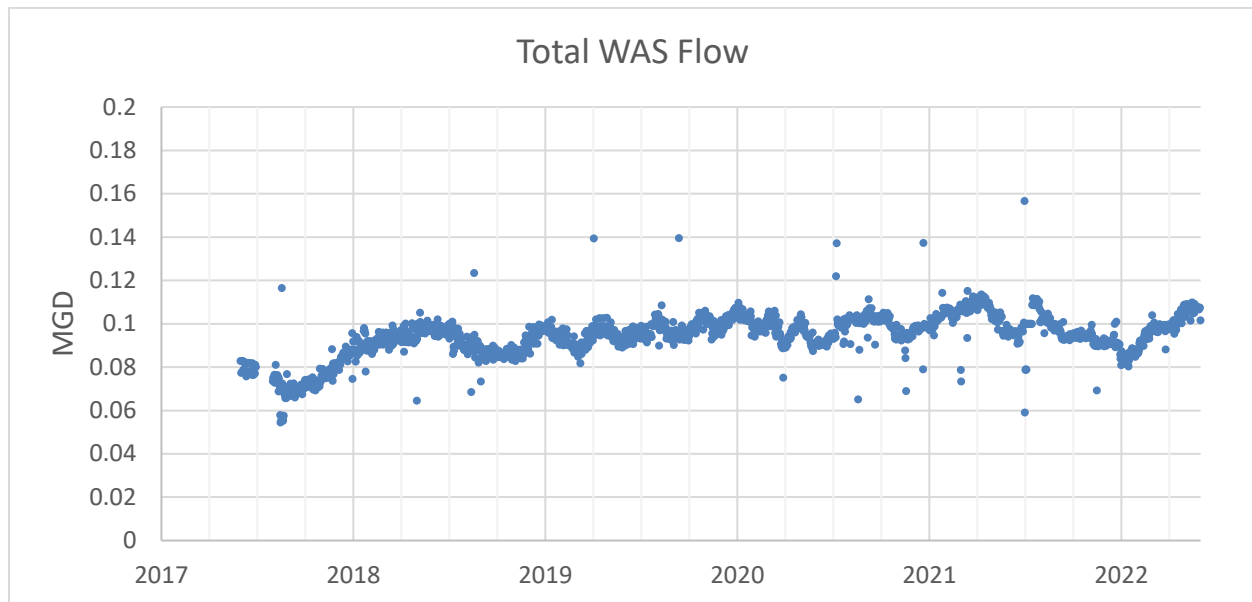
4.15.1 Sludge Flows

Historical data of sludge wasting is shown in **Figure 4-11**. The average sludge wasted was 97,000 gpd (8,413 dry pounds/day) for 2021. If the BDP belt filter press is out of service, the Andritz belt filter press would have to be operated at least 16 hours per day to meet the current average dewatering need.

The max month WAS flowrate is 110,000 gpd (9,541 pounds/day). If the BDP belt filter press is out of service, the Andritz belt filter press would have to be operated at least 19 hours per day to meet the current max day dewatering need.

The peak-week sludge waste rate is 139,000 gpd (12,056 pounds/day) for 2021. If the BDP belt filter press is out of service, the Andritz belt filter press would have to be operated continuously to meet the current peak week dewatering need.

Figure 4-11 – Waste Activated Sludge



4.15.2 Alum Sludge

Alum sludge will soon be produced from the new tertiary clarifier and mixed with the current secondary clarifier WAS sludge. An Excel spreadsheet was developed to determine impacts of three different chemical sludge concentration on the dewatering system. Current biosolids WAS concentrations are at 0.83 percent. To account for the tertiary clarifier sludge to be generated, a chemical sludge ranging from one percent to 0.25 percent were then mixed with the 0.83 percent sludge to characterize the potential impacts to the overall bio/chemical solids to be managed through the biosolids dewatering and disposal system. **Table 4-19** shows the results of the Excel model. The table shows results from three different flow conditions, resulting percent-solids of the mix, belt press capacities, resulting hours of operation based on solids and hydraulic throughputs, and flow to drain.

Table 4-19 – Belt Press Performance

Flow Condition	GPD	% Solids	Belt press	Hydraulic capacity, gpm	Solids loading, pounds/hour	Hours/day of operation for solids (5 days/week)	Hours/day of operation for flow	Flow to drain ^(a) , gpm
Avg day Current	97,000	0.83	BDP	250	1250	6.8	6.5	234
Avg day 1% chem	107,000	0.85	BDP	250	1250	7.6	7.1	234
Avg day at 0.5% chem	117,000	0.78	BDP	250	1250	7.6	7.8	235
Avg day-0.25% chem	137,000	0.66	BDP	250	1250	7.6	9.1	235
Max Month-current	110,000	0.83	BDP	250	1250	7.7	7.3	234
Max Month-1% chem	120,000	0.85	BDP	250	1250	8.5	8	234
Max Month-0.5% chem	130,000	0.78	BDP	250	1250	8.5	8.7	235
Max Month-0.25% chem	150,000	0.68	BDP	250	1250	8.5	10	237
Peak Week-current	139,000	0.83	BDP	250	1250	9.7	9.3	234
Peak Week-1% chem	149,000	0.85	BDP	250	1250	10.5	9.9	234
Peak Week-0.5% chem	159,000	0.79	BDP	250	1250	10.5	10.6	235
Peak Week-0.25% chem	179,000	0.7	BDP	250	1250	10.5	11.9	236
Avg day Current	97,000	0.83	Andritz	100	500	16.9	16.2	94
Avg day 1% chem	107,000	0.85	Andritz	100	500	19	17.8	93
Avg day at 0.5% chem	117,000	0.78	Andritz	100	500	19	19.5	94
Avg day-0.25% chem	137,000	0.66	Andritz	100	500	19	22.8	95
Max Month-current	110,000	0.83	Andritz	100	500	19.1	18.3	94
Max Month-1% chem	120,000	0.85	Andritz	100	500	21.2	20	94

Flow Condition	GPD	% Solids	Belt press	Hydraulic capacity, gpm	Solids loading, pounds/hour	Hours/day of operation for solids (5 days/week)	Hours/day of operation for flow	Flow to drain ^(a) , gpm
Max Month-0.5% chem	130,000	0.78	Andritz	100	500	21.2	21.7	94
Max Month-0.25% chem	150,000	0.68	Andritz	100	500	21.1	25	94
Peak Week-current	139,000	0.83	Andritz	100	500	24.2	23.2	94
Peak Week-1% chem	149,000	0.85	Andritz	100	500	26.3	24.8	93
Peak Week-0.5% chem	159,000	0.79	Andritz	100	500	26.3	26.5	93
Peak Week-0.25% chem	179,000	0.7	Andritz	100	500	26.3	29.8	95

(a) Flow to drain does not include spray wash water.

The following conclusions can be made:

- Adding one percent sludge:
 - Increases the sludge flow by 10,000 gpd.
 - Increases the solids loading by 2,056 ppd.
 - Increases the percentage of solids from 0.83 percent to 0.85 percent.
 - Increases the BDP operation by 0.8 hours at ADF based on additional solids loading.
 - Will render the Andritz press undersized at Peak Week flows.
- Adding 0.5 percent sludge:
 - Increases the sludge flow by 20,000 gpd.
 - Increases the solids loading by 2,056 ppd.
 - Decreases the percentage of solids from 0.83 percent to 0.78 percent at ADF.
 - Increases the BDP operation by 1.3 hours at ADF based on additional hydraulic throughput.
 - Will render the Andritz operation undersized at Peak Week flows.
- Adding 0.25 percent sludge:
 - Increases the sludge flow by 40,000 gpd.
 - Increases the solids loading by 2056 ppd.
 - Decreases the percentage of solids from 0.83 percent to 0.66 percent at ADF.
 - Increases the BDP operation by 2.6 hours at ADF based on additional hydraulic throughput.
 - Will render the Andritz operation undersized at Max Month and Peak Week flows.

Belt press manufacturer BDP's experience with alum laden solids is that they are lighter and finer than biological solids. Alum is hydrophilic which adds moisture to the cake. There is typically a slight decrease in throughput. The Cities of Moscow and Liberty Lake had only a slight change in their percent solids when incorporating alum sludge. Moscow increased their polymer usage (dose) slightly. Typically, thinner sludges will require slower belt speeds and more polymer to achieve higher cake solids.

4.15.3 Aerated Storage

Excess activated sludge is wasted from the secondary clarifiers directly to the aerated sludge storage tanks and held for a short period of time prior to dewatering. The sludge typically consists of 0.75 percent to 0.93 percent solids and 99.07 percent to 99.25 percent water. This solids content is typical for extended aeration treatment plants.

Because the treatment process uses biological phosphorus removal, it is necessary to keep the waste sludge aerobic and dewater it as soon as possible to minimize the release of phosphorus. It is typically held no more than 72 hours, and nominally targeting around 24 hours. Diffused aeration is used to keep it aerobic. Little or no digestion occurs in the storage tanks due the short holding time and, at times, low temperatures.

At current peak week sludge flows, Storage Tank 1 has two days of storage. With the addition of 0.5 percent alum sludge, the tank drops below two days storage. Storage Tank 1 blowers airflow are slightly below the MOP 8 minimum guidelines of 20 scfm/1000 cf at ~18.8 scfm/1000 cf, and a little below typical horsepower sizing criteria of 100 hp/mg. Storage Tank 2 has three days of storage capacity at peak week flows. With the addition of 0.5 percent Alum sludge, the tank drops below three days storage. Storage Tank 2 blowers airflow are below MOP 8 aeration guidelines at ~16 scfm/1000 cf but quite a bit over horsepower sizing criteria and is likely driven more by the additional discharge pressure required for the deeper tank. Air-flow is the primary sizing criteria with horsepower requirements typically dictated by discharge pressure requirements of the air distribution system. A summary of the sludge storage tank and blowers is shown in **Table 4-20**. The sludge storage tanks are shown in **Figure 4-12** and **Figure 4-13**.

The aeration blowers for the sludge holding tanks are in two different buildings. The blowers for Tank 1 shown in **Figure 4-14** are located on the ground floor of UB-1. The blowers for Tank 2 are in the basement of UB-2 and shown in **Figure 4-15**. Under typical operation, one storage tank is used (typically Sludge Holding Tank 2).

Table 4-20 – Sludge Storage Tanks Physical Parameters

Parameter	Tank #1 (west)	Tank #2 (east)
Diameter, feet	50	50
Sidewater Depth, feet	10	15
Volume, gallons	147,000	220,000
Aerators	Coarse Bubble Diffused Air	Medium Bubble Diffused Air
Blowers	3 (UB1)	2 (UB2)
Type	Positive Displacement	Positive Displacement
Capacity, each	370 scfm	470 scfm
Size, each	15 hp	40 hp

The blowers for Tank 1 (at UB1) should be upgraded as they are undersized, and the equipment is aging and difficult to obtain parts for. The blowers at Tank 2 should be upgraded as well as they do not meet the minimum airflow criteria. Further, if the sludge is to be thickened oxygen transfer and horsepower requirements will become increasingly important and more difficult to meet mixing requirements with the thicker sludge.

Diffusers in both tanks are likely also in need of being replaced. The number, and distribution of diffusers should be reviewed to provide adequate mixing energy; coordinated with air-flow requirements.

Figure 4-12 – Sludge Storage Tank 1



Figure 4-13 – Sludge Storage Tank 2



Figure 4-14 – UB1 Blowers (Tank 1)



Figure 4-15 – UB2 Blowers (Tank 2)

4.15.4 Belt Filter Press Feed

Sludge from the aerated storage tanks is pumped to two belt filter presses for dewatering. Sludge is fed to the belt presses using two dedicated pumping stations. Sludge is pumped from Tank 1 using centrifugal pumps in the basement of Utility Building 1 (UB-1). Each pump contains an in-line grinder to macerate solids and protect the belt filter press and are shown in **Figure 4-16**. Pumps/grinders run an average of 13 hours per day to keep up with the daily sludge flows. With the addition of 0.5 percent alum sludge, the pumps will run almost 15 hours per day. Sludge from Tank 2 is pumped to the belt filter presses using in-tank slide-rail submersible non-clog centrifugal pumps (mounted along the tank sidewall). The pumps run an average of six hours per day to keep up with the sludge flows. With the addition of 0.5 percent alum sludge, the pumps will run over 7.8 hours per day.

Figure 4-16 – Belt Filter Press Feed Pumps in UB-1 Serving Tank 1

4.15.5 Polymer Feed

The polymer feed system is in the south end of the Belt Filter Press Building and is shown in **Figure 4-17**. A cationic dry polymer from Inland Environmental Resources (SP-1048-GR) is added to the

sludge to aid in the removal of water. The polymer system consists of a dry bag feeder, two batch makeup tanks where the dry polymer is mixed with water to the desired concentration and then aged, a bulk-storage tank for polymer feed, and two positive displacement polymer feed pumps. The polymer usage is reported at a maximum 5.5 pounds/dry ton. Using a 0.2 percent solution at peak week flows, the polymer feed pumps will run at 206 gallons per hour (gph). Operations staff indicate the current polymer feed pumping system are at or near full capacity currently pressing WAS without the additional impact of the alum sludge. This system will need upgraded to accommodate the increased chemical sludge generation as well as polymer needs for any potential solids thickening systems that might be added.

Figure 4-17 – Polymer Feed System



4.15.6 Sludge Dewatering

The Post Falls WRF dewatering system has two belt filter presses, which includes a 2.5-meter BDP press shown in **Figure 4-18** which was installed in the 2011 upgrades, and an older Andritz 1.5-meter press shown in **Figure 4-19**. The belt filter presses typically produce a cake consisting of 14.0 percent to 15.0 percent solids.

Figure 4-18 – BDP Belt Press*Figure 4-19 – Andritz Belt Press*

Presently, the dewatering system operates the newer BDP belt press every day. The operators shift the system once per month and operate the 1.5-meter Andritz press to maintain the system viability. As this press has a reduced capacity compared to the BDP, it must be operated every day for a longer period per day to keep up with solids production.

At current peak week flows, the BDP belt press would run at 9.68 hours per day (5 days per week) to keep up with sludge flows. The addition of 0.5 percent alum sludge will extend run time to over 10 hours. The Andritz belt press would not be able to keep up with peak week sludge flows.

A summary of the dewatering equipment is shown in **Table 4-21**.

Table 4-21 – Dewatering Process Equipment Summary

Component	Number/Type/Size
Belt Filter Press Feed Pumps	
(Hydraulics based on pumping to Andritz Press 1 from Tank Number 1)	
Number	2
Capacity, ea	200 gpm (350 gpm both running)
Head	Unknown
Type	Submersible Non-Clog Chopper
Drive	VFD
Belt Filter Press #1	
Make	Andritz
Size	1.5 meter
Hydraulic Throughput	100 gpm
Solids Loading	500 lbs/hr at 1% feed
Sludge Grinders	
Number	2
Capacity, ea	400 gpm
Belt Filter Press Feed Pumps	
(Hydraulics based on pumping to BDP Press 2 from Tank 2)	
Number	2
Capacity, ea	400 gpm
Type	Centrifugal Self-Priming
Head	69 ft
Drive	VFD
Belt Filter Press #2	
Make	BDP
Size	2.5 meter
Hydraulic Throughput	250 gpm
Solids Loading	1,250 lbs/hr at 1% feed
Polymer Feed	
Type of Polymer	Dry Cationic
Volumetric Feeder (dry capacity)	0-8#/min
Capacity (fluid)	35 gpm

Component	Number/Type/Size
Hydration time	45 min
Mixing tanks	2
Volume, each	300 gal
Polymer strength	0.2%
Feed Pump1	Progressing Cavity
Capacity	Unknown
Feed Pump2	Diaphragm
Capacity	Unknown
Polymer use	3.8-5.5 #/DT

4.15.7 Plant Drain Lift Station (PDLS)

Belt press filtrate (reject) water is drained back to PDLS1 (located between the holding tanks on the north side). The pump station was installed in 2011 and has adequate capacity for current flows generated from the belt filter press (one press operating) but is operating at nearly full capacity. Flow from this pump station pumps back to the Headworks (downstream of screening and grit) but upstream of equalization control allowing the flow to be blended with the influent to reduce return flow loading impacts. Filtrate water quality is not routinely monitored but operations staff have indicated if biological (BNR sludge) is held for more than a day or two it has the potential to release phosphorus. Future expansion of the belt filter press system will require expansion of this pump station capacity and likely a complete replacement to accommodate larger pumps, flow measurement and additional equipment in the area of the pump station.

4.15.8 Conveyance

Dewatered sludge is transported by a conveyor to an elevated loadout hopper or diverted to covered storage (backup operations). Conveyor 1 transports biosolids from the BDP press out to Conveyor 3. At current peak week flows, the conveyor runs at 50 percent of its design fill capacity. Adding the 0.5 percent alum sludge increases to 51 percent of design fill capacity. Conveyor 2 conveys biosolids from the Andritz press out to Conveyor 3. At current peak week flows, the conveyor runs at 20 percent of its design fill capacity. Adding the 0.5 alum sludge does not appreciably change the conveyor loading.

Conveyor 3 conveys biosolids from Conveyors 1 and 2 to the Live Bottom Hopper. At current peak week flows, Conveyor 3 runs at 25 percent of its design fill capacity when conveying solids from the BDP press. Adding the 0.5 percent alum sludge does not appreciably affect the conveyor loading. Conveyor 3 runs at 10 percent of its design fill capacity when conveying solids from the Andritz press. Adding the 0.5 percent alum sludge does not appreciably affect the conveyor loading.

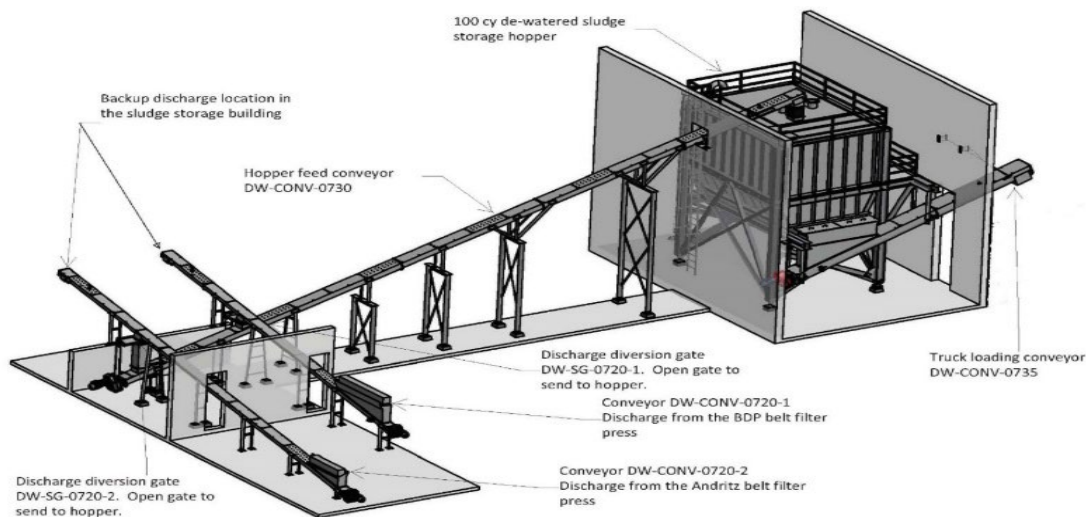
4.15.9 Storage

Dewatered solids from the Belt filter presses are conveyed either an elevated sludge hopper for haul truck loading or diverted (under emergency/backup operations) to a covered storage area where they are stored and loaded using a front-end loader.

A model of the dewatered sludge conveyance, storage, and truck loading system is shown in **Figure 4-20**. The sludge storage hopper has a usable volume of 100 cubic yards (cy); its purpose is to provide short-term storage between visits from the sludge haul trucks. The hopper has a full floor live bottom that consists of four screw conveyors. Foul air is pulled via a fan from the top of the hopper and treated in the biofilter. Thin sludge sometimes oozes out from the hopper into the Truck Loading Conveyor.

At peak week loading, the Live Bottom hopper has over two days of storage capacity. A 20-cy truck can be filled in less than 25 minutes. The dewatered sludge is then loaded onto haul trucks from the elevated hopper via a loadout inclined auger.

Figure 4-20 – Sludge Conveyance and Storage System



Currently, 100 percent of the dewatered solids go to the Hopper. The Dewatered Sludge storage area is only used if the Hopper is broken. When using the backup covered storage operations, the sludge is loaded using a front-end loader. There is currently 1500 cy of storage using a 4.5 ft pile height. At current peak week flows, there is over a month's worth of storage, however the City typically operates with a much smaller stockpile and has sludge removed several times per week.

The Dewatered Sludge Storage Building is a canopy with open sides, a concrete floor and tall stem walls to contain the sludge and protect it from rain and snow. It is only to be used as backup

because significant odors are generated from the storage area, and when loading trucks. The usable space under the canopy is approximately 80 feet by 150 feet. The biosolids storage and loading area is shown in **Figure 4-21**. A summary of the sludge system is shown in **Table 4-22**.

Figure 4-21 – Biosolids Storage and Loading Area



Table 4-22 – Dewatered Sludge Handling and Storage

Component	Number/Type/Size
Conveyor 1 (BDP Press)	
Make/Model	Spirac U320
Type	Shaftless screw
Capacity	255 cf/hr
Fill Rate at Design	48%
Conveyor Length	49 ft
HP	7.5
Conveyor 2 (Andritz Press)	
Make/Model	Spirac U320
Type	Shaftless Screw
Capacity	255 cf/hr
Fill Rate at Design	48%
Conveyor Length	62 ft
HP	7.5
Conveyor 3 (Hopper Feed)	
Make/Model	Spirac U420

Component	Number/Type/Size
Type	Shaftless Screw
Capacity	511 cf/hr
Fill Rate at Design	49%
Conveyor Length	96 ft
HP	20
Live Bottom Hopper	
Make/Model	Spirac U500
Type	Shaftless Screw
Capacity	350 cf/hr
Fill Rate at Design	34%
Conveyor Length	20 ft
HP	5
Truck Loading	
Make/Model	Spirac U620
Type	Shaftless Screw
Capacity	1400 cf/hr
Conveyor Length	29.6 ft
HP	20

4.15.10 Disposal and Costs

Dewatered WAS and TC sludge is hauled away to a third-party compost facility for further treatment and reuse. The City currently contracts with BARR TECH for solids disposal. Dewatered solids are loaded onto the contractor's trucks at the WRF and hauled to the contractor's designated composting facility near Fishtrap, WA. The contractor is responsible for biosolids hauling, composting, and disposal of wholesale compost. The City's contract with BARR TECH includes a cost of \$74.08 per wet ton (for 2023) subject to CPI and fuel surcharge adjustment. The biosolids disposal company picks up the biosolids and transports them to the compost site two times per day, three days per week.

Performance: See observed deficiencies for additional concerns.

Reliability: See observed deficiencies for additional concerns.

Safety: No safety issues identified.

Observed Deficiencies:

- The belt press filtrate reject pump station (Plant Drain Lift Station 1) has limited remaining capacity.
- Longer dewatering schedules are needed currently if the BDP belt press is out of service and as the chemical sludge concentration decreases. Thinner sludges will increase the required dewatering equipment (belt press) run-times.
- Startup of the new tertiary treatment facilities that are currently completing construction will increase loading to the solids handling facilities due to the addition of tertiary chemical sludge from the plate settler facility. The Andritz Belt press will be undersized to treat biosolids (alone) when the alum sludge is added.
- The sludge loadout hopper has several items of concerns to operations staff (and a project is currently being undertaken to resolve) including:
 - When the hopper contains solids with low percent-solids (too fluid), they often push through the live-bottom augers, and out through the loadout auger. City staff has identified that slide gates on the discharge of the live bottom augers will likely mitigate this issue. The lack of sludge isolation results in freezing issues related to the truck loadout auger where exposed to the outdoors.
- Polymer makeup and solution feed pumping systems have limited remaining capacity.
- Additional storage capacity and/or addition of thickening of WAS and chemical sludges should be evaluated.

4.15.11 Biosolids Systems Capacity Under Projected 2042 Future Conditions

The capacity of the existing biosolids system was evaluated under future loading conditions without consideration of potential upgrades or modifications to the solids treatment/processing operations. A summary of the impacts to the solids handling system from the projected future flow/load growth are:

- Peak week flows to the dewatering system are estimated to be approximately 379,000 gpd with 0.5 percent alum sludge mix.
- Storage Tank 1 will have less than 1-day detention time.
- Belt Press Feed Pumps for Storage Tank 1 will be undersized.
- Storage Tank 2 will be reduced to operating with approximately 1.13 days detention time.
- Dewatering capacity will require a minimum of 3 BDP presses (2.5 m belts) running to meet demand.
- Up to 700 gpm of pressate flow will pass to the plant drain lift station (not including spray water for the presses).
- The current Andritz press capacity is too small to carry forward in the process long-term.
- Polymer pumps will require upsizing to 625 gph.

- Conveyors 1 and 2 from the belt presses will operate at approximately 60 percent design capacity. Additional dedicated conveyors for additional belt presses will be required.
- Conveyor 3 (inclined hopper feed conveyor) will be at 47 percent design capacity.
- Live bottom solids storage hopper capacity will be reduced to 1.34 days storage.
- Storage area down to 20 days detention time (not accounting for space currently used as equipment storage and access for loadout). Likely less than 5 to 10 days based on current operations.

4.16 Electrical, Controls, and SCADA

4.16.1 Introduction

This section presents a brief description of the existing power distribution system at the Water Reclamation Facility (WRF) and current modifications to the existing power system that are occurring as part of the tertiary treatment improvement project that is under construction.

4.16.2 Existing Electrical Utility (Normal Power Source)

The existing west side of the WRF facility is fed by Avista Utilities under rate schedule 021, Large General Service. The utility distribution system is designed as a 3,000-ampere service with parallel 1,000 kVA utility transformers. The utility transformer(s) are located north of Utility Building UB 2. Currently, only one 1,000 kVA, 13.2kV-480/277 Y utility transformer is installed, and the main circuit breaker long time trip setting is set at 1,600 amperes.

The east side of the WRF facility will be fed by Avista Utilities under rate schedule 021, Large General Service. The utility distribution system is designed as a 2,000-ampere service with 1,000 kVA utility transformer (with provisions to upsize to a 1500 KVA transformer). The utility transformer is located east of the Membrane Filter Building (MF).

4.16.3 Generators (Stand-By Power Source)

For the west side of the WRF, there are two diesel driven stand-by generators (one 500 kW and one 800kW) installed north of UB2 with provisions for adding a third 800 kW unit. The 500 kW unit feeds the stand-by side of the main switch gear via a 800 AT/1200 AF circuit breaker and the 800 kW unit feeds the stand-by side of the main switch gear via a 1,200 AT/1,600 AF circuit breaker. The installed generators operate in parallel and are interconnected with the electrical distribution system via a 3,000-ampere tie breaker. The automatic operation of the generators, paralleling system, and load transfer is controlled by a programmable logic controller (PLC) based Caterpillar/Allen Bradley paralleling switchgear control system.

For the east side of the WRF, there will be two parallel 400 KW diesel driven stand-by generators (with provisions for a third generator) installed adjacent to the Utility transformer to the east of the Membrane Building (MF). The generators are connected through a 2000-ampere switchboard and

are connected to the east side utility service via a 2000-ampere service entrance rated transfer switch with bypass/isolation capability. The transfer switch feeds the 2000-ampere switchboard MF1 in the Membrane Building (MF). The generator paralleling controls are integral to the generators.

4.16.4 Existing System Electrical Capacity

The current west side system and east side modifications being made as part of the tertiary project can support the facility's electrical load requirements through 5 MGD (approximately 1,300 kVA). The electrical distribution system is designed to accommodate the peak loads of the planned capacity phases of the WRF through 8 MGD (approximately 2,450 kVA) with the addition of conductors installed in spare conduits, as well as utility transformer upgrades.

4.17 Controls Architecture and SCADA

4.17.1 Introduction

This section presents a brief description of the existing system control and data acquisition (SCADA) system at the WRF, and the recommended plan for modifying the existing SCADA system as part of the planned tertiary treatment improvement project. The new facilities will be incorporated into the overall existing SCADA system. Process and instrumentation diagrams (PID), as well as equipment, will be coordinated with a facility-wide tagging system.

4.17.2 Facility-Wide SCADA System

The facility currently uses multiple Allen Bradley CompactLogix and MicroLogix PLCs connected via a facility-wide fiber optic network (Ethernet™) to monitor and control the process equipment. The PLCs are in the Administration Building, UB-1, UB-2, the Dewatering Building, the Disinfection Area, the Utility Water Building, the Sludge Storage Building, and the Headworks Building.

The facility staff monitors and controls the treatment process via an Intouch Wonderware Operator Interface program loaded on a personal computer (PC) (SCADA computer) in the Administration Building and a panel PC located in UB-2. The SCADA computer enables the operator to view the system by displaying process data collected by the PLCs on the graphical screens. This data is logged into the computer data base and can be viewed with the trending tool. The SCADA computer also enables the operator to change set points and manually control equipment. The PLC converts signals from switches, motor controls, instrumentation, and other field devices for transmitting to the SCADA computer which displays the entire facility process, monitors for alarm conditions, calculates equipment run times and flow totals, and other logic functions.

All new PLCs added during the tertiary improvements including the UV and membrane control panels will utilize Allen Bradley Contrologix hardware.

As part of the tertiary improvements, the City has undertaken an upgrade to the entire WRF SCADA System and are switching to Ignition-Perspective Software Platform. The new system is a

server/client-based system will operate more efficiently, with increased reliability, less complexity, and allows for future expansion. The new system is compatible with HTML5, allowing the application to be viewed from a mobile device (smart phone, tablet, etc.). Primary improvements to the SCADA that will be realized during the upgrade include:

- Ignition is a complete SCADA package with options for adding on modules such as reporting and software callout/text message systems.
- Overall hardware architecture requirements are less than several alternatives.
- The backbone communication of the system is browser based, so remote desktop services are not required.
- Expansion is essentially no-cost from a software perspective, no additional software licenses are required to add additional clients/screens/tags etc.
- Ignition is in all-in-one package - no 3rd party software packages needed for software alarm callout or reporting.

4.17.3 Operator Interface Terminals (OITs)

In addition to the PC-based Wonderware control stations, each local control panel (PLC location), except for UB-2, has a door mounted touchscreen operator interface panel for local system status and alarm indication.

All new control panels (PLC locations) including the UV and membrane control panels will be provided with touch screen panel PCs. The packaged systems for UV disinfection and the Membrane systems being added as part of the tertiary improvements will still operate Wonderware software and communicate with the Ignition Software Platform that the remainder of the WRF is being converted into.

4.17.4 Local Controls Capabilities

All facility equipment can run in a manual mode in the event of a PLC control system failure. Local switches are normally located on the appropriate MCC starter buckets. In addition, some process equipment/motors have jog switches located at the motor location to allow for manual operation and maintenance.

4.17.5 Alarm Systems

The SCADA system produces various alarms that are annunciated to the facility operators. When facility operators are not present the alarms are sent to remote locations through a hardwired automatic dialer (Sensaphone Express II) located in the Administration Building and operators are also sent e-mail notifications.

4.18 Odor Control

Odor control is an ongoing concern for the WRF facilities. After being pumped to the WRF wastewater is often beginning to become anaerobic. This anaerobic wastewater is the primary odor generator at the WRF. A Vapex unit is used for odor control in the headworks facility and Splitter Box S-1 to deliver an ozone fog to oxidize odorous compounds. Further, all influent channels adjacent to the headworks are covered, and foul air from these channels, the headworks, the sludge loadout, and the Equalization (EQ) tanks are pumped through a bunker-style compost media biofilter. There are three different sections of the biofilter:

- Section 1 (west) receives foul air from EQ 2.
- Section 2 (middle) receives foul air from EQ 1.
- Section 3 (east) receives foul air from the headworks building/channels, and sludge storage and loadout hopper.

Additional information on the fans that pump the foul air is shown in **Table 4-22**. A diagram of the biofilter is shown in **Figure 4-22**.

Figure 4-22 – Biofilter Layout and Piping

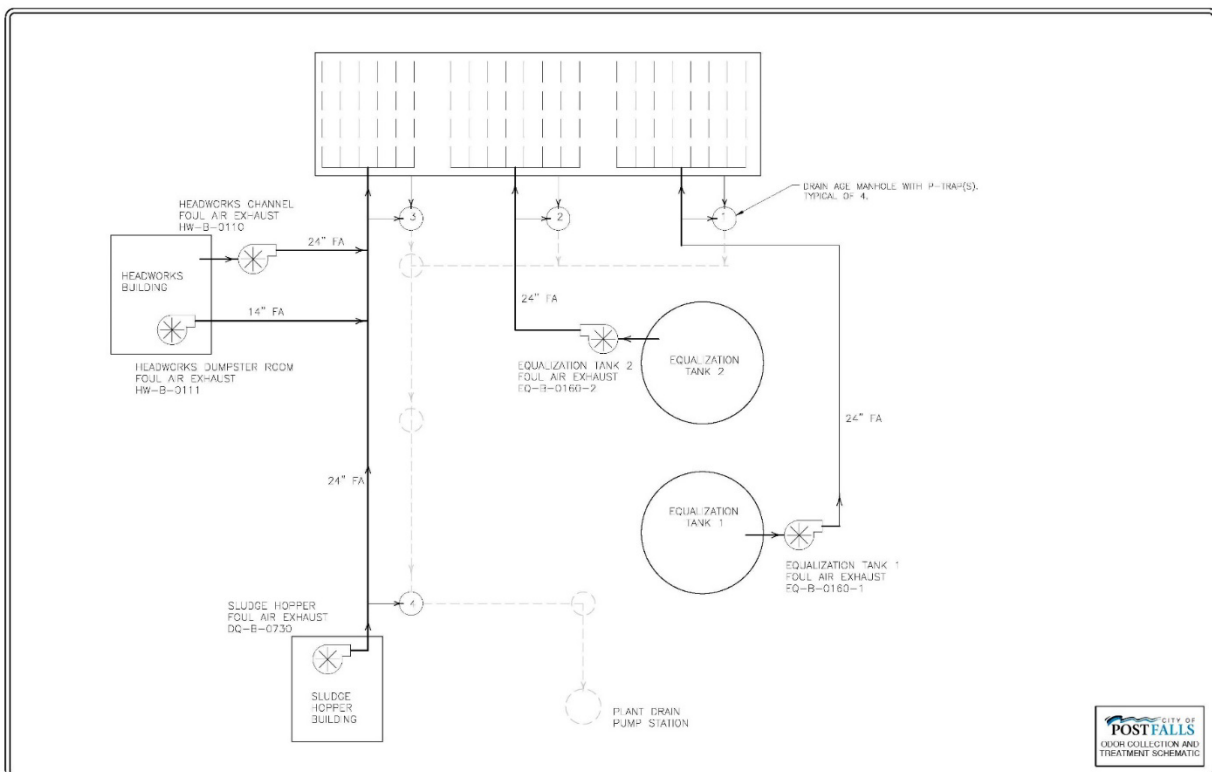


Table 4-23 – Biofilter System Parameters

Parameter	Value
Biofilter	
Number of Beds	3
Depth	~3 feet
Detention Time	~60 sec
Bed Velocity	3 ft/min max
Exhaust Fan EQ-01	
Air from	Equalization tank 1
Air to	Biofilter Bed 13
Air Flow	8000 CFM
ESP	5.5"
Exhaust Fan EQ-02	
Air from	Equalization tank 2
Air to	Biofilter Bed 2
Air Flow	8000 CFM
ESP	5.5"
Exhaust Fan HW-01	
Air from	Headwork influent channel
	Headworks Effluent channels
	Grit Chambers
	Grit Classifier
Air to	Biofilter Bed 1
Air Flow	2600 CFM
ESP	5.0"
Exhaust Fan HW-02	
Air from	Screening Dumpster Room
Air to	Biofilter Bed 1
Air Flow	1105 CFM
ESP	5.5"
Exhaust Fan DW-01	
Air from	Sludge hopper

Parameter	Value
Air to	Biofilter Bed 1
Air Flow	550 CFM
ESP	5.5"

Performance: The system periodically struggles with odor breakthrough.

Reliability: There is only one exhaust fan for each collection area. If one were to fail the system would have compromised odor control until the unit could be repaired.

Safety: There are no identified safety concerns with the odor system.

Observed Deficiencies:

- There are still areas of WRF that have no odor control that may be contributing to odor generation, including splitter boxes, biosolids handling, and the vector dump facility.
- The biofilter wood bark media also is approaching the end of its estimated useful life (5+years).
- The system periodically struggles with odor breakthrough. City operations staff have tried to determine if it is a compromised capture/containment (i.e., leaking gases from the headworks facility or EQ tanks), or if it is due to failure or short-circuiting of the biofilter media bed. Potentially both issues may be contributing to the breakthrough odor problem.
- Section 1 of the biofilter bed has multiple fans pushing into the same biofilter and all fans operate continuously. However, when one of the fans fault/stops, the other fans in that section force the failed fan to run backwards and can “pump” foul air back through the failed fan. This can be corrected with directional dampers (check valves).
- Staff currently do not utilize the Vapex system in the headworks.
- Slotted perforations in biofilter air plenum distribution piping have shown signs of clogging; additionally, there is concerns with the filter fabric surrounding the perforated piping.
- Decomposition of the drain-rock underdrain plenum material has been observed
- No gas speciation testing has been completed on sludge hopper building foul air. Further foul air speciation/treatment evaluation is recommended.

4.19 Plant Drainage Lift Stations

The existing Post Falls Water Reclamation Facility (WRF) is served by four internal plant drain pump stations that are described below. See **Figure 4-23** for the locations of these stations.

4.19.1 Sludge Building PD LS

The Sludge Building Lift Station is located on the south side of the Sludge Storage Building. It collects wastewater from the sludge storage building floor drains, Administration Buildings 1 and 2,

Control Building LS, and pumps into the 24-inch C-Trail forcemain where it is sent to the headworks for treatment. A brief description of this lift station is presented in **Table 4-24**.

4.19.2 Control Building Plant Drain Lift Station

The Control Building Plant Drain Lift Station is located at the Southeast Corner of the Laboratory/Control Building. It collects wastewater from the control building and pumps it to the Sludging Building Pump station (and ultimately back to the headworks) for further treatment. A brief description of the pump station is presented in **Table 4-24**.

4.19.3 Plant Drain Lift Station 1 (PDLS1)

Plant Drain Lift Station Number 1 (PDLS1) is located between and north of the biosolids holding tanks. This pump station has limited available additional capacity. The force main from this lift station and Plant Drain Lift Station 2 (PDLS2) combine into a single 12-inch pipe and discharge upstream of flow equalization where it can be blended with the influent flow. The use of this common force main was a temporary solution during design of PDLS2. Future improvements should provide dedicated force mains to prevent the risk of pump station dead-heading (competing). A brief description of this lift station is presented in **Table 4-24**.

4.19.4 Plant Drain Lift Station 2 (PDLS2)

The expanded tertiary components of the WRF, and eastern portion of the facility, will be served by PLDS2, currently under construction. This new facility will discharge waste collected from the plant to the existing headworks, upstream of flow equalization where it can be blended with the influent flow. As noted previously, the force main from this lift station and PDLS1 combine into a single 12-inch pipe and discharge upstream of flow equalization where it can be blended with the influent flow. The use of this common force main was a temporary solution during design of PDLS2. Future improvements should provide dedicated force mains to prevent the risk of pump station dead-heading (competing). A brief description of this lift station is presented in **Table 4-24**.

Figure 4-23 – Plant Drain Lift Stations

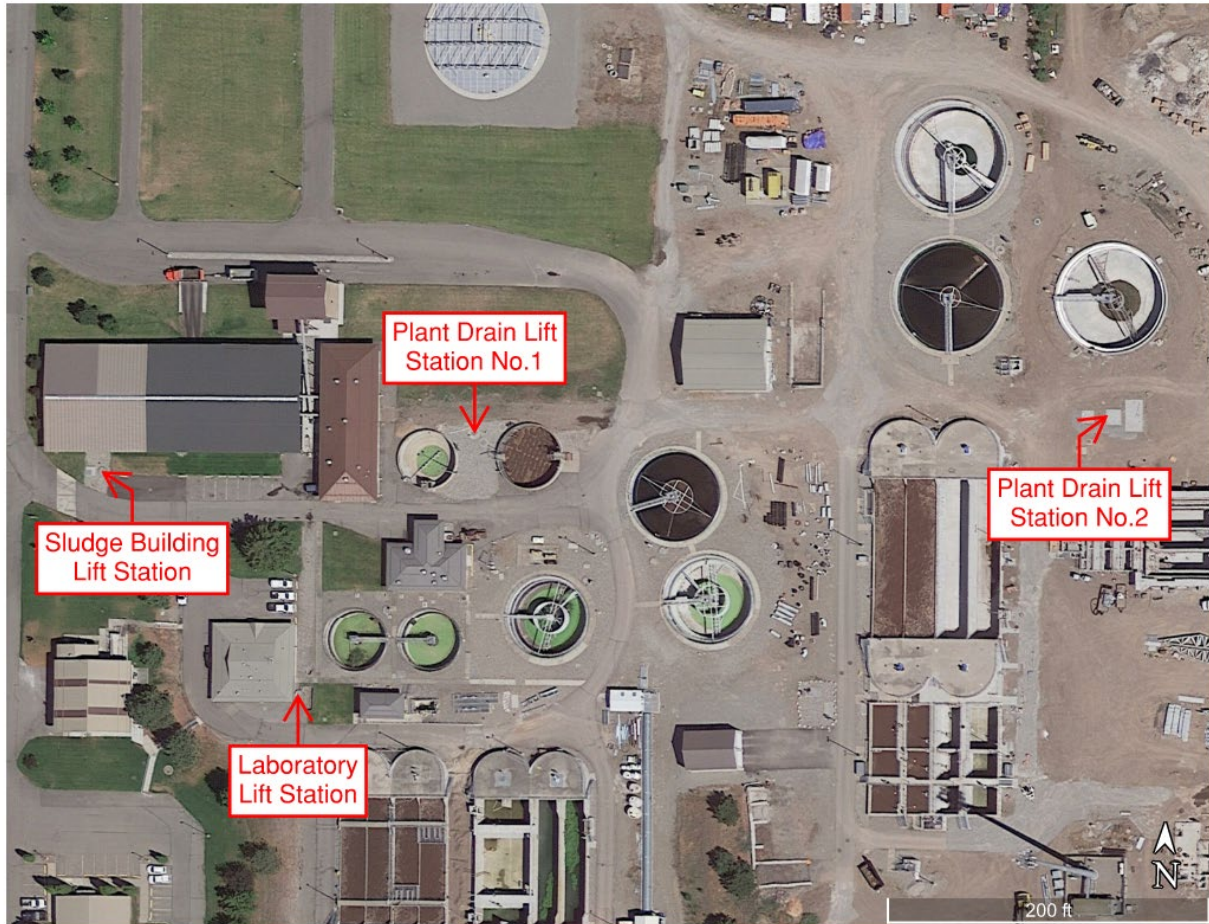


Table 4-24 – Plant Drainage Lift Station Pumps

Parameter	PDLS1 ^(a)	PDLS2	Sludge Building LS	Control Building (Laboratory) LS
Number of Pumps	2	2 (expandable to 3 pumps)	2	2
Pump Type	Submersible	Submersible	Submersible	Submersible Grinder
Capacity Each (gpm)	~445-495 (a)	500	180	40
TDH (ft)	~31	34	30	15
Power Each (HP)	<10	<15	7.5	2
Drive Type	VFC	VFC	Motor starter	N/A

(a) PDLS1 based off drawdown test data in March 2019 (single pump operating). When PDLS2 operates, the discharge of PDLS1 is reduced to 360gpm and 400 gpm (with 2 and 1 pump from PDLS2 operating, respectively).

Performance: Capacity of the PDLS1 and PDLS2 are interconnected. Improvements to separate PDLS1 and PDLS2 by providing dedicated forcemains is needed. Increased pumping capacity for PDLS1 is also needed as it is currently at maximum capacity during peak belt press operation and is likely under-capacity (may require both pumps in operation) if both belt filter presses are needed to be in operation at the same time. Pump stations have been evaluated for capacity with a remaining redundant pump.

Safety: No safety issues identified.

Reliability: There are no reliability concerns with the lift stations. See observed deficiencies.

Observed Deficiencies: The equipment and controls for the Control Building (Laboratory) Lift Station is outdated and in need of upgrades.

4.20 Vactor Dump Station

The vactor dump station is located to the East of Utility Building No. 2. Trucks can unload onto the concrete pad where it is drained to Utility Building No. 2. From here it is pumped to the sludge holding tank utilizing the WAS pumps located in the basement of the Utility Building No. 2.

An aerial photo and diagram of the system is shown in **Figure 4-24** and **Figure 4-25** respectively. A summary of the vactor dump station is shown in **Table 4-25**.

Figure 4-24 – Vactor Dump Aerial

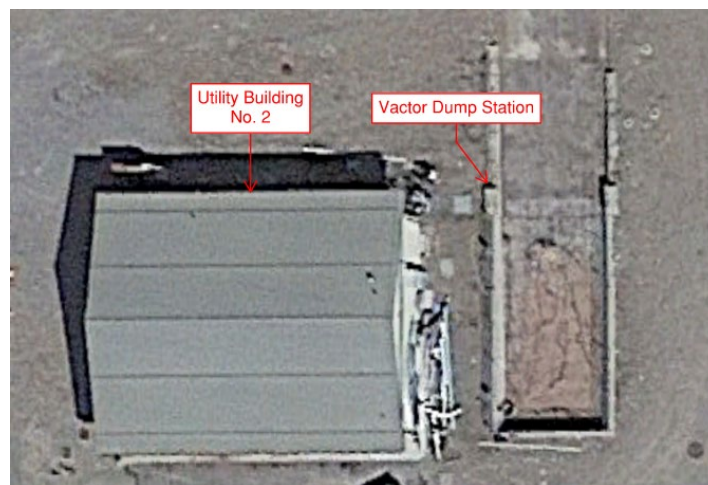


Figure 4-25 – Vector Dump Station Pumping

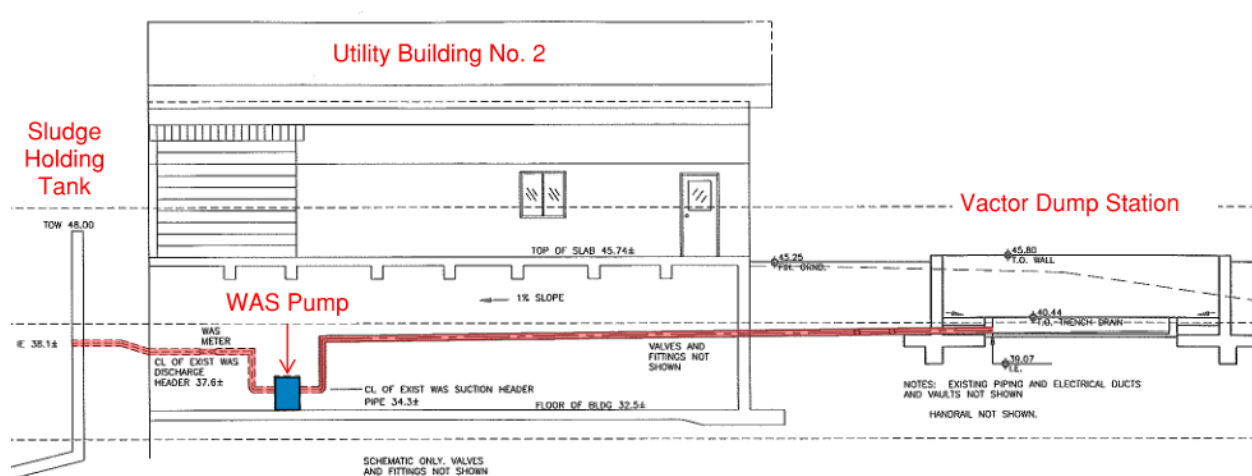


Table 4-25 – WAS Pumps (Used for Vector Pumping in UB2)

Parameter	WAS Pumps (used for vector)	Alternate Pump
Number of Pumps	1	1
Pump Type	Air Diaphragm	Centrifugal
Capacity Each (gpm)	86	unknown
TDH (ft)	15	unknown
Power Each (HP)	3	unknown

Performance: The current dump station rough screening pad tends to clog as the material enters the system and takes many man hours per load, and frequently has problems with pumping system.

Reliability: There are two WAS pumps that can be utilized, providing redundancy.

Safety: No safety concerns have been identified with the vector dump facility.

Observed Deficiencies: Operations staff have pointed out some weaknesses of this system such as:

- Diaphragm pump frequently clogs.
- Alternate Centrifugal pump frequently air locks.
- Vector dump pad bar trough screen frequently clogs and must be manually scraped.
- Many man hours required per load required to separate solids on the drying pad using a skid-steer.
- Potential for unscreened material/debris to enter biosolids system.
- High odor generation during dumping and processing.

Due to these deficiencies, it is recommended that this system be improved in the near future. A list of alternatives has been put together for review by the plant staff. Utilizing the WAS pump has become an increasing inconvenience as it requires manual operation. The lack of screening/treatment of the vector waste solids is also a concern to the operations staff.

4.21 Support Systems and Facilities

4.21.1 Utilities Providers:

- **Natural Gas:** Natural gas is provided by Avista Utilities and is metered at each individual building.
- **Potable Water:** The City is served by two separate East Greenacres Water District branch lines entering the facility from I-90. The existing 'west' side connection is a 10-inch line and is protected by a reduced pressure backflow assembly (RPBA) near the existing control building, with downstream distribution lines throughout the facility (generally, west and including UB-2). The east side connection is a 6-inch line with an RPBA at the northeast corner of the membrane filtration building. This branch generally serves everything east of UB-2 including the Plate Settler, MF building and UV/UW buildings. Fire hydrants are connected upstream of the RPBA assemblies to provide unrestricted flow. A third/extension of the City of Post Falls Water System provides service to a fire hydrant line along the southern property line (along the streets dept. property). This line is for fire protection only and does not connect to the Potable water system within the WRF.
- **Internet and Communications:** Internet and telephone communications are managed by the City's IT Department in conjunction with the SCADA system requirements.

4.21.2 Office and Maintenance Buildings:

- **Administrative Staff Facilities:** The Headworks (1996 to 2016) building was partially converted into WRF staff office and meeting space around 2017. The conversion provided three additional offices as well as a large meeting space. This was an interim step and good reuse of available building space however as the number of staff increases additional space and organization/proximity of the WRF team should be considered. The City has secured property off-site from the WRF to expand their public works operations as the result of their Facilities Needs Assessment. It is likely that offices for some of the current and future WRF administrative staff could be relocated to this site when it becomes available, allowing current offices at the WRF site to be re-allocated.
- **Operations Crew Facilities:** The current laboratory and office facility space is used for SCADA computer control stations, laboratory analyses, storage of plant records, and break room/meeting facilities for the operations staff. The size of the facilities is limited and is already strained by the current number of staff at the facility. Normal break room and meeting facilities should be isolated from the control rooms and laboratory to improve security for plant operations as the number of staff increases.

- **Laboratory:** The laboratory is currently easily accessible by unauthorized staff, creating a potential for lab hygiene to be compromised. The laboratory facilities should be segregated from the day-to-day operations staff to minimize potential contamination of the lab facilities. The City is currently in the initial planning phases to expand and/or remodel the laboratory building as the result of their Facilities Needs Assessment.
- **Maintenance Shop Facilities:** In the 2021 Facility Needs Assessment it was determined that there is inadequate shop space to accommodate expected growth. The current 7,200 square foot water shop space was built in 1996 and is shared with the Water Department. This space will return to WRF use in the next few years as the Water Department moves/builds new facilities at the Pleasant View Avenue public works property. The 1200 square foot pilot building built in 2018 was converted to shop/storage, but additional space is still needed. Primary functions identified for expanded space include spare parts/materials storage as well as dedicated shop/repair facilities.

4.21.3 Management and Staffing:

The WRF is a division of the City and is led by the Public Works Director. The Public Works Division consists of streets, water, water reclamation, stormwater, fleet services, and facility maintenance. The Community Development Division consists of building, engineering, and planning.

The WRF is operated and maintained by a group of staff with varying tasks. Direction of day-to-day operations is by the Chief Operator (Class IV). The organizational scheme and duties are as follows for the WRF staff positions:

- **Utilities Manager** – Responsible for overall group operations, and long-range planning coordination for the WRF and reports to the Public Works Director.
- **Chief Operator (Class IV)** – In responsible charge and supervises day-to-day plant operations and process control.
- **Lead Operator (Class III)** – In responsible charge when the Chief Operator is not available, responsible for management of additional supporting Operators. Current
- **Operators** – Report to the Chief Operator and Lead Operator for daily maintenance and operations tasks. Current facility includes 3 Operators, with FY 24 budget projecting to increase to 5 positions.
- **Senior Lab Technician** – Responsible for lab management and day-to-day sampling, analyses, and testing for reporting on Daily Monitoring Reports (DMRs).
- **Lab Technician** – Supports the Senior Lab Technician.
- **Industrial Pre-treatment Coordinator** – Works with the Lead Operator and Senior Lab Technician to maintain and coordinate the industrial pre-treatment program.
- **Environmental Scientist** – supports the Chief Operator and Utilities manager with data analysis, reporting and long-range planning.

Normal working shifts are 7:00 AM to 3:30 PM Monday through Friday and 6:00 AM to 2:00 PM on weekends. During off hours, a plant operator is “on call”.

4.21.4 Financial

The Fiscal Year 2021-2022 (FY 2022) sewer operating budget is \$11,753,693.26 (*Faulkner 2022*). This includes WRF operation, collections staff, laboratory, solids disposal, and staffing costs.

4.22 Capacity and Identified Deficiencies Summary

Overall, the WRF operates exceedingly well and generally within capacity. Summaries of each process’ deficiencies are included below based on the preceding discussion under current operating conditions. Current loading and estimated capacity of components relative to projected future 5-year and 20-year conditions are presented in **Table 4-26**. A review of the projected 5- and 20-year impacts identify that several of the systems will have significant capacity impacts within the next five years. The 20-year planning horizon anticipates multiple phases of expansion of nearly every aspect of the WRF.

The observations below include items identified during the facility planning effort by City staff, input from operations staff and during the process of the system evaluation. A summary of the identified deficiencies, and areas identified for operational improvement at the WRF are generally as follows:

4.22.1 Headworks

No deficiencies with this system have been identified; however, coordination with Odor Control improvements and the future collection system (force main) connection into the headworks will be required.

Future phases of collection system work will require additional collection box expansion at the influent channel to the headworks.

Additionally, the city operations staff have discussed potentially expanding the building or the sealed cover system over these channels/boxes as a method of improving odor control, to mitigate freezing issues, and long sample pipe runs associated with the automatic composite sampler system.

4.22.2 Equalization

The system does not respond quickly to extreme variations in flow during peak diurnal fluctuations. The current programming approach allows some fraction of those peaks to pass to the downstream Splitter S-1. Additional (quicker) responsiveness would likely require increased wear on the automated EQ feed control valves and has not been implemented to date. Alternatively, another strategy to mitigate extreme peak handling would be to direct all flow to EQ, and then use the EQ pump station to pump to S-1, but this additional pumping would drastically increase electrical costs.

4.22.3 Biological BNR Treatment

Splitter S1 flow distribution has limited adjustability. An operational enhancement could include downward opening gates at S1 to increase refinement in how flow is distributed, improving operational flexibility by allowing changes to the flow distribution under some alternative operations scenarios. For example, if one of the oxidation ditches has one aerator out of service, it may be desirable to keep the basin in service but reduce the loading to that basin in comparison to the other tanks. This strategy would maximize capacity and performance if a single aerator is out of service.

Biological capacity has been reduced slightly with the conversion of OD 3 to anoxic tankage and current influent load speciation of CBOD and nitrogen species.

4.22.4 Secondary Clarification

No significant concerns exist, however Clarifiers 1 and 2 are not slated for use with the ODs 1 through 4; and should be slated for demolition and/or re-purposing.

4.22.5 Scum Pumping

As noted previously, operators report the pumps and controls in Scum Pump Stations 1 and 2 are at the end of their useful life. Scum Pump Station 1 is not used and not needed, so this space can be re-purposed. Scum Pump Station 2 is necessary for operation of Clarifier 3, which is only needed to meet redundancy requirements. Pumps and controls should be replaced for Scum Pump Station 2, so it is available to be put into service on very short notice when Clarifier 3 is needed.

4.22.6 Intermediate Pumping and Tertiary Clarification

No deficiencies have been identified.

4.22.7 Membrane Filtration

No deficiencies have been identified.

4.22.8 UV Disinfection

No deficiencies have been identified.

4.22.9 Biosolids and Solids Handling/Dewatering

The biosolids dewatering system has limited remaining capacity under current loading conditions and will increase loading to the solids handling facilities due to the addition of tertiary chemical sludge from the plate settler facility. Biosolids handling/dewatering should be targeted for improvements soon.

- Longer dewatering schedules are needed currently if the BDP belt press is out of service and as the chemical sludge concentration decreases. Thinner sludges will increase the required dewatering equipment (belt press) run-times.
- The Andritz Belt press will be undersized to treat biosolids (alone) once the alum sludge is added.
- The blowers for Tank 1 (at UB1) should be upgraded as they are undersized, and the equipment is aging and difficult to obtain parts for. The blowers at Tank 2 should be upgraded as well as they do not meet the minimum airflow criteria. Further, if the sludge is to be thickened oxygen transfer and horsepower requirements will become increasingly important and more difficult to meet mixing requirements with the thicker sludge.
- Diffusers in both sludge storage tanks are likely also in need of being replaced. The number, and distribution of diffusers should be reviewed to provide adequate mixing energy; coordinated with air-flow requirements.
- Overall sludge storage and or thickening to reduce needed storage volume should be evaluated.
- Polymer systems should be evaluated to accommodate increased belt press capacity and potential solids thickening processes.

The sludge loadout hopper has several items of concerns to operations staff including:

- When the hopper contains solids with low percent-solids (too fluid), the sludge often flows through the live-bottom augers, and out through the loadout auger. City staff has identified that slide gates on the discharge of the live bottom augers will likely mitigate this issue. The lack of sludge isolation results in freezing issues related to the truck loadout auger where exposed to the outdoors. A maintenance project is currently being undertaken to resolve this issue.
- Live bottom solids storage hopper capacity will be reduced to 1.34 days storage at the end of the planning period and appears to be adequate but will require weekend trucking activities.

4.22.10 Electrical and SCADA

The current west side system and east side modifications being made as part of the tertiary project can support the facility's electrical load requirements through 5 MGD (approximately 1,300 kVA). The electrical distribution system is designed to accommodate the peak loads of the planned capacity phases of the WRF through 8 MGD (approximately 2,450 kVA) with the addition of conductors installed in spare conduits, as well as utility transformer upgrades.

4.22.11 Plant Drain Lift Stations

PDLS1 has limited remaining capacity under current conditions and should be upgraded as necessary in conjunction with any biosolids improvement projects. Additionally, it should have a dedicated forcemain as part of the improvements project, separating its discharge from the shared forcemain with PDLS2.

4.22.12 Control Building Lift Station

The current control building lift station was part of the 1983 phase 1 upgrades. Due to age and capacity concerns it has been suggested that the system be replaced with new wet well and pumps.

4.22.13 Vactor Dump

The current Vactor dump station has had operational challenges and should be slated for improvements relocation and reconfiguration in the near future. Primary deficiencies are solids separation/dewatering and pumping of drainage material.

4.22.14 Odor Control

Odor control systems are at design capacity and treatment media is at the end of its useful life. Performance of the capture, transmission and treatment system has been marginal and should be evaluated for improvement.

4.22.15 Buildings: (Office/Maintenance/Laboratory)

The City is currently in the initial planning phases to expand and/or remodel the laboratory building as the result of their Facilities Needs Assessment. This process will help transition crew operations/offices away from laboratory facilities.

In the 2021 Facility Needs Assessment it was determined that there is inadequate shop space to accommodate expected growth. Primary functions identified for expanded space include spare parts/materials storage as well as dedicated shop/repair facilities.

4.22.16 Reuse Expansion

The reuse properties have not yet been developed.

Table 4-26 – Summary of Operating Conditions and Capacity

Component	2022 Current Conditions			2027 (5 Year Projection)		2032 (10 Year Projection)		2042 (20 Year Projection)	
	Firm Capacity / Limiting Value	Current Loading (2022)	Current Loading Relative to Existing Capacity (% of Capacity in 2022)	Future Loading (2027)	Future Loading Relative to Existing Capacity (% of Capacity in 2027)	Future Loading (2032)	Future Loading Relative to Existing Capacity (% of Capacity in 2032)	Future Loading (2042)	Future Loading Relative to Existing Capacity (% of Capacity in 2042)
Headworks and Equalization									
Fine Screen, Firm Capacity (1 out of service, mgd peak-hour)	12	7.4	62%	9.24	77%	11.55	96%	18.04	150%
Grit Removal (1 out of service, mgd peak-hour)	12	7.4	62%	9.24	77%	11.55	96%	18.04	150%
Equalization System (firm system capacity, mgd peak hour)	12	7.4	62%	9.24	77%	11.55	96%	18.04	150%
Biological Treatment									
West Side BNR OD 1,2 and 4 (Average Day, mgd)	1.88	--	--	--	--	--	--	--	--
West Side BNR OD 5 & 6 (Average Day, mgd)	2.78	--	--	--	--	--	--	--	--
Total Combined BNR (Average Day, mgd)	4.66	3.24	70%	4.05	87%	5.06	109%	7.9	170%
Secondary Clarification									
West Side Clarifiers 1 to 5 (largest unit out of service, ADF)	1.88	--	--	--				--	--
East Side Clarifiers 6 to 8 (largest unit out of service, ADF)	3.02	--	--	--				--	--
Combined Capacity (assuming proportioned flow split)	4.90	3.24	66%	4.05	83%	5.06	103%	7.9	161%
RAS/WAS Pumping									
Consistent with Secondary Clarification Capacity	NA	NA	NA	NA	NA	NA	NA	NA	NA
Scum Pumping									
Consistent with Secondary Clarification Capacity	NA	NA	NA	NA	NA	NA	NA	NA	NA
Intermediate Pumping									
Firm Capacity 3 of 4 pumps operating (mgd), Peak Hour	13.4	8.4	63%	10.24	76%	12.55	94%	13.65	102%
Tertiary Clarification									
2 Treatment Trains in Operation (ADF)	5.97	3.24	54%	4.05	68%	5.06	85%	7.9	132%
2 Treatment Trains in Operation (Max-Month)	5.97	3.50	59%	4.37	73%	5.46	91%	8.52	143%
3 Treatment Trains in Operation (all trains in operaiton to handle peak day flow)	8.96	4.78	53%	5.97	67%	7.46	83%	11.65	130%
Membrane Filtration									
Average Day Flow (5 of 6 filter trains in service)	4.63	3.24	70%	4.05	87%	5.06	97%	7.9	152%
Peak-Day Flow (5 of 6 filter trains in service)	7.78	4.78	61%	5.97	77%	7.46	85%	11.65	133%
(10 and 20-year projects assume full membrane racks)									
UV Disinfection									
Peak Day Flow (River Discharge): 2 Channel in Service, 1 bank out of service, mgd	13.58	4.78	35%	5.97	44%	7.46	55%	11.65	86%
Peak Day Flow (River Discharge): 1 Channel in Service, mgd	7.76	4.78	62%	5.97	77%	7.46	96%	11.65	150%
Class A Capacity (Channel 1, 1 bank out of service, mgd)	1.0	NA	NA	NA	NA	NA	NA	NA	NA
Utility Water Pumping									
2 of 3 Pumps in Operation (gpm)	600	variable	Adequate for current operations	Capacity Adequate		Capacity Improvements Likely Needed		Capacity Improvements Needed	
Solids Handling and Dewatering									
BDP BFP (Peak Week WAS only, 7 days per week, operating hrs)	12 hours per day operation (double shift)	9.3	78%	Existing System Capacity Exceeded		Phased Capacity Improvements as Needed		Phased Capacity Improvements as Needed	
BDP BFP (Peak Week WAS, 0.25% TCS, 7 days per week, operating hrs)	12 hours per day operation (double shift)	11.9	99%	Existing System Capacity Exceeded		Phased Capacity Improvements as Needed		Phased Capacity Improvements as Needed	
Andritz BFP (Peak Week WAS only, 7 days per week, operating hrs)	12 hours per day operation (double shift)	23.2	193%	Existing System Capacity Exceeded		Phased Capacity Improvements as Needed		Phased Capacity Improvements as Needed	
Andritz BFP (Peak Week WAS, 0.25% TCS, 7 days per week, operating hrs)	12 hours per day operation (double shift)	29.8	248%	Existing System Capacity Exceeded		Phased Capacity Improvements as Needed		Phased Capacity Improvements as Needed	
Feed Pumping, Polymer Feed and Conveyor Systems Consistent with Dewatering Equipment Capacity	NA	NA	NA	TBD - Support Systems to be Upgraded with Solids Handling Approach		TBD - Support Systems to be Upgraded with Solids Handling Approach		TBD - Support Systems to be Upgraded with Solids Handling Approach	
Plant Drainage Pumping									
Plant Drain LS No. 1	400	384	96%	Existing System Capacity Exceeded		Existing System Capacity Exceeded		Capacity Improvements Needed	
Plant Drain LS No. 2	500	450	90%	Capacity Adequate		Capacity Adequate		Capacity Improvements Needed	
Sludge Building LS	180	variable	Adequate for current operations	TBD - Capacity Appears to be Adequate		TBD - Capacity Appears to be Adequate		TBD - based on expansion needs	
Control/Lab Building LS	40	variable	Adequate for current operations	TBD - Capacity Appears to be Adequate		TBD - Capacity Appears to be Adequate		TBD - based on expansion needs	

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- Conn, M. (2019). City of Post Falls Water Reclamation Facility Preliminary Engineering Report. Coeur d'Alene, Idaho: J-U-B.
- Faulkner, J. (2020). City of Post Falls Budget Fiscal Year 2021/2022. Post Falls, Idaho: City of Post Falls.
- Klatt, P., & Conn, M. (2013). City of Post Falls Water Reclamation Facility 2013 Facility Plan. Coeur d'Alene, Idaho: J-U-B.

APPENDICES

Appendix 4-A – WRF Process Schematic

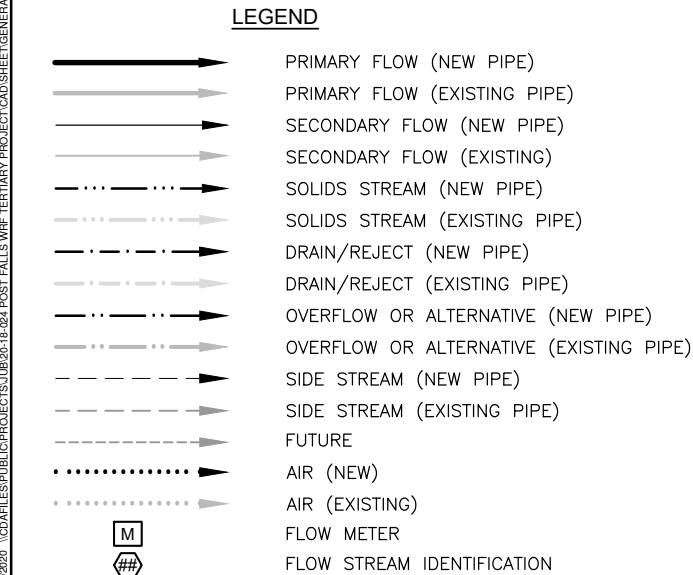
Appendix 4-B – Reuse Site Mapping

Appendix 4-C – BarrTech (Biosolids) Service Contract

Appendix 4-A

WRF Process Schematic

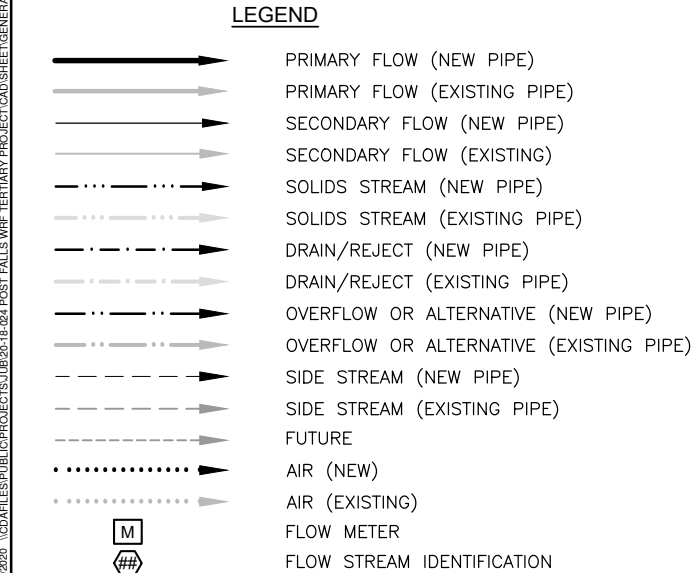
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(D1) PROCESS
NOT TO SCALE

	PROCESS FLOW STREAM IDENTIFIER
23	SC1 IN
24	SC1 OUT
25	SC2 IN
26	SC2 OUT
27	SC3 IN
28	SC3 OUT
29	SC4 IN
30	SC4 OUT
31	SC5 IN
32	SC5 OUT
33	SC6 IN
34	SC6 OUT
35	SC7 IN
36	SC7 OUT
37	SC8 IN
38	SC8 OUT
39	SC 1 TO 5 COMBINED OUT
40	SC 6 TO 8 COMBINED OUT
41	TOTAL RAS
42	RAS TO AN SELECTOR FOR OD 1 TO 4
43	RAS TO AN SELECTOR FOR OD 5 TO 6
44	WAS SC 1 to 5
45	WAS SC 6 to 8
46	SECONDARY EFFLUENT TO PLATE SETTLERS

#	PROCESS FLOW STREAM IDENTIFIER
47	TERTIARY PLATE SETTLER EFFLUENT
48	PLATE SETTLER WAS
49	CIP OVERFLOW
50	MEMBRANE FEED (PLATE SETTLER EFFLUENT)
51	MEMBRANE FILTER FILTRATE TO UV
52	CIP FEED
53	CIP RETURN
54	CIP WASTE/DRAIN
55	BACKWASH FILTRATE TANK FILL LINE
56	MEMBRANE BACKWASH SUPPLY
57	MEMBRANE BACKWASH WASTE
58	RIVER DISCHARGE UV SYSTEM FEED FLOW
59	CLASS A UV SYSTEM FEED FLOW
60	RIVER DISCHARGE FLOW
61	PLANT UTILITY WATER FLOW
62	CLASS A RECYCLED WATER FLOW
63	PLANT DRAIN PS NO. 1 DISCHARGE
64	PLANT DRAIN PS NO. 2 DISCHARGE
65	PLATE SETTLER DRAIN
66	NEUTRALIZED WASTE



(D1) PROCESS 1
NOT TO SCALE

Appendix 4-B

Reuse Site Mapping

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Press Release

FROM: Stephanie Herman sherman@postfallsidaho.org
Public Information Office
City of Post Falls
208-457-3341

Pages: 2

Date: 05/18/2021

● For immediate release

For information contact:

John Beacham, Public Works Director: jbeacham@postfallsidaho.org

Land Application Annexation

On May 18, 2021 the Post Falls City Council will consider finalizing the annexation of 717 acres of property of the Rathdrum Prairie with a zoning designation of Public Reserve. The property includes a 70 acre school site owned by the Post Falls School District and 647 acres reserved for open space and the land application of recycled water. The annexation was previously approved by the City Council, following a public hearing on June 9, 2020. Annexation is the next step in what has been over a 20-year journey.

In 2000, the Post Falls Wastewater Master Plan identified a need for an alternative to discharging all of the City's treated wastewater to the Spokane River. Because of this need, the City worked with local landowners to obtain land for the future site of land application. In order to borrow the necessary funding, the City put the issue to a vote and received approval from the citizens to obtain a loan. The purchase was finalized in 2004. Subsequently, the property was leased to a long-time local farmer.

In 2013, the City adopted an updated water reclamation master plan. As predicted in the previous plan, the need to diversify the discharge options for recycled water was a prominent concern to meet new requirements from the EPA. Due to the availability of the property on the prairie, the City was able to select this alternative, with a lower cost than if river discharge had been the only option.

In 2019, the Post Falls school district approached the City about acquiring a portion of the land application property to be used as a school site because of the property's proximity to the utilities needed to develop a school site. The School District purchased 80 acres adjacent to the City's land application property that was further from utility services. The City and School District completed a property exchange in 2020 providing

the School District with a site for up to two schools that still allows the City to continue to plan for the future land application of fully treated wastewater.

To provide the ability for water and wastewater provision to the future school site, the school property needed to be annexed. The water reclamation property also needed to be annexed to allow the City to protect the public's investment in the site by making sure that the City could regulate the property with its own rules. In preparation for annexing these properties, the City established a Public Reserve zoning district specifically for publicly owned properties allowing only for "governmental, public utility, educational, recreational, cultural, water reuse, agricultural and environmental uses." The Public Reserve zone does not allow privately owned development. The zone was created specifically to provide assurance to the public that the land would not be privately developed and would be used for limited public uses.

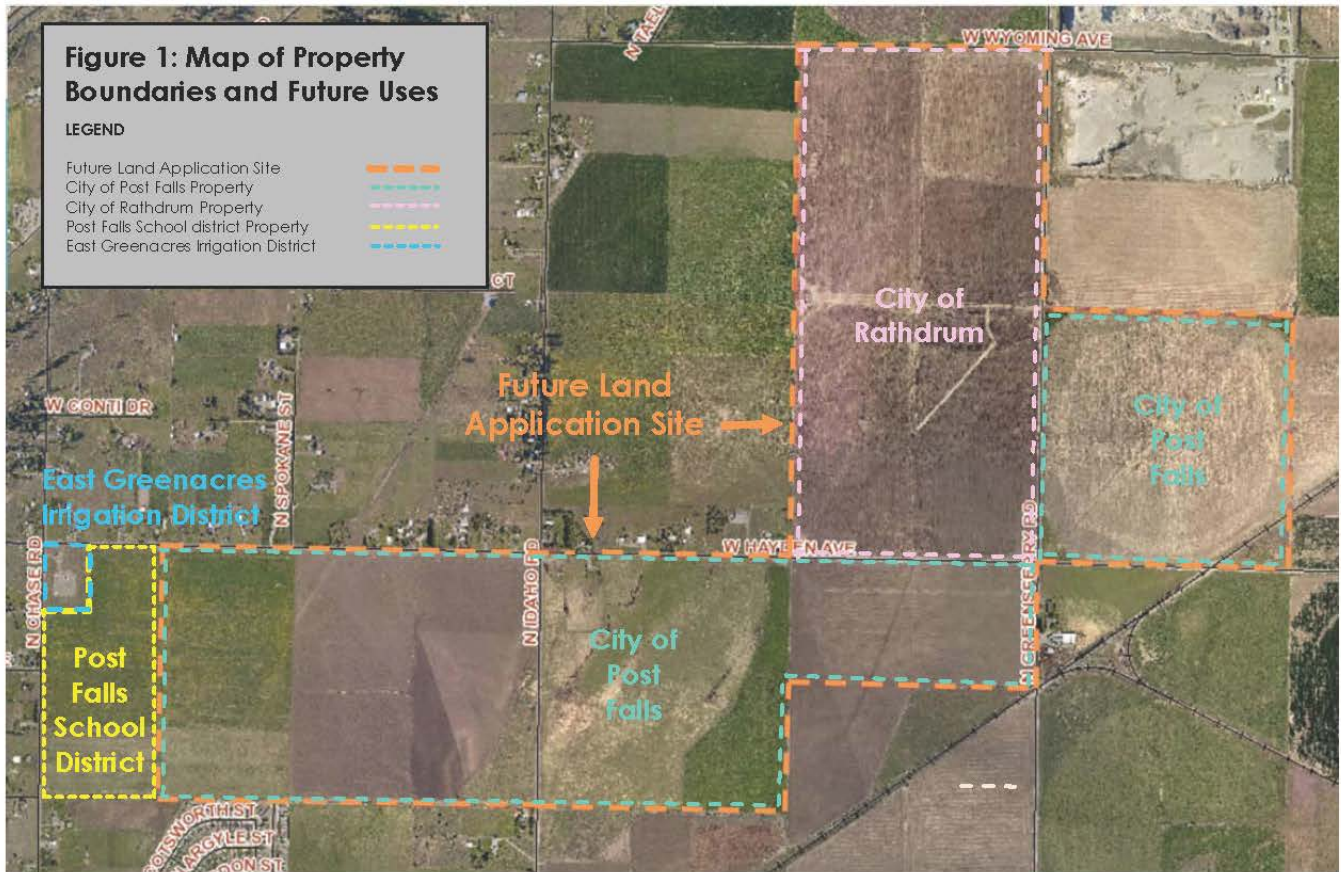
The land application property will continue to be used for agricultural purposes. Once land application of treated wastewater begins, crops that use the most water per acre will be planted. Land application is currently expected to begin on the property sometime in the 2030s. At that time, the City will explore options for allowing public use of the property while ensuring that its primary role as a land application site remains intact.

The City of Rathdrum has also agreed to make 314 acres of property owned by Rathdrum available for land application of recycled water. This property is immediately north of the Post Falls property.

Several years ago, the City of Post Falls acquired just over 370 acres of forested property south of the Spokane River and west of Q'emiln Park, primarily for land application of recycled water. The Parks Department contributed to a portion of this purchase and the property connects almost 76 acres of Park property to the west to the established park and trail system at Q'emiln Park. The combined properties are jointly managed as the Post Falls Community Forest and are open to the public for non-motorized recreation. The Community Forest was annexed into Post Falls in 2020, also with the Public Reserve zoning.

With the two annexations combined, the City has annexed almost 1,084 acres of City owned property into the Public Reserve zone.

- end -



Appendix 4-C

BarrTech (Biosolids) Service Contract

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**Services Contract For The
Transportation and Composting of Biosolids
And Other Related Services**

1. Parties. The Parties to this Service Contract (Contract) are the City of Post Falls, Idaho (Post Falls or Generator), a joint powers entity formed under Idaho Code 67-2328 (Generator), and Barr-Tech LLC, a Washington Limited Liability Company (Barr-Tech). Barr-Tech operates a Composting Beneficial Use Facility, as defined in WAC 173-308-080.

2. Biosolids Production and Use. The Parties acknowledge and agree that (a) the Generator produces wastewater sludge in the form of biosolids (biosolids) as a by-product of its wastewater treatment processes; and (b) the Generator desires that its biosolids be used beneficially as defined by WAC 173-350-100, i.e., in a manner that does not pose a threat to human health or the environment.

3. Contract to Transport and Compost Biosolids Beneficially. In consideration of the mutual promises and covenants in this Contract, and on the terms and conditions of this Contract, Barr-Tech agrees to receive, transport, and compost Generator's biosolids.

4. Scope of Services. Barr-Tech will accept and transport biosolids generated by Generator to the Barr-Tech composting site. All management and operational activities of the biosolids composting will be the responsibility of Barr-Tech and coordinated through the following person:

Scott Deathridge
Operations Manager,
Phone Number 509-590-0437
Email: Scottd@Barr-tech.com

5. Barr-Tech Services. With respect to any biosolids tendered by the Generator to Barr-Tech shall:

- a. Load Generator's biosolids at Generator's facilities using Generator's loading equipment and transport the Generator biosolids to Barr-Tech facilities or other locations for beneficial use through composting of the biosolids, which may

include use thereof on agricultural lands, generally in Washington as a nutrient based soil amendment or compost ingredient;

b. Provide and furnish at Barr-tech's cost and expense, all materials, machinery, equipment, tools, superintendence, labor, insurance and other accessories and services necessary to provide the beneficial use services in strict conformance with the conditions and prices stated in this Contract;

c. Collect and test all necessary soil samples on biosolids compost;

d. Provide information to complete all required biosolids reports, annual or otherwise, related to composting as required by any governing agency, including, but not limited to, the State of Washington Department of Ecology, State of Idaho and the United States Environmental Protection Agency;

e. Obtain and maintain in good standing all applicable and necessary permits, licenses and approvals of any federal, state, and local government, including and especially a permit to operate a Beneficial Use Facility from the Washington State Department of Ecology;

f. Provide copies of the above data, tests and reports to the Generator to document compliance;

g. Barr-Tech shall operate the Beneficial Use Facility to meet all governing agency requirements, including, but not limited to, the State of Washington Department of Ecology and the United States Environmental Protection Agency as well as WAC 173-308.

h. Pay all costs for mobilization, demobilization, transportation, and composting. This will include all cost associated to fuel, labor, repairs, maintenance, permit fees, insurance and other associated costs.

i. Biosolids will be picked up by Barr-Tech or assigned common carrier at the Generator's facility during the hours of 7:30 a.m. and 3:00 p.m., Monday through Friday with at least a twenty-four (24) hour notice given between the Generator and Barr-Tech. Once the Generator has given Barr-Tech notice for biosolids pick up, Barr-Tech will pick up the Generator biosolids within seventy- two (72) hours.

j. Barr-Tech shall use a Barr-Tech Facility truck scale to determine the weight of biosolids in each load. Barr-Tech will provide the Generator a copy of the truck scale weights. Barr-Tech will provide proof of third-party certification of scale accuracy upon the request of Generator.

k. Barr-Tech will provide an annual report to Generator for the biosolids Barr-Tech has received. The annual report shall include the wet tons of biosolids processed for the calendar year. The annual biosolids report shall be submitted to Generator office by January 31.

l. Contractor shall notify Generator in writing within thirty (30) calendar days after the annual Contract anniversary date of those holidays that Barr-Tech will not work or pick up biosolids for that year.

m. Title to all biosolids shall pass to Barr-Tech at the time and point of pickup at Generator's wastewater plant location. Barr-Tech shall dispose of all wastes picked up under this Contract. Barr-Tech is permitted to combine Generator's biosolids with any and all other sewage and industrial biosolids, or other organic matter provided such combination does not violate any law or regulation.

6. Tender of Biosolids. The Generator will regularly tender its biosolids to Barr-Tech. With respect to any biosolids tendered by the Generator to Barr-Tech, the Generator shall:

a. Dewater the biosolids and provide loading equipment at Generator's facility for Barr-Tech's use to properly and evenly load the biosolids into transport vehicles provided by Barr-Tech;

b. Prior to tender, test the tendered biosolids in accordance with testing procedures that are required by any applicable federal, state, and local law and regulations and provide Barr-Tech all information required by law or that otherwise is necessary for Barr-Tech to use and compost the biosolids in a safe, consistent, and reliable manner. Such information may include test results that show on a dry weight basis, the level of trace metals and pathogens for which testing is required, the percentage of solids by weight, and nitrogen content as expressed in terms of total Kjeldahl nitrogen (TKN), ammonium or ammonia and nitrates and nitrites.

c. Generator is not obligated to provide any minimum amount of wastewater biosolids to Barr-Tech.

7. Barr-Tech Warranties. Barr-Tech warrants and represents that it has sufficient facilities, equipment, and personnel, who are sufficiently trained, skilled, knowledgeable, and experienced, to perform all functions that are reasonably necessary to lawfully and effectively transport biosolids, operate a beneficial use facility and compost biosolids in a beneficial manner. Barr-Tech warrants that its equipment and facilities are and will be maintained in a safe condition, and that they are and will be fit for the particular purposes

for which they are used or operated. Barr-Tech warrants that its personnel will work in a prudent and workmanlike manner. In addition, Barr-Tech warrants that it has a permit to operate a Beneficial Use Facility from the Washington State Department of Ecology, and that it shall maintain the permit in good standing. In the event Barr-Tech's permit is suspended or revoked for any reason without having other permitted options available for biosolids composting, Barr-Tech shall notify the Generator within 48 hours of the time of suspension or revocation and the Generator/Composter shall have the option of terminating this Agreement immediately.

8. Initial Term and Renewal Term. This contract extends beyond one fiscal year and is subject to approval of the annual biosolids disposal budgets by the City of Post Falls City Council. The initial term of this Agreement shall commence on the later of the date when both Parties have executed this Contract (Effective & Start Date), and shall expire on the fifth (5th) anniversary of the Effective Date (Initial Term), unless terminated earlier as provided in this Contract.

After the Initial Term, this contract shall automatically renew for two (2) consecutive five (5) year terms under the same terms and conditions of the contract, or amendments thereto.

9. Compensation for Services. The Generator shall pay Barr-Tech a base fee plus a fuel adjustment for diesel fuel price per wet ton of biosolids. The initial Contract base biosolids fee will be \$65.00 per biosolids wet ton. The diesel fuel price will be based on the U.S. Department of Energy-Energy Information Administration Weekly Retail On-Highway Diesel Prices for the West Coast region.

Compensation shall be based on wet ton for each scaled ton of biosolids tendered by the Generator to Barr-Tech. Barr-Tech may provide scales on site to maximize tonnage per load.

10. Adjustment of Compensation. In January of each year, except January, 2012, of this Contract, the base compensation amount will be adjusted on the basis of changes in the previous annual CPI for Urban Wage Earners and Clerical Workers for the Seattle-Tacoma-Bremerton Area (CPI-STBA). The Contract initial CPI-STBA for 2011 is 226.693. Succeeding annual adjustments will be made based on the previous year annual average. Any adjustment based on the CPI shall occur only in whole cents. Specifically, any adjustment shall be rounded down to the nearest whole cent. In the event the parties cannot reach a mutually agreeable compensation adjustment, either party may exercise its right to terminate this Agreement in accordance with paragraph 20(a). During the 180 day termination period of Paragraph 20.b, the compensation amounts shall not change. For example, the 2009 CPI-STBA was 226.026. The 2010 CPI-STBA of 226.693 was a

0.30% increase over 2009. If applied to a \$65 base fee, the new base fee would be \$65.19 per ton.

In addition to the Fee, the Generator shall pay Contractor, or Contractor shall credit Generator a fuel adjustment, which shall be indexed on a diesel fuel price, West Coast, of \$4.107 per gallon, and based upon the U.S. Department of Energy-Energy Information Administration Weekly Retail On-Highway Diesel Prices for the West Coast region (the "Fuel Adjustment"). The Fuel Adjustment will be based upon the monthly price of diesel fuel as it deviates from \$4.107/gal in ten-cent increments. (\$4.00, \$4.20, etc). The adjustment will be the percent increase or decrease of diesel fuel price relative to \$4.107/gallon multiplied by 10 percent times the tonnage fee. An example of fuel adjustments follow:

<u>Fuel \$</u>	<u>% Change</u>	<u>Adjustment</u>	<u>Rate</u>
\$3.80	-7.48%	\$0.49	\$64.51
3.90	-5.04	0.33	64.67
4.00	-2.61	0.17	64.83
4.107			65.00 computed on a base fee of
\$65			
4.20	+2.26	0.15	65.15
4.30	+4.70	0.31	65.31
4.40	+7.13	0.46	65.46

J-U-B NOTE 3/13/23:
The base compensation amount for 2023 is \$74.08 per biosolids wet ton, subject to CPI and Fuel adjustments.

The above calculation will be made as of the last day of each month and the rate computed will be the base fee for the following month.

11. Billing. Barr-Tech shall provide to the Generator, a monthly invoice or billing statement that details the services that it has provided hereunder, including the amount of the Generator's biosolids received by Barr-Tech during the billing period and year to date, relevant load scale documentation, and any other information that the Generator may reasonably require.

12. Payment. The Generator shall pay to Barr-Tech the above-identified compensation within forty-five (45) days after Barr-Tech provides an invoice for such services to the Generator. Any payment not made when due shall accrue interest at the rate of one percent (1%) per month or the highest rate permitted by applicable law, whichever is less.

All amounts payable under this Contract are denominated in United States dollars and the Generator shall pay all amounts payable under this Contract in lawful money of the United States. All payments shall be subject to adjustment for any amounts, upon audit or otherwise, determined to have been improperly invoiced.

13. Taxes. Each Party shall be responsible for the payment of all taxes of whatever nature and source, to the extent that each Party is responsible for the payment of any such taxes pursuant to law.

14. Notices. All notices required under this Contract shall be personally delivered or mailed by certified mail, postage prepaid to the following address or to such other address as either party shall specify in a written notice so given:

Contractor:

Barr-Tech, LLC
Ted Condon, Owner
9117 Kallenberger Road North
Sprague, WA 99032
509-496-1111
ted@americanonsite.net

Generator:

City of Post Falls
Erik Keck, City Administrator
408 N Spokane Street
Post Falls, ID 83854
(208) 773-3511
ekeck@postfallsidaho.org

15. Safety. Barr-Tech shall comply with all applicable safety rules and regulations adopted by the United States Department of Labor Occupational Safety and Health Administration (OSHA) or the Industrial Commission of the State of Washington, whichever is most restrictive. The Generator assumes no duty to insure that Barr-Tech follows the safety regulations issued by OSHA.

16. Regulations, Orders and Conditions. Barr-Tech shall comply with all applicable state, federal, or local laws, regulations, rules, or any other sources of authority, including, but not limited to, court orders, administrative rulings, the regulations in WAC 173-308 and 40 CFR Part 503, the conditions of any applicable beneficial use permit, and so forth.

17. Insurance. Throughout the term of this agreement, Barr-Tech shall obtain and maintain sufficient levels of liability insurance for bodily injury, death and property damage, and any other insurance that is reasonably necessary to effectuate the purpose of this Contract when required by the Generator. Such liability insurance coverage shall extend to or cover the Generator events related to this Contract with Barr-Tech.

a. Minimum Scope of Insurance. Barr-Tech shall obtain insurance of the types described below:

i. Automobile Liability insurance covering all owned non-owned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA00 01 or a substitute form that provides equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.

ii. Commercial General Liability insurance shall be written on ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, independent contractors, products-completed operations, stop gap liability, personal injury and advertising injury, and liability assumed under an insured contract. The Commercial General Liability insurance shall be endorsed to provide the Aggregate per Project Endorsement ISO form CG 25 03 11 85. There shall be no endorsement or modification of the Commercial General Liability insurance for liability arising from explosion, collapse or underground property damage. The Generator shall be named as an insured under Barr-Tech's Commercial General Liability insurance policy using ISO Additional Insured endorsement CG 20 10 10 01 and Additional Insured-Completed Operations endorsement CG 20 37 10 01 or substitute endorsements providing equivalent coverage.

b. Minimum Amounts of Insurance. Barr-Tech shall maintain the following insurance limits:

i. Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of \$500,000 per accident.

ii. Commercial General Liability insurance shall be written with limits no less than \$1,000,000 for each occurrence, \$1,000,000 general aggregate and a \$1,000,000 products-completed operations aggregate limit.

c. Other Insurance Provisions. The insurance policies are to contain, or be endorsed to contain, the following provisions for Automobile Liability and Commercial General Liability insurance:

i. Barr-Tech's insurance coverage shall be primary insurance as respect the Generator. Any insurance that might cover this Contract which is maintained by the Generator shall be in excess of Barr-Tech's insurance and shall not contribute with Barr-Tech's insurance.

ii. Barr-Tech's insurance shall be endorsed to state that coverage shall not be cancelled by either party, except after delivery of thirty (30) days prior written notice by certified mail, return receipt requested, to the Generator.

d. **Workers Compensation.** Barr-Tech shall procure and maintain, at its own expense, during the term of this Contract, in accordance with the provisions of the laws of the State of Washington, Workmen's Compensation Insurance, including occupational disease provisions for all of its employees engaged in work under this Contract and in the case that any work is sublet, the Contractor shall require such subcontractor similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all the latter's employees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in hazardous work under this Contract is not protected under Workmen's Compensation statute, the Contractor shall provide, and shall cause each subcontractor to provide adequate and suitable insurance for the protection of its employees not otherwise protected. Proof of such coverage shall be provided to the Generator.

18. Force Majeure. Neither Party shall be liable to the other for, or be considered to be in breach of or default under this Contract because of, any delay or failure in performance by such Party under this Contract to the extent such delay or failure is due to any cause or condition beyond such Party's reasonable control, including, but not limited to, failure or threat of failure of facilities or equipment; fire, lightning, flood, earthquake, volcanic activity, wind, drought, storm and other acts of the elements; court order and act, or failure to act, of civil, military or governmental authority; strike, lockout and other labor dispute; epidemic, riot, insurrection, sabotage, war and other civil disturbance or disobedience; labor or material shortage; and act or omission of any person or entity (other than such Party, its contractors or suppliers of any tier or anyone acting on behalf of such Party). Each Party shall exercise reasonable diligence to overcome the cause of such delay; provided, however, that to the extent the cause of such delay arises from any breach of, or failure by the other Party to perform any of its obligations under this Agreement, the costs and expenses incurred by the Party that has delayed or failed in its performance under this Contract to overcome the cause of such delay shall be for the account of such other Party. Nothing contained in this Contract shall be construed to require either Party to prevent or settle any strike, lockout or other labor dispute in which it may be involved. Notwithstanding the foregoing, nothing in this paragraph shall apply to any delay or failure by either Party to pay any amounts due and owing to the other Party pursuant to this Agreement.

19. Material Change in Circumstances. If a material change in circumstances occurs, such as, but not limited to, a change in operating costs, applicable law, licensing or permitting requirements, or a change that results from decisions of tribunals, either judicial or administrative, and such change materially impacts the costs of transportation, storage, land application or other aspects of the beneficial use of the Generator's

biosolids, then the Parties may renegotiate the affected provisions in this Contract. The parties shall negotiate in good faith; however any modifications of this Contract shall occur only by mutual agreement of both parties.

20. Termination.

a. Termination for Breach or Default. If either Party commits a material breach of or default under this Contract, then the Non-Breaching Party may give the Breaching Party written notice of the breach or default (including a statement of the facts relating to the breach or default and the provisions of this Contract that are applicable to such breach or default). If the Breaching Party fails to cure the specified breach or default within thirty (30) days after receipt of such notice (or such later date as may be specified in such notice), then the Non-Breaching Party may elect to immediately terminate this Agreement. If the Generator or Barr-Tech purports to terminate or cancel all or any part of this Contract for the other Party's breach or default when the other Party is not in breach or default that would permit such termination or cancellation, such termination or cancellation shall be deemed to have been a Termination Without Cause by the Generator or Barr-Tech, as the case may be, and the rights of the Parties shall be determined accordingly.

b. Generator may terminate this Contract with one hundred eighty (180) days written notice to Barr-Tech if it is determined by Generator that this Contract is no longer in the best interest of the Generator, however this provision does not apply to the initial five-year term of the contract. The earliest date that written notice may be made is one hundred eighty (180) days prior to the fifth (5th) anniversary of the Effective Date (Initial Term) of this Contract.

21. Indemnification. Barr-Tech will defend, protect, indemnify and hold harmless the Generator its officers, directors, agents, employees and invitees from and against any and all liability, claims, demands, losses and expenses of every kind and description including, without limitation, attorney's fees, caused by arising out of, resulting from, or in any way incidental to the performance of this Contract, provided that any such liability, claim, demand, damage, loss or expense is attributable to or caused in whole or in part by any wrongful intentional act or by the negligent act or omission of Barr-Tech, anyone directly or indirectly employed by or otherwise associated with Barr-Tech or is caused in whole or in part by Barr-Tech's failure to perform its obligations under this Contract. Barr-Tech assumes potential liability for actions brought by its own employees against the generator and solely for the purpose of this indemnification and defense; Barr-Tech waives any immunity under Washington State industrial insurance laws, RCW Title 51. This waiver was the subject of mutual negotiation.

Likewise, to the extent possible allowed by law and without waiving any defenses or protection under statutory or common law immunities, the Generator will defend, protect, indemnify and hold harmless Barr-Tech its members, officers, directors, agents, employees and invitees from and against any and all liability, claims, demands, losses and expenses of every kind and description including, without limitation, attorney's fees, caused by, arising out of, resulting from, or in any way incidental to the performance of this Contract, provided that any such liability, claim, demand, damage, loss or expense is attributable to or caused in whole or in part by any wrongful intentional act or by the negligent act or omission of the Generator, anyone directly employed by (excluding Barr-Tech its officers, directors, agents and employees) the Generator or is caused in whole or in part by the Generator's failure to perform its obligations under this contract.

22. Governing Law. The obligations of each Party under this Contract shall in all respects, including all matters of construction, validity and performance, be governed by and construed in accordance with the laws of the State of Idaho, without reference to any rules governing conflict of laws, except to the extent such laws may be preempted by the laws of the United States of America.

23. Venue. The venue for any action that arises from or out of this Contract shall be the Kootenai County, Idaho.

24. Severability. The invalidity or unenforceability of any provision of this Contract shall not affect the other provisions hereof, and this Contract shall be construed in all respects as if such invalid or unenforceable provisions were omitted, unless such invalidity or unenforceability destroys the purpose and intent of this Agreement.

25. Independent Contractor, No Partnership. As between Barr-Tech and the Generator, Barr-Tech shall maintain full and complete control and responsibility for its services and the performance thereof; provided, however, the services contemplated herein shall be subject to the Generator's general rights of direction and must be approved in advance by the Generator. Notwithstanding the foregoing, the Barr-Tech acknowledges and agrees that it is dealing with the Generator as an independent contractor. Nothing contained in this Contract shall be interpreted as constituting either Party as the joint venture, agent, employee, franchisee or partner of the other Party or as conferring upon either Party the power of authority to bind the other Party in any transaction with third parties. Employees or contractors of Barr-Tech are not employees of the Generator and such employees are not entitled to any of the benefits the Generator provides to its employees. Barr-Tech shall be solely and entirely responsible for the acts of its employees during the performance of this Contract and shall provide at its sole expense all materials, equipment and facilities, and other necessities to perform its duties under this Agreement, unless otherwise specified in writing. All rights and obligations of

the Parties under this Contract are intended to be several, not joint or, collective, and neither Party shall be jointly or severally liable for the acts, omissions or obligations under this Contract of the other Party.

26. Subcontracting. Barr-Tech may subcontract or delegate performance of its services hereunder to any entity, including any Barr-Tech subsidiary or related company, or common carrier without prior written authorization from the Generator. Any such delegation or subcontracting shall not relieve Barr-Tech of its obligation to perform in accordance with the provisions of this Agreement.

27. Non-Waiver. A party's failure to strictly enforce its rights under any provision of this Contract shall not be construed to be a waiver of that provision. No waiver of any breach of this Contract shall be held to be a waiver of any other breach.

28. No Third Party Beneficiary. This Contract is entered into solely for the benefit of the parties hereto. This Contract shall confer no benefits, direct or indirect, on any third persons, including employees of the parties. No person or entity other than the parties themselves may rely upon or enforce any provision of this Contract.

29. Assignment. Neither Party shall voluntarily assign or otherwise transfer any of its rights, interests or obligations in, to or under this Contract without the prior written consent of the other Party.

30. Cumulative Rights. The rights and remedies of each Party set forth in any provision of this Contract are in addition to and do not in any way limit any other rights or remedies afforded to such Party by law.

31. Survival. The obligations of the Parties under the provisions of this Contract that may reasonably be interpreted or construed as surviving the completion, termination or cancellation of this Contract shall survive the completion, termination or cancellation of this Agreement.

32. Entire Contract, Amendment. This Contract constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes any and all other communications, representations, proposals, understandings or agreements, either written or oral, between the parties with respect to such subject matter. No amendment or modification of any provision of this Contract shall be valid unless set forth in a written amendment to this Agreement. This Contract may be amended only with the express written consent of both of the Parties and no provision of this Contract shall be varied or contradicted by any oral agreement, course of dealing or performance or any other matter not set forth hereafter in a written agreement signed by both of the Parties.

33. Counterparts. This Contract may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, and such counterparts together shall constitute one and the same instrument.

This contract is APPROVED by the undersigned parties, representing that they have the legal authority to bind their respective entities.

CONTRACTOR
BARR-TECH, LLC

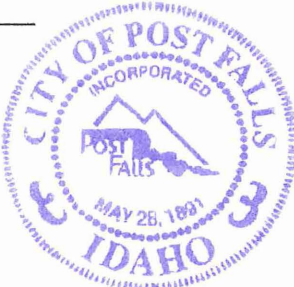

Ted Condon, Owner

Date: 11/28/11

GENERATOR
CITY OF POST FALLS


Clay Larkin, Mayor

Date: 12/6/11



ATTEST:


Charity Cynova, City Clerk



J-U-B ENGINEERS, INC.



**THE
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**GATEWAY
MAPPING
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CHAPTER 5

ALTERNATIVES TO MEET FACILITY

GOALS: LIQUID STREAM

City of Post Falls WRF Facility Plan

May 2024

Prepared by:



J·U·B ENGINEERS, INC.



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ENVIRONMENTAL
ENGINEERING**

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5 ALTERNATIVES TO MEET FACILITIES GOALS: LIQUID STREAM

5.1 Introduction

Processes within the Post Falls Water Reclamation Facility (WRF) have various operational issues at current flows and loads and potential capacity issues at projected flows and loads, as noted in **Chapter 4**. A No Action Alternative is presented in **Section 5.2** and assesses the existing facility's ability to satisfy the required permit conditions with projected growth over the next 20 years. General facility improvements required to maintain the current level of treatment at projected future flows and loads are discussed in **Section 5.3**.

Prior to beginning the facility planning effort, the City developed its own Capital Improvement Plan (CIP) for building facilities (Facility Needs Assessment at the WRF and overall City Facilities). A copy of the document is included in **Appendix 5-A**. If not addressed in **Section 5.3** as part of other recommended improvements, items listed in the City's CIP have been incorporated directly as a line item at the bottom of the appropriate cost opinion. A key element in this evaluation is the development of reuse implementation phasing and alternatives as part of the overall IPDES compliance and capacity expansion strategy. Reuse implementation is discussed in detail in **Section 5.4** and implementation strategies/alternatives are discussed in **Section 5.5**.

In general, three primary high-level planning alternatives were developed for consideration in addition to the No Action Alternative. These three planning alternatives were targeted to maintain compliance and flexibility with the WRF (and City's) long term water reclamation planning objectives for the WRF liquid stream. These alternatives include:

- **Alternative 1 - Facility Improvements to WRF**
 - This alternative includes general facility improvements to existing processes to mitigate known operational deficiencies and anticipated capacity needs identified previously in Chapter 4 through the 20-year planning period. Improvements will be phased as necessary to accommodate growth and necessary logistics for implementation as well as timing for capital funding.
- **Alternative 2 - Facility Improvements to WRF + Reuse on Currently Allocated Property**
 - This alternative includes and expands on Alternative 1 with the phased implementation of Reuse on currently allocated reuse properties (including the City Owned Community Forest and Public Reserve properties identified on the Rathdrum Prairie).

- **Alternative 3 - Facility Improvements to WRF + Reuse on Currently Allocated Property + Additional Property Acquisition for Full Reuse during Growing Season**
 - This alternative includes and expands on Alternative 1 and 2 with the expansion of Reuse to additional property. The alternative includes costs for additional property purchase/acquisition to expand the prairie Public Reserve property as well as infrastructure to expand reuse. The target expansion would provide adequate reuse infrastructure to allow for zero discharge to the Spokane River during the summer growing season. The River discharge would be retained for non-growing season discharge as well as for backup discharge of non-compliant Class A water meeting river standards during the growing season.

These alternatives are developed and compiled in further detail, including infrastructure planning, phasing, and costs in the following sections. Detailed cost opinions are included in **Appendix 5-B**.

5.2 No Action Alternative

The capacity evaluation developed in **Chapter 4** was repeated for the facility based on the 20-year projected flows and loads assuming no improvements are made to the WRF. Relative loading for major unit processes in years 2022 through 2042 are shown in **Table 5-1**.

Hydraulic limitations at the headworks and influent equalization will stress nearly all process systems near the latter half of the planning period. Future peak flows may also result in insufficient residence time in biological systems and will likely impact required UV dose for disinfection.

Future organic loading will impact the biological basins and potentially compromise performance in coming years. Specifically, the secondary BNR systems will likely have insufficient capacity at projected future flows and loads based on projected hydraulic residence time (HRT), solids residence time (SRT), and oxygen supply, whereas today these are not a concern. Increased organic loading and the implementation of tertiary chemical addition for phosphorus removal will also result in significantly longer runtimes for the belt filter press and/or use of two presses to adequately process the biosolids.

Nearly all processes at the WRF are expected to exceed 100 percent capacity (a typical threshold value for planning improvements) at 2042 flows and loads, with several processes exceeding 100 percent capacity earlier in the planning period. As a result, the potential for permit violations will increase and the No Action Alternative is not a viable long-term option for continued operations at the WRF.

Table 5-1 - Summary of Operating Conditions and Capacity

	2022 Current Conditions			2027 (5 Year Projection)		2032 (10 Year Projection)		2042 (20 Year Projection)	
Component	Firm Capacity / Limiting Value	Current Loading (2022)	Current Loading Relative to Existing Capacity (% of Capacity in 2022)	Future Loading (2027)	Future Loading Relative to Existing Capacity (% of Capacity in 2027)	Future Loading (2032)	Future Loading Relative to Existing Capacity (% of Capacity in 2032)	Future Loading (2042)	Future Loading Relative to Existing Capacity (% of Capacity in 2042)
Headworks and Equalization									
Fine Screen, Firm Capacity (1 out of service, mgd peak-hour)	12	7.4	62%	9.24	77%	11.55	96%	18.04	150%
Grit Removal (1 out of service, mgd peak-hour)	12	7.4	62%	9.24	77%	11.55	96%	18.04	150%
Equalization System (firm system capacity, mgd peak hour)	12	7.4	62%	9.24	77%	11.55	96%	18.04	150%
Biological Treatment									
West Side BNR OD 1,2 and 4 (Average Day, mgd)	1.88	--	--	--	--	--	--	--	--
West Side BNR OD 5 & 6 (Average Day, mgd)	2.78	--	--	--	--	--	--	--	--
Total Combined BNR (Average Day, mgd)	4.66	3.24	70%	4.05	87%	5.06	109%	7.9	170%
Secondary Clarification									
West Side Clarifiers 1 to 5 (largest unit out of service, ADF)	1.88	--	--	--				--	--
East Side Clarifiers 6 to 8 (largest unit out of service, ADF)	3.02	--	--	--				--	--
Combined Capacity (assuming proportioned flow split)	4.90	3.24	66%	4.05	83%	5.06	103%	7.9	161%
RAS/WAS Pumping									
Consistent with Secondary Clarification Capacity	NA	NA	NA	NA	NA	NA	NA	NA	NA
Scum Pumping									
Consistent with Secondary Clarification Capacity	NA	NA	NA	NA		NA	NA	NA	NA
Intermediate Pumping									
Firm Capacity 3 of 4 pumps operating (mgd), Peak Hour	13.4	8.4	63%	10.24	76%	12.55	94%	13.65	102%
Tertiary Clarification									
2 Treatment Trains in Operation (ADF)	5.97	3.24	54%	4.05	68%	5.06	85%	7.9	132%
2 Treatment Trains in Operation (Max-Month)	5.97	3.50	59%	4.37	73%	5.46	91%	8.52	143%
3 Treatment Trains in Operation (all trains in operaiton to handle peak day flow)	8.96	4.78	53%	5.97	67%	7.46	83%	11.65	130%
Membrane Filtration									
Average Day Flow (5 of 6 filter trains in service)	4.63	3.24	70%	4.05	87%	5.06	97%	7.9	152%
Peak-Day Flow (5 of 6 filter trains in service)	7.78	4.78	61%	5.97	77%	7.46	85%	11.65	133%
(10 and 20-year % capacity assessment assumes full membrane racks)							↑		↑
UV Disinfection									
Peak Day Flow (River Discharge): 2 Channel in Service, 1 bank out of service, mgd	13.58	4.78	35%	5.97	44%	7.46	55%	11.65	86%
Peak Day Flow (River Discharge): 1 Channel in Service, mgd	7.76	4.78	62%	5.97	77%	7.46	96%	11.65	150%
Class A Capacity (Channel 1, 1 bank out of service, mgd)	1.0	NA	NA	NA	NA	NA	NA	NA	NA
Utility Water Pumping									
2 of 3 Pumps in Operation (gpm)	600	variable	Adequate for current operations	Capacity Adequate		Capacity Improvements Likely Needed		Capacity Improvements Needed	
Solids Handling and Dewatering									
BDP BFP (Peak Week WAS only, 7 days per week, operating hrs)	12 hours per day operation (double shift)	9.3	78%	Existing System Capacity Exceeded		Phased Capacity Improvements as Needed		Phased Capacity Improvements as Needed	
BDP BFP (Peak Week WAS, 0.25% TCS, 7 days per week, operating hrs)	12 hours per day operation (double shift)	11.9	99%	Existing System Capacity Exceeded		Phased Capacity Improvements as Needed		Phased Capacity Improvements as Needed	
Andritz BFP (Peak Week WAS only, 7 days per week, operating hrs)	12 hours per day operation (double shift)	23.2	193%	Existing System Capacity Exceeded		Phased Capacity Improvements as Needed		Phased Capacity Improvements as Needed	
Andritz BFP (Peak Week WAS, 0.25% TCS, 7 days per week, operating hrs)	12 hours per day operation (double shift)	29.8	248%	Existing System Capacity Exceeded		Phased Capacity Improvements as Needed		Phased Capacity Improvements as Needed	
Feed Pumping, Polymer Feed and Conveyor Systems Consistent with Dewatering Equipment Capacity	NA	NA	NA	TBD - Support Systems to be Upgraded with Solids Handling Approach		TBD - Support Systems to be Upgraded with Solids Handling Approach		TBD - Support Systems to be Upgraded with Solids Handling Approach	
Plant Drainage Pumping									
Plant Drain LS No. 1	400	384	96%	Existing System Capacity Exceeded		Existing System Capacity Exceeded		Capacity Improvements Needed	
Plant Drain LS No. 2	500	450	90%	Capacity Adequate		Capacity Adequate		Capacity Improvements Needed	
Sludge Building LS	180	variable	Adequate for current operations	TBD - Capacity Appears to be Adequate		TBD - Capacity Appears to be Adequate		TBD - based on expansion needs	
Control/Lab Building LS	40	variable	Adequate for current operations	TBD - Capacity Appears to be Adequate		TBD - Capacity Appears to be Adequate		TBD - based on expansion needs	

5.3 Facility Improvements to WRF

5.3.1 General

Each of the existing unit processes at the WRF have been evaluated to determine its current treatment capacity, performance, as well as to identify deficiencies and capacity limitations. Projected flow and loads for the planning period have been utilized to evaluate the performance of these processes and necessary improvements through 2042. The detailed description of each unit process and its evaluation is included in subsequent sections. An aerial photo showing the existing overview of the major unit processes and facilities on the WRF site is shown in **Figure 5-1**.

5.3.2 WRF Site Planning

Figure 5-1 also shows the approximate fence parcel boundaries for the existing WRF (blue boundary) and the associated street's department property to the east (red boundary). Previous planning efforts recommended the expansion of the equalization tanks progressing eastward; biological process to the north east portions of the WRF site with expansion progressing eastward, and the addition of tertiary treatment facilities in the south east portion of the site expanding eastward.

With these previously planned expansions, there is limited remaining space for expanding the existing unit processes or adding new unit processes at the WRF and future expansions will require expansion into the streets department parcel.

Biosolids improvements are discussed separately and are assumed to be constrained to the western side of the WRF either in existing open space; or through recouped space from abandoned processes (e.g., Secondary Clarifiers 1 and 2, and associated processes).

Recommended improvements discussed in subsequent sections include general site layout options for modifications and additions to the existing unit processes while reserving space for additional equalization, biological treatment, and tertiary treatment trains. Space is limited, although it appears that the existing site can accommodate the proposed improvements and beyond the 2042 planning period. Viability of the locations of proposed improvements will require verification during design.

Expansion beyond the 20-year planning period will likely require expansion into the streets department parcel and/or evaluation of alternate technologies to retain operations in the existing facility footprint. This is consistent with previous planning and has already begun with the siting and expansion of the backup power generators as part of the tertiary improvements project. Therefore, as opportunities arise, the City should consider transitioning streets department operations to their planned offsite facilities in coordination with the expansion needs of the WRF. Considerations for property to accommodate the implementation of new treatment processes that may be needed to address future permit requirements has not been explicitly included in this evaluation but should also be considered as prudent planning should adjacent parcels potentially become available for acquisition, near the WRF site.

The overall WRF Site Master Plan is refined in coordination with Biosolids expansion needs including proposed project phasing for the various unit processes selected for improvements in **Chapter 7**.

Figure 5-1 - Post Falls WRF Site Planning Constraints

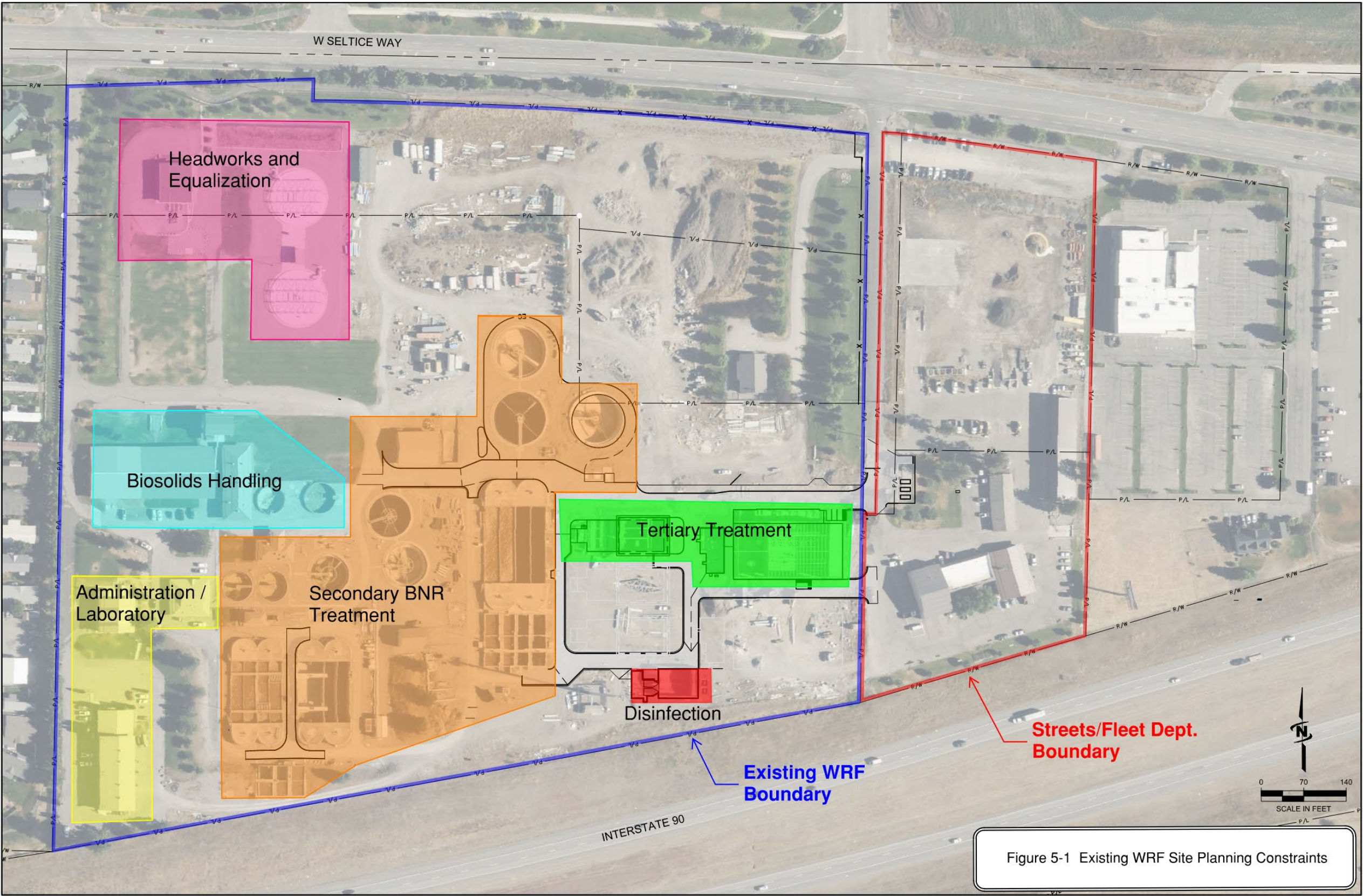


Figure 5-1 Existing WRF Site Planning Constraints

5.3.3 Headworks and Equalization

The Headworks and Equalization generally has adequate capacity for the first half of the planning period. It is anticipated that by the year 2032 the systems will be reaching approximately 96% of their design capacity (reference Chapter 4) based on the projected influent flows and loads. The headworks facility must have a third screening/grit removal channel expansion operational by approximately 2032. In addition to this, modifications at the influent collection box/piping and associated influent channel odor control must be made to accommodate collection system forcemain additions that will pump directly to the WRF influent. The influent piping manifold addition is anticipated to be completed within the next 5 years, in advance of the third screening/grit removal channel but could be completed concurrently. The influent forcemain configuration was evaluated in a study titled, *Headworks Influent Feasibility Study* and is included in **Appendix 5-D**. This study reviewed multiple alternatives for reconfiguring the current and future influent forcemains identified in the collection system master plan, as those forcemains enter the WRF and connect to the Headworks. The costs for those influent forcemain projects and influent piping manifold at the WRF were identified in that study and included in the Collection System Capital Improvement projects related to the Seltice Way Corridor Forcemains, and 12th Avenue Forcmain Phase 3 and 4 projects.

In addition to capacity for treatment and attenuation, the equalization system also provides conveyance (pumping) to downstream secondary BNR systems. Phasing of the equalization pump station was reviewed based on current operational modes that have been optimized through SCADA. In addition, the hydraulic grade line from the headworks to the proposed improvements was analyzed. Based on a review of these elements it is anticipated that the equalizations system will be adequate through the next BNR 7 expansion that must be operational by ~2028 and capable of managing peak influent flows of approximately 12 mgd. However, the gravity-flow line feeding BNR 7 should have a modulated control valve/vault to allow throttling of the influent line feeding BNR 7. The will essentially “block-load” that train to approximately max-month flow capacity, allowing only minor daily diurnal variations. Peak flows will continue to be managed by the current equalization and pumping system and fluctuations will be absorbed during this period by the existing BNR 1 through 6 system.

Expansion of Pump Station No. 2 (EQPS 2) and EQ Tank No. 3 will need to be completed as part of the BNR 8 expansion that must be operational by ~2036. Tank No. 4 being required near the end of the 2042 planning period including expanded pumping capacity at EQPS 2.

A summary of the anticipated improvements and target year for capacity additions to be completed are shown in **Table 5-2**. Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

Table 5-2 - Headworks and EQ Capacity and Improvements Projects

Project	Target year for project completion/operation
Headworks Influent Collection Box and Associated Influent Channel Odor Control Covers	2027
Equalization Control Modification for BNR 7	2028
Headworks Channel No. 3 Expansion	2032
Equalization Pump Station 2 and Tank. No. 3	2036
Equalization Tank. No. 4	2042

5.3.4 Secondary BNR Treatment and Secondary Clarification

As discussed in Chapter 4, Secondary BNR system and associated secondary clarification systems must be expanded during the planning period to accommodate anticipated flows and loads. In addition to the secondary BNR process tanks and clarifiers, support structures including splitter boxes, and pumping facilities for RAS/WAS and clarifier scum must also be phased with the expansions.

The phasing of BNR 7 and Clarifier 9 is assumed to occur concurrently. Redundancy for Clarifier 9 is assumed to be accommodated by a piping intertie (emergency operation only) from BNR 7 routing mixed liquor flow to the splitter box feeding clarifiers 6,7 and 8.

As noted in Chapter 4, Scum Pump Station No. 2 is in need of pumping equipment and control replacement. A summary of the anticipated improvements and target year for capacity additions to be completed are shown in **Table 5-3**. Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

Table 5-3 - BNR and Secondary Clarification Capacity and Improvements Projects

Project	Target year for project completion/operation
Scum Pump Station No. 2 improvements	2028
BNR 7 Selector and Oxidation Ditch, including:	
• BNR Flow Splitter Box	2028
• RAS Splitter Box	
Secondary Clarifier No. 9, including:	
• MLSS (Clarifier Feed) Splitter Box	2031 based on overall clarifier capacity
• Utility Building No. 3	Likely needs constructed at same time as
• RAS Pump 12	BNR 7 (by 2028) due to connectivity of
• Scum Pump Station No. 5	systems.
BNR 8 Selector and Oxidation Ditch	2036
Secondary Clarifier No. 10, including:	
• RAS Pump 13	2037
BNR 9 Selector and Oxidation Ditch	2040
Secondary Clarifier No. 11, including:	
• RAS Pump 14	2042
Demolition - Secondary Clarifiers NO. 1 and NO. 2	As needed to obtain space for other improvements – Budgeted for Year 2036

5.3.5 Intermediate Pumping and Tertiary Clarification

The next phase of intermediate pumping system (IP2) is directly coupled with construction with the next phase of tertiary clarification (TC2) requiring the two systems to be constructed at the same time to function together. Due to site master planning and hydraulic constraints to be discussed later in Chapter 7, it is likely that the IP2 pump station will be located separate from the TC2 system (not the same common-wall construction as the current IP1 and TC1 system) Further, the tertiary membrane filtration system (building No. 2 or MF2) cannot feasibly be operated without the implementation of the IP2/TC2 system prior for the purpose of pre-treatment and lifting of the hydraulic grade.

The use of Tertiary Clarification alone at times to meet effluent water quality requirements without the additional cost of complete membrane filtration is a key strategy identified in the piloting, planning, and design of the City's tertiary treatment project. A summary of the anticipated improvements and target year for capacity additions to be completed are shown in **Table 5-4**. Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

Table 5-4 - Tertiary Clarification Improvements Projects

Project	Target year for project completion/operation
Intermediate Pumping (IP2)	2031 ^(A)
Tertiary Clarification (TC2)	2033 ^(A)

(A) Timing of this project is coupled with the construction of Secondary Clarifier 9 and associated hydraulics.

5.3.6 Tertiary Membrane Filtration

The current membrane filtration system (MF1) will have adequate capacity through the middle of the planning period and conservatively can likely be extended with the construction and implementation of IP2/TC2 capacity and reuse implementation.

The design of the MF1 facility anticipated a phased capacity increase from 4.63/7.78 mgd (ADF/MDF) capacity to 5.21/8.76 mgd through the addition of modules to the existing membrane racks. This is anticipated to be required by 2033 and is targeted to occur concurrently with a complete membrane module replacement (~10-years).

The timing of these projects is not only based on the anticipated timing of growth, but also the actual performance of the TC and MF systems. As the current TC1 and MF1 systems are currently under construction their anticipated performance and associated reliability has not yet been validated at full-scale. Further the implementation of reuse consistent with the previous Facility Planning efforts help delay the need for implementation of the MF2 facility. Estimates for the performance of these systems had to be made based on pilot study and anticipated design criteria.

A calculation was made to estimate the likely timing of the need for the MF2 facility as noted in **Table 5-5** below and associated performance assumptions.

Table 5-5 - Anticipated Timing for Membrane Filtration Projects

Project	Operating Conditions	Target year for project completion/operation
MF1 Module Expansion (Fully Populate Existing Membrane Racks)	- TC1 effluent at 0.25 ppm - MF1 Effluent at average of 0.040 ppm (operating at full capacity)	~2033
MF2 Expansion - <i>Conservative Timing Estimate</i>	- TC1 and TC2 effluent at 0.25 ppm - MF1 Effluent at average of 0.045 ppm (operating at full capacity)	2037 ^(A)
MF2 Expansion - <i>Timing Estimate Based on Pilot Study Optimized Performance</i>	- TC1 and TC2 effluent at 0.150 ppm - MF1 Effluent at average of 0.040 ppm (operating at full capacity)	2040 ^(B)

(A) Assumes Reuse Phase 1 is operational by 2035 and Reuse Phase 2 by 2036.

(B) Assumes Reuse Phase 1 is operational by 2037 and Reuse Phase 2 by 2039.

The implementation of the Tertiary Membrane Filtration Building No. 2 (MF2) is anticipated to be needed by 2037 conservatively and should be used for financial planning but could likely be extended to 2040 or longer if the TC1 and TC2 system or the MF1 systems routinely perform better than anticipated. To clarify, **Table 5-5** shows if the TC1/TC2 systems and MF1 facility can operate in an optimized state, with TC effluent at 0.15 ppm and membrane effluent at 0.040 ppm (which was demonstrated during the pilot study), the need for the MF2 facility can be delayed until nearly 2040. However, if the full-scale system isn't capable of the piloted performance (resulting in 0.25 ppm TC effluent and 0.045 ppm membrane effluent) the MF2 system could be needed as early as 2037.

Actual system performance should be reviewed to assess timing needs for MF2 implementation. In addition to the MF2 facility, the associated chemical feed system expansion will also need to be completed at the same time. Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

5.3.7 UV Disinfection

The UV system has been designed to meet the river discharge requirements at the following conditions. At 8.76 MGD the system operates two channels and 5 of 7 banks in each channel. There will be two standby banks in each channel. To meet the redundancy requirements, at a flow of 7.76 MGD one channel with 6 of 7 banks will operate. There will be a standby bank within the operating channel while the second channel can be utilized to pass the 1.0 MGD reuse water. There is space for an additional bank (8 total) for future installation in each channel.

Regarding minimum redundancy, the existing UV Disinfection system configuration allows for multiple layers of reliability both by redundant units within the channel as well as redundant channels.

- Under "River Discharge" operation, each channel is capable of 7.76 mgd (with one bank out of service in each channel) resulting in a firm capacity of 15.52 mgd.

- Under “Reuse” operation the firm Capacity is 7.76 mgd in Channel 1 and 1.0 mgd in channel 2, resulting in a firm capacity of 8.76 mgd.

The timing for UV Disinfection capacity expansion was evaluated under the two operating modes and associated reliability scenarios.

- Under a “River Discharge” operation scenario, the existing UV system will have adequate capacity to handle the projected peak-day flow in 2042 (11.65 mgd). This would still be valid, should the plant reconfigure the UV disinfection approach for providing Class A Disinfected Water in the future (ie, not passed through this system).
- Under “River Discharge + Class A” operation, the existing UV system will have adequate capacity to handle the projected peak-day flow in 2035 (8.53 mgd). Population of the remaining additional bank in each UV channel could extend this to nearly 2039 (~10mgd).

The expansion of UV is likely to occur in phases and will be coupled with the implementation of Reuse phasing (discussed in **Section 5.4** of this Chapter). As Reuse is implemented, the control and operation will reduce the inherent reliability of the UV system at peak river discharge flows after the year 2039. For the purpose of capital budget timing, it is assumed that the UV capacity improvements will occur in phases. The full expansion of the existing UV system (addition of a 3rd channel) that would be slated for 2039 could likely be delayed if the system is reconfigured to have a dedicated Class A UV system, as discussed below.

It is possible to configure the UV system expansion in several ways that will need to be evaluated as Reuse is implemented. For the purpose of budgeting, it has been assumed that the Phase 2 Reuse project for Class A expansion would split flow off from the current UV system (upstream of the current UV) and pump through a dedicated pressure vessel style UV expansion project. Excess flow not passed into the Class A system would overflow back and be treated through the River Discharge system. Costs for that UV system expansion are calculated with the associated Reuse phasing project.

The likely timing of the need for the expansion of the UV facility is noted in **Table 5-6** below. Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

Table 5-6 - Anticipated Timing for UV Disinfection Expansion Projects

Project	Target year for project completion/operation
Phase 1 UV - Fully populate the existing channels (1 additional bank per channel)	2035
Phase 2 UV –	
See notes above. This project is only required if reuse disinfection retained. Not needed for River Discharge Only through the existing facility.	2039
Cost for UV expansion after 2039 is accounted- for separately in Reuse Implementation Phase 2 and Phase 3 costs and is only required if Reuse capacity is expanded beyond 1.0 mgd within the current channels.	

5.3.8 Outfall to Spokane River

The WRF outfall capacity increase has been undertaken in a phased approach as identified in the 2013 Facility Plan. Phase 1 was recently completed and expanded the piping into the river diffuser and connected to the line leaving the WRF on the south side of Interstate 90 near Lundy Boulevard. The remaining Phase 2 capacity improvements will require upsizing the pipe from Lundy Boulevard, north under I-90 and connecting to the WRF outlet manhole. This will require upsizing to 30-inch piping and setting a pipe in a 48-inch casing (currently empty) that was constructed beneath I-90 during previous projects. The current capacity (following Phase 1) provides a peak hydraulic capacity of approximately 7 mgd and should be adequate through the year 2029.

The timing to complete Phase 2 outfall project will be impacted by the timing for Reuse Phase 1 work (discussed later in this Chapter). The existing outfall beneath I-90 is routed through a 36" casing pipe. This casing pipe is intended to be repurposed and utilized as a path for routing the dedicated reuse Phase 1 Class A pipe across the I-90 corridor. The timing of that Phase 1 reuse project is approximately 2032 and must be staged to occur concurrently or after the Outfall Phase 2 project so the casing can be repurposed. The likely timing of the need for the Outfall is noted in **Table 5-7** below.

Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

Table 5-7 - Anticipated Timing for Outfall Improvements

Project	Operating Conditions / Timing Considerations	Target year for project completion/operation
Outfall Phase 2 (Lundy Blvd, north across I-90 to WRF)	The timing of that Phase 1 reuse project is approximately 2032 and must be staged to occur concurrently or after the Outfall Phase 2 project so the casing can be repurposed.	2029 Outfall Phase 2 based pipe capacity

5.3.9 Vactor Dump Station

The existing vactor dump pad has been identified as having operational deficiencies as noted in the in the Chapter 4 Existing WRF evaluation. The current system deficiencies include:

- Significant time (hours) required per load to separate solids on the drying pad using a skid-steer.
- Vactor dump pad bar grate trough screen frequently clogs and must be manually raked.
- Diaphragm pump frequently clogs.
- Alternate centrifugal pump frequently air locks.
- Potential for unscreened material/debris to enter biosolids system.
- High odor generation during dumping and processing.

To address these issues, several options were reviewed at a cursory level including:

- Relocation of the vactor pad near the headworks to allow direct flow into the influent channels.
 - This option was removed from further evaluation as there is limited space near the existing headworks for vactor access/turnaround; and the area will be further constrained as future forcemains are added to the headworks influent.
- Existing Vactor pad retrofit to mitigate operations issues
 - This option was evaluated further in the following sections. The current vactor pad has salvageable components and is centrally located on the site, helping to mitigate nuisance odor generation.
- New Vactor Pad (manual coarse screening and pumping system) in new location
 - This option was evaluated further in the following sections to allow for more optimized layout of the facility components as well as location at the WRF site.
- New Vactor Pad + Mechanical Fine Screen and New Pumping System
 - This option adds mechanical screening of debris. This is a further refinement of the New Vactor Pad option adding automated screenings removal equipment and improved pretreatment and pumping. This option was evaluated further in the following sections.

The following alternatives were carried forward for further detailed evaluation and development of costs:

- Alternative 1: Existing Vactor Pad retrofit
- Alternative 2: New Vactor Pad + Manual Screen and New Pumping System
- Alternative 3: New Vactor Pad + Mechanical Fine Screen and New Pumping System

Alternative 1- Existing Vactor Pad Retrofit

This option would retrofit the existing vactor pad with a downward opening weir that would control flow from the dump pad to a secondary channel with a manually cleaned bar screen. A sketch of this system is shown in Figure 5-2 and is a similar layout approach to Alternative, just retrofitted into the existing facility. By decanting the vactor dump contents into the screening and pump, the solids carried onto the screen will be reduced and the contents can be controlled as it flows into the pumping system, reducing the risk of clogging and air-locking of the pump. This channel could also be used to store the liquid stream before pumping in order to decrease the likelihood of an air-lock. Ideally, a sump would be added to allow for increased submergence (net positive suction head) on the pump, but the elevations at the existing pad and UB2 basement are already fixed, limiting the ability to add a storage sump. Preliminary review of the site plan and adjacent areas, include significant utilities running near the existing vactor pad that will limit the ability to solve the identified problems without demolishing a portion of the current vactor-pad to accommodate the improvements.

Capital costs for this alternative are presented in **Table 5-8** below for comparison with the other alternatives with detailed cost opinions in Appendix 5-B. Costs for odor containment, conveyance or treatment were not included in the evaluation.

Alternative 2- New Vactor Pad

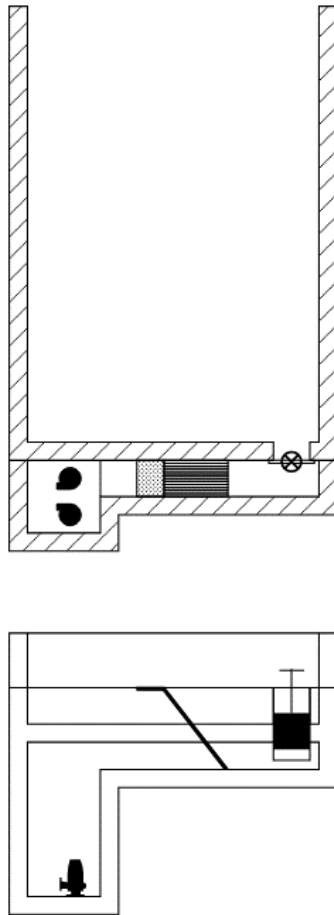
Constructing a new vactor pad allows for much more flexibility in design and layout. The suggested layout would be like the existing pad and decanted into a manual coarse screening channel. This alternative mitigates some of the design constraints imposed by the location and elevation of the current pad. There is also the opportunity to place this at a new location at the WRF site for improved access and proximity to other processes. It is anticipated that flow would be passed through the coarse screen, and pumped to the influent Headworks channels for blending with the influent and further fine screening and de-gritting by the existing headworks facility.

A solids handling pump with either a vortex non-clog impeller or chopper pump would likely be used for pumping the flow back to the headworks. The pumps are anticipated to be submersible pumps, set in a sump at an elevation (much lower than the screening channel) such that adequate suction head (NPSH) would mitigate air-locking of the pump due to the vactor content's thick viscosity. Additionally, it is recommended that a utility water nozzle for diluting the flow either up and/or downstream of coarse screen be added to help keep the vactor material fluidized into the pump.

Capital costs for this alternative are presented in **Table 5-8** below for comparison with the other alternatives with detailed cost opinions in **Appendix 5-B**. Costs for odor containment, conveyance or treatment were not included in the evaluation. This option could be further refined but would require

enclosing the dump pad within a corrosion resistant building, and full HVAC control along with foul air treatment.

Figure 5-2 - Vactor With Manual Bar Screen (Retrofit or New Dump Pad)



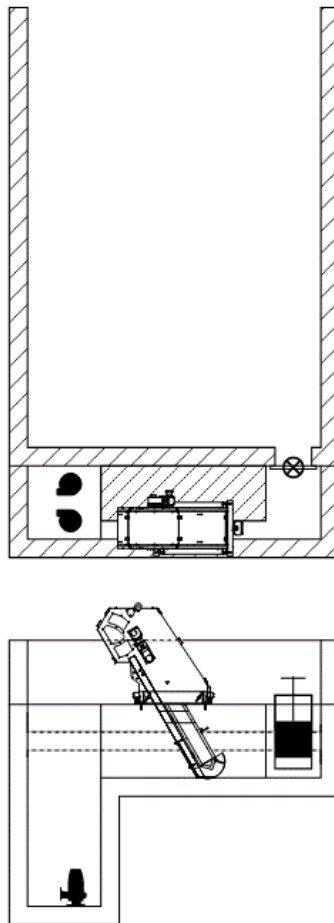
Alternative 3- Packaged Mechanical Pretreatment System

As noted previously, this option adds mechanical screening of debris, prior to pumping (in lieu of manual screening). This is a further refinement of the New Vactor Pad option adding automated equipment and improved pretreatment. The mechanical fine screening equipment would replace the manual bar-grate. The system is assumed to be “open air” with a simple removable roof system. The equipment would be heat-traced and insulated to save on building and HVAC associated long-term HVAC costs. Fine screening would be through a mechanically raked inclined bar-screen of 3/8” to 1/2” bar spacing targeting large debris, rags and rocks that could impact pumping. It is assumed further fine screening and grit removal would take place at the influent Headworks facility. Screenings would pass through a washer-compactor with integral bagging system and then placed into a dumpster to help mitigate odor generation.

Packaged septage receiving systems were also reviewed. Options for packaged vector/septage receiving stations typically require a “piped/hose” connection. The City’s vector has a tail-gate dump and cannot be readily drained through a pipe/hose connection. These vendor package systems were not reviewed in detail due to these constraints. Other more elaborate “mini-headworks” options that include screening, grit, and pH monitoring configured into a packaged “channel” are also available from vendors and could be added to this approach and could be reviewed further as to their applicability during conceptual design.

Costs for odor containment, conveyance or treatment were not included in the evaluation. This option could be further refined but would require enclosing the dump pad within a corrosion resistant building, and full HVAC control along with foul air treatment. Capital costs for this alternative are presented in **Table 5-8** below for comparison with the other alternatives with detailed cost opinions in **Appendix 5-B**.

Figure 5-3 - Vector With Mechanical Screening



As noted previously, three vector dump station alternatives were developed for consideration and are presented below. Alternative 1, requires significant modifications to the current vector pad and expansion is limited by existing buried utilities in the adjacent proximity. Further, Alternative 1 also requires pumping of the decanted material a significant distance back to the headworks to mitigate

the current discharge point (into the biosolids system). Alternative 2, provides a high level of probability of solving the identified issues, and provides for relocation of the pad to a more optimized location with the current and proposed WRF layout. This alternative adds an initial step in the implementation process with manual operated gates and screening equipment, with further addition of mechanical screening equipment (Alternative 3) as a possible addition in the future. Because of these reasons and for budgetary considerations, Alternative 2 was carried forward for capital planning.

Table 5-8 - Vactor Dump Station Alternatives Capital Costs

Project/Alternative	Capital Cost
Alternative 1: Existing Vactor Pad retrofit	\$579,000
Alternative 2: New Vactor Pad Manual Screen, and Pumping System	\$604,000
Alternative 3: New Vactor Pad, Mechanical Screen, and Pumping	\$1,089,000

The likely timing of the need for the vactor improvements is noted in **Table 5-9** below and should be coupled with modifications to the biosolids system (**Chapter 6**).

Table 5-9 - Anticipated Timing for Vactor Improvements

Project	Operating Conditions / Timing Considerations	Target year for project completion/operation
Alternative 2 - Vactor Pad Relocation and Improvements	This should be coupled with Biosolids Improvements and is likely to occur within the first 5 years of the planning period.	2026

5.3.10 Odor Control Improvements

Odor control improvement recommendations are noted below. The scope of this facility plan did not target a review of alternative technology approaches for odor mitigation (e.g. chemical scrubbers, or GAC adsorption, etc), but assumed the existing bark compost biofilters would remain.

Expansion of the Headworks, Equalization, and Biosolids systems have been assumed to have odor control implemented and costs for odor control have been included with those process area improvements.

Modifications and costs for improvements to the existing biofilter odor control systems are included herein. The primary improvements identified include:

- Addition of dampers to the discharge of the existing foul air fans (to prevent reverse flow)
- Replacement of 6" air distribution plenum pipes (perforated piping)

- Addition of HDPE horizontal liner baffle at mid-height in the media at southern vertical face (to prevent short-circuiting)
- Replacement of biofilter bark compost media (existing system). The compost media is at the end of its useful life (typically 5 years).

As discussed during the facility planning process, alternative treatment methods may be warranted as odor control is expanded at the WRF for site constraints or improved performance. The existing biofilter systems has been challenging to maintain reliable operation due to the sensitivity of the biology. Control of nutrients, pH control, and moisture must be maintained as well as positive containment and conveyance of the foul air.

It is recommended that prior to implementing the repairs to the existing biofilter (as part of any future expansions of the odor control systems); the current foul air generated at the Headworks, Equalization and Biosolids Hopper be sampled and analyzed as to their foul air contaminant speciation and concentration. This review will help ascertain whether maintaining the expansion of the biofilter technology is the proper treatment approach or if alternative technologies should be implemented. The likely timing of the need for the odor control improvements is noted in **Table 5-10** below.

Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

Table 5-10 - Anticipated Timing for Odor Control Improvements

Project	Target year for project completion/operation
Foul Air Sampling and Speciation Study	2024
Odor Control Improvements to Existing System	2024

5.3.11 Plant Drain Lift Stations

General

As discussed in Chapter 4, Plant Drain Lift Station 1 and the control building lift station have been recommended to be upgraded. Due to aging infrastructure, it is suggested that both pump stations be completely replaced. A summary of the recommended improvements is discussed below.

Plant Drain Lift Station No 1

Plant Drain Lift Station (PDLS) 1 currently discharges into a force main shared with Plant Drain Pump Station 2. This was a temporary solution during the previous construction phase, and a new force

main needs to be constructed, dedicated to PDPS No. 1. Additionally, the pump station is nearing capacity and will have to be replaced soon to accommodate the associated biosolids improvements. It is suggested that a new plant drain lift station be constructed near the original and sized to accommodate the 20-year biosolids improvements. The required firm pumping capacity will be discussed in the Biosolids Improvements Alternatives Chapter 6, but generally will need to accommodate any thickening reject, dewatering equipment filtrate/pressate and any wash-water routed to plant drain. These flows can be significant, and any sizing criteria will need to accommodate the 20-year planning period expansion of the biosolids handling system.

For the purpose of budgeting, the proposed configuration would be a triplex submersible pump system similar to PDLS No. 2. During construction of the new pump station the current pump station would remain in use and after completion the flow would be routed through the current wet-well and routed to the new pump station. The new forcemain would discharge downstream of the headworks grit/screening into the equalization influent splitter box. Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

Control Building Lift Station

The control building lift station components are aged, difficult to obtain replacement parts and is suggested to be replaced in this planning period. It has been proposed to construct a new wet well that will be populated by a duplex pump station. Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

The likely timing of the need for the plant lift station improvements is noted in **Table 5-11** below and should be coupled with their associated areas being served including the Biosolids improvements (PDLS No. 1) and any architectural improvements to the control building.

Table 5-11 - Anticipated Timing for Plant Drain Improvements

Project	Operating Conditions / Timing Considerations	Target year for project completion/operation
Plant Drain Lift Station No. 1	This should be coupled with Biosolids Improvements and is likely to occur within the first 3-5 years of the planning period or sooner.	2027
Control Building Lift Station	The control building lift station will likely need upgraded as part of any architectural improvements/expansion to the laboratory control building. These are likely to occur in the first 5 years of the planning period.	2028

5.3.12 Support Buildings

General

As noted in Chapter 4, the City has secured property off-site from the WRF to expand their public works operations as the result of their Facilities Needs Assessment (2021). It is likely that offices for some of the current and future WRF administrative staff could be relocated to this site when it becomes available, allowing current offices at the WRF site to be re-allocated. It is possible that phased relocation of staff, and or coordinated remodeling/repurposing of buildings at the WRF site and adjacent streets department facility may be advantageous to the City and should be considered as the WRF continues to expand eastward. For the purposes of updating budgeting and capital planning associated with the WRF, projects and costs identified in the Facilities Needs Assessment have been updated herein. WRF site planning has been updated to reflect the expanded and/or new facilities on the WRF site.

Administrative Staff Facilities:

The Headworks (1996 to 2016) building was partially converted into WRF staff office and meeting space around 2017 and is now the Admin 2 Building. The conversion provided three additional offices as well as a large meeting space. This was an interim step and good reuse of available building space however as the number of staff increases additional space and organization/proximity of the WRF team should be considered. The City has secured property off-site from the WRF to expand their public works operations as the result of their Facilities Needs Assessment. It is likely that offices for some of the current and future WRF administrative staff could be relocated to this site when it becomes available, allowing current offices at the WRF site to be re-allocated. For the purpose of capital budget planning, a 2000 SF addition to the current Admin 1 building for the purpose staff office/meeting space has been allocated.

Operations Crew Facilities:

The current laboratory and office facility space is used for SCADA computer control stations, laboratory analyses, storage of plant records, and break room/meeting facilities for the operations staff. The size of the facilities is limited and is already strained by the current number of staff at the facility. Normal break room and meeting facilities should be isolated from the control rooms and laboratory to improve security for plant operations as the number of staff increases. For the purpose of capital budget planning, a 2000 SF Facility has been budgeted. This could be a remodel of existing facilities or new construction and should be further reviewed during preliminary design.

Laboratory:

The laboratory is currently easily accessible by unauthorized staff, creating a potential for lab hygiene to be compromised. The laboratory facilities should be segregated from the day-to-day operations staff to minimize potential contamination of the lab facilities. The City is currently in the initial planning phases to remodel or build a new laboratory building as the result of their Facilities Needs Assessment projects identified in 2021. For the purpose of capital budget planning, a 2400 SF Facility has been budgeted.

Maintenance Shop / Storage Facilities:

In the 2021 Facility Needs Assessment it was determined that there is inadequate shop space to accommodate expected growth. The current 7,200 square foot water shop space was built in 1996 and is shared with the Water Department. This space will return to WRF use in the next few years as the Water Department moves/builds new facilities at the Pleasant View Avenue public works property. The 1200 square foot pilot building built in 2018 was converted to shop/storage, but additional space is still needed. Primary functions identified for expanded space include spare parts/materials storage as well as dedicated shop/repair facilities.

A new WRF Maintenance facility has been targeted for construction immediately east of (or replacing) the space occupied by the current UV channel (being abandoned as part of the tertiary improvements in 2023). The proposed facility would be approximately 5000 SF (~50ft x ~100ft) with a 50 x 20 Maintenance/repair bay, a 50 x 20 storage bay and three 50 x 20 enclosed parking bays. The Facilities Needs Assessment has both the shop and storage space allocated as “covered” but not full heating and ventilation space. For the purpose of budgeting here, the entire facility has been assumed to have heating and ventilation, however, the need for heated space should be reviewed in more detail as part of the preliminary design of the facility.

The likely timing of the need for the Support Buildings Improvements is noted in **Table 5-12** below. Costs for these improvements are summarized in **Section 5.3.15** with detailed cost opinions in **Appendix 5-B**.

Table 5-12 - Anticipated Timing for Support Buildings Improvements

Project	Target Year for Project Completion/Operation
Administration Staff Facilities	2032
Operations Crew Facilities	2032
Laboratory (currently in conceptual design)	2025
Maintenance Shop / Storage Facilities	2027

5.3.13 Utility Water Pumping

Utility Water (or in-plant recycled water) is used to support uses in various processes within the WRF including wash-down, spray-bars for foam control and for automated equipment washing, carrier water for delivery chemicals and flushing water. The primary demands in the plant are related to dewatering activities, specifically belt filter press operations that require significant water flow and pressure. An assessment of current and projected demands relative to available pump capacity was determined.

Pumping demands are primarily driven by the number of belt filter presses operating at any given time with a demand of approximately 150 gpm each. The current system has approximately 600 gpm firm capacity at 90 psi, with a third reserve pump available to manage peak demands to 900 gpm.

The UW system will likely require capacity expansion during the planning period to accommodate expanded dewatering equipment and overall process expansion. Detailed assessment of the system capacity relative to the planned dewatering improvements will need to be made at the time of design, but it is anticipated that the current system should be capable of accommodating the initial dewatering equipment expansion but will periodically be operating with the redundant third pump in operation to support intermittent demands. It is anticipated that capacity improvements will be required to support the latter half of the planning period with 2 of 3 of the pumps requiring capacity increases. The likely timing and target capacity of the need for the Utility Water Pumping Upgrades is noted in **Table 5-13** below.

Table 5-13 - Anticipated Timing for Utility Water Pumping Improvements

Project	Target Capacity	Target year for project completion/operation
Utility Water Capacity Improvements	950 gpm “firm capacity” with redundant pump assumed to be out of service.	2032

5.3.14 Electrical, Controls, and SCADA

Electrical Distribution Introduction

This section presents a brief description of the existing power distribution system at the City of Post Falls WRF, and the recommended plan for expanding and modifying the existing power system as part of the planned growth and improvements through 2042.

Existing Electrical Utility (Normal Power Source)

The existing WRF facility has two electrical services provided by Avista Utilities under rate schedule 021, Large General Service.

The first service feeds the Utility Building 2 (UB2) and is comprised of a 3000 ampere service with parallel 1000KVA utility transformers. The utility transformers are located north of Utility Building Number 2. Currently, only one 1000KVA, 13.2KV-480/277Y service transformer is installed and the main circuit breaker long time trip setting is set at 1200 amperes. The average facility load in UB2 is approximately 750 amperes or 624KVA.

The second service feeds the Membrane Filter Building 1 (MF1) and is comprised of a 2000 ampere service with a 1000KVA utility transformer. The utility transformer is located northeast of Membrane Filter Building 1. The estimated facility load in MF1 is approximately 1300 amperes or 1080KVA.

Existing Distribution Switchgear

The first service electrical distribution switchgear (GDP1) is located in Utility Building Number 2. This switchboard has a 3000 ampere bus and main draw-out utility service power circuit breaker with a 100KA rated interrupting capacity. The normal power side of the switchgear then feeds a 3000 ampere distribution power panelboard (MDP1). The stand-by power side of GDP1 consists of three draw-out power circuit breakers, (one 1200 ampere, and two 1600 ampere). The two sides of GDP1 are interconnected with a 3000 ampere draw-out power circuit breaker. Panelboard MDP1 feeds the 800 ampere MCC's G and J in Utility Building Number 2, the Headworks Building, the Sludge Storage Building and the main switchboard MSS in Utility Building Number 1. Panelboard MDP1 is provided with a transient voltage surge suppression (TVSS) unit to provide a first level of facility protection. Electronic power monitoring is provided in GDP1 and MCC-G to provide real time and historical power system information. An active harmonic filter is connected to panelboard MDP1 to ensure compliance with IEEE-519-1992 harmonic content limits.

The second service switchboard (MDP2) located in the Membrane Treatment Building 1 (MF1) is fed from a service entrance rated automatic transfer switch (ATS-2) located adjacent to the service transformer northeast of MF1. The automated transfer switch includes a bypass/isolation function to allow servicing while maintain power to the site. Switchboard MDP2 has a 2000 ampere main breaker and feeds all loads associated with the Tertiary Treatment system; the Membrane Filter Building (MF1), the Tertiary Clarified Building (TC1), Pumps Station PS2, and the UV/UW Building. An active harmonic filter is connected to switchboard MDP2 to ensure compliance with IEEE-519-1992.

Existing Generators (Stand-By Power Source)

The first electrical service is backed up by two diesel driven stand-by generators (one 500KW and one 800KW) installed north of Utility Building 2 with provisions for adding a third 800KW unit. The 500KW unit feeds the stand-by side of the main switch gear via a 800AT/1200AF circuit breaker and the 800KW unit feeds the stand-by side of the main switch gear via a 1200AT/1600AF circuit breaker. The installed generators operate in parallel and are interconnected with the electrical distribution system via a 3000 ampere tie breaker. The automatic operation of the generators, paralleling system, and load transfer is controlled by a PLC based Caterpillar /Allen Bradley paralleling switchgear control system.

The second electrical service is backed up by two diesel driven stand-by 400KW generators installed northeast of Membrane Building 1 with provisions for adding a third 400KW unit. The installed generators operate in parallel and are interconnected with the electrical distribution system via a 2000 ampere generator distribution switchboard (DP-GEN) and 2000 ampere automatic transfer switch (ATS-2). The automatic operation of the generators, paralleling system, and load transfer is controlled by an integrated Caterpillar paralleling switchgear control system.

Existing System Electrical Capacity

The currently installed system is capable of supporting the facility's projected electrical load requirements through 2030; through the addition of BNR 7 and Clarifier 9. The electrical distribution system is designed to accommodate the peak loads of the planned capacity phases of the WRF with the addition of conductors installed in spare conduits as well as utility transformer upgrades.

Existing Power Distribution within the Facility

The existing power distribution system is divided into three physical zones with the dividing line between zone 1 and zone 2 being the access road on the east side of Ditch 4. All power and motor control west of the dividing line is fed from Utility Building Number 1 (MSS). All power and motor control east of the dividing line including Ditch 6 and new Clarifier 7 are fed from Utility Building Number 2 (MCC-G and MCC-J). The Tertiary Treatment area comprises the third zone fed from switchboard (MDP2).

Planned Electrical Service Expansion

The planned growth and facility expansion north of TC1 beyond 2030 will be served by a third Utility Building (UB3). The planned addition of Membrane Building 2 (MF2) will be fed from the existing MF1 distribution system. The third Utility Building (UB3) will distribute power to a fourth power zone north of TC1 and east of the existing equalization basins. The anticipated size and configuration of the new service will be similar to the service provided for MF1; two diesel driven stand-by 400KW generators installed adjacent to UB3 with provisions for adding a third 400KW unit. The planned generators will operate in parallel and will be interconnected with the electrical distribution system via a 2000 ampere generator distribution switchboard (DP-GEN2) and 2000 ampere automatic transfer switch (ATS-3).

Expanded Ductbank System

The electrical power, controls, instrumentation, and communication conductors will continued to be distributed throughout the facility in a network of underground electrical ductbanks. The electrical ductbanks provide adequate separation of the different system signal circuits. Pulling vaults are placed at all intersections and where required for cable pulling. The ductbanks are encased in reinforced concrete and have a minimum of 24 inches burial.

Controls and SCADA Introduction

This section presents a brief description of the existing System Control and Data Acquisition (SCADA) system at the City of Post Falls WRF, and the recommended plan for modifying the existing SCADA system as part of the planned expansions. The new facilities will be incorporated into the overall existing SCADA system.

Facility-Wide Network and SCADA System

The facility currently uses multiple Allen Bradley ControlLogix, CompactLogix and MicroLogix PLCs connected via a facility wide fiber optic network (Ethernet) to monitor and control the process equipment. The PLCs are located in the Administration Building, Utility Building Number 1, Utility

Building Number 2, the Dewatering Building, the Disinfection Area, the Utility Water Building, the Sludge Storage Building, the Headworks Building, Membrane Building 1, Tertiary Building TC1, PDPS-2, and the UV/UW Building. All new PLC's will utilize Allen Bradley ControlLogix hardware or the hardware supported at the time of the expansion/upgrade.

The Facility Staff monitors and controls the treatment process via an Ignition Operator Interface system. The SCADA system enables the Operators to view the system by displaying process data collected by the PLCs on the graphical screens. This data is logged into the computer data base and can be viewed with the trending tool. The SCADA computer also enables the operator to change set points and manually control equipment. The PLC converts signals from switches, motor controls, instrumentation, and other field devices for transmitting to the SCADA computer which displays the entire facility process, monitors for alarm conditions, calculates equipment run times and flow totals, and other logic functions.

Local Controls Capabilities

All facility equipment will have the ability to run in a manual mode in the event of a PLC control system failure. Local switches are normally located on the appropriate MCC starter buckets. In addition, some process equipment/motors have jog switches located at the motor location to allow for manual operation and maintenance.

Alarm Systems

The SCADA system produces various alarms that are annunciated to the facility operators. Currently, when facility operators are not present the alarms are sent to remote locations through a hardwired automatic dialer (Sensaphone Express II) located in the Administration Building. It is anticipated that the existing alarm system will be upgraded with the addition of Utility Building UB3 to provide additional alarm capabilities for the new process equipment.

Facility-Wide Network and SCADA System Expansion

Expansion of the fiber optic network should continue. Further revisions to improve the reliability of the system through additional of fiber-optic paths to create a physical "ring" network. This approach will allow network connectivity via multiple paths to each PLC within the facility should an individual fiber-network path be damaged or compromised.

5.3.15 WRF Improvements Costs Summary

Overall Costs for the Liquid Stream Improvements projects anticipated at the WRF are shown in **Table 5-14** below. Detailed cost opinions are presented in **Appendix 5-B**. Costs for reuse project implementation and phasing alternatives are discussed in **Section 5.4** and overall Liquid Stream Improvements Alternatives are discussed in **Section 5.5**. Costs for Solids Stream Improvements alternatives are reviewed **Chapter 6**.

O&M cost increases associated with WRF expansion are included in the capital improvement plan (**Chapter 7**) and are assumed to increase proportional to treated flow. These O&M cost increases are

intended to account for the addition of full-time equivalent employees as necessary to manage and operate the expanded facilities as well as increased costs for power and consumables.

O&M cost increases associated with reuse expansion are identified with each phase of implementation. These are considered as additional increments (beyond the O&M increases needed at the WRF) requiring additional full-time equivalent employees to manage and operate the facilities.

Table 5-14 - WRF Improvements Cost Summary

No.	Description	Capital Cost (2023 Dollars)	O&M Cost (2023 Dollars)
1.1	Headworks- Influent Modifications	\$586,000	O&M Increase Proportional to Current Operations and Growth
1.2	Headworks- 3rd Channel/Train	\$3,006,000	O&M Increase Proportional to Current Operations and Growth
2.1	Equalization Modifications for OD 7 Feed Control	\$630,000	O&M Increase Proportional to Current Operations and Growth
2.2	Equalization Tanks PS 2 and Tank 3	\$7,198,000	O&M Increase Proportional to Current Operations and Growth
2.3	Equalization Tank 4 and Pumping	\$4,215,000	O&M Increase Proportional to Current Operations and Growth
3	Biological Nutrient Removal (Train 7)	\$15,778,000	O&M Increase Proportional to Current Operations and Growth
4	Biological Nutrient Removal (Train 8)	\$13,949,000	O&M Increase Proportional to Current Operations and Growth
5	Biological Nutrient Removal (Train 9)	\$13,949,000	O&M Increase Proportional to Current Operations and Growth
6	UB3, SC Splitter Box, and Scum Pumping	\$5,196,000	O&M Increase Proportional to Current Operations and Growth
7	Secondary Clarifier No. 9	\$2,934,000	O&M Increase Proportional to Current Operations and Growth
8	Secondary Clarifier No. 10	\$2,934,000	O&M Increase Proportional to Current Operations and Growth
9	Secondary Clarifier No. 11	\$2,934,000	O&M Increase Proportional to Current Operations and Growth
10.1	Intermediate Pumping 2 (IP2)	\$2,200,000	O&M Increase Proportional to Current Operations and Growth
10.2	Tertiary Clarification 2 (TC2)	\$11,481,000	O&M Increase Proportional to Current Operations and Growth

No.	Description	Capital Cost (2023 Dollars)	O&M Cost (2023 Dollars)
10.3	MF1 Module Capacity Expansion/Replacement	\$860,200	O&M Increase Proportional to Current Operations and Growth
11	Chem Feed and Bulk Storage	\$2,243,000	O&M Increase Proportional to Current Operations and Growth
12	Tertiary Membrane Filtration 2	\$36,250,000	O&M Increase Proportional to Current Operations and Growth
13	UV Disinfection (Expansion of River Discharge)	\$510,000	O&M Increase Proportional to Current Operations and Growth
14	Outfall Piping Improvements	\$1,239,000	O&M Increase Proportional to Current Operations and Growth
15	Vactor Dump Station Improvements	\$604,000	O&M Increase Proportional to Current Operations and Growth
16	Plant Drain Lift Station No. 1	\$1,793,000	O&M Increase Proportional to Current Operations and Growth
17	Control Building Lift Station	\$450,000	O&M Increase Proportional to Current Operations and Growth
18	Odor Control (Maintenance of Existing Facility)	\$654,000	O&M Increase Proportional to Current Operations and Growth
19.1	Laboratory Facilities	\$2,180,000	O&M Increase Proportional to Current Operations and Growth
19.2	Maintenance / Shop / Storage Facilities	\$3,410,000	O&M Increase Proportional to Current Operations and Growth
19.3	Administration / Staff Building Improvements	\$3,027,000	O&M Increase Proportional to Current Operations and Growth
20	Utility Water	\$411,000	O&M Increase Proportional to Current Operations and Growth
21	Secondary Clarifier No. 1 and No. 2 Demo	\$333,000	NA
22	Facility Plan Updates (~10yr interval)	\$600,000	NA
23	Overall Process Evaluation Study - Technology Assessment (Liquid/Solids stream)	\$300,000	NA
TOTAL (2023 Dollars)		\$141,854,200	

5.4 Reuse Implementation

5.4.1 General

Wastewater treatment systems have long utilized land application reclaimed reuse (recycled water) as the final treatment or recycling step in Idaho and around the United States. However, land application is now part of the broader scope of wastewater reclamation and reuse. Reuse is increasingly being used to meet non-potable irrigation demands in areas of the country where water resources are constrained. Seasonal reclamation and reuse will be imperative to serve the projected level of build-out over the Rathdrum Prairie, including Post Falls and Rathdrum, while protecting the assets of the Rathdrum Prairie Aquifer as well as the Spokane River.

The City's 2013 Facility Plan identified reuse of wastewater as an important tool in the City's overall water reclamation strategy. Since that planning effort the City has implemented the plan and taken efforts to obtain and allocate specific parcels of land for use as future reclamation sites including the purchase of their Community Forest property. Each of these parcels or groups of parcels varies in their ability to be utilized for reclamation due to geology of the site, topography, and cropping considerations.

The City is currently in the process of developing and refining their Water Recycling Program. As part of that process the City has identified four main focus areas as key components to building a successful city-wide Water Recycling Program. These four areas are as follows:

- Flexible Program
- Partnership/Customers
- Successful Operations
- Community Support

Each of these four areas represent a different aspect of the City's recycled water program and are instrumental in the long-term success. The City staff is internally developing and further defining the vision for a successful end goal for each of these components. As such, each has interim milestone goals and tasks that the City has identified as critical sub-steps toward supporting these four areas within their overall plan. The City's initial 5 and 10 year sub-goals and tasks are identified in the following **Table 5-15**.

Table 5-15 - Water Recycling Program Development

20 Years	10 Years	5 Years
Flexible Program	• Approved plan (non-monitoring) for Parks/ITD reuse sites • Requirements known for Aquifer Recharge • Redefine Agronomic Rates • Regulatory Buy-in to Flexibility and Master Permit.	• Build Community Forest Pipeline & Wells • Obtain Community Forest Permit • Pursue Opportunities for increased capacity such as land, contract customers, maximize IPDES discharge, conservation
Partnerships / Customers	• ITD Reuse Online • Parks Reuse Online • Powerplant Agreement • Marketing Plan	• Establish Prairie Pipe Route and Secure • Build Staffing Plan and Implement Initial Steps • Agreements: ITD, Parks • Permits: ITD Parks
Successful Operations	• Prairie Pipeline • Community Forest Online • Plant Equipped • Received Grant Loan Funding • Appropriate Staff • Increase Class A Treatment Capacity	• Partnerships: Parks, Educators, NGO, DEQ, Powerplant, Peer Entities • Consultants Needed: Marketing, Grants, Legal • Tertiary Treatment Optimization • Validation Study
Community Support	• Public Interest/Demand for water • Active/Established Education Program • Partnerships with Educators and Academia	• Equipment Needs Assessment (Facilities, lab, etc.) • Understand background and challenges to aquifer recharge /master permit • Initiate Agronomic-rate study • Outreach Plan/Scope • Increase Staff Knowledge

The planning included herein is aimed at supporting the infrastructure aspects of the City's Water Recycling program and are aligned with the overall program goals.

5.4.2 Existing and Potential Reuse Irrigation Areas

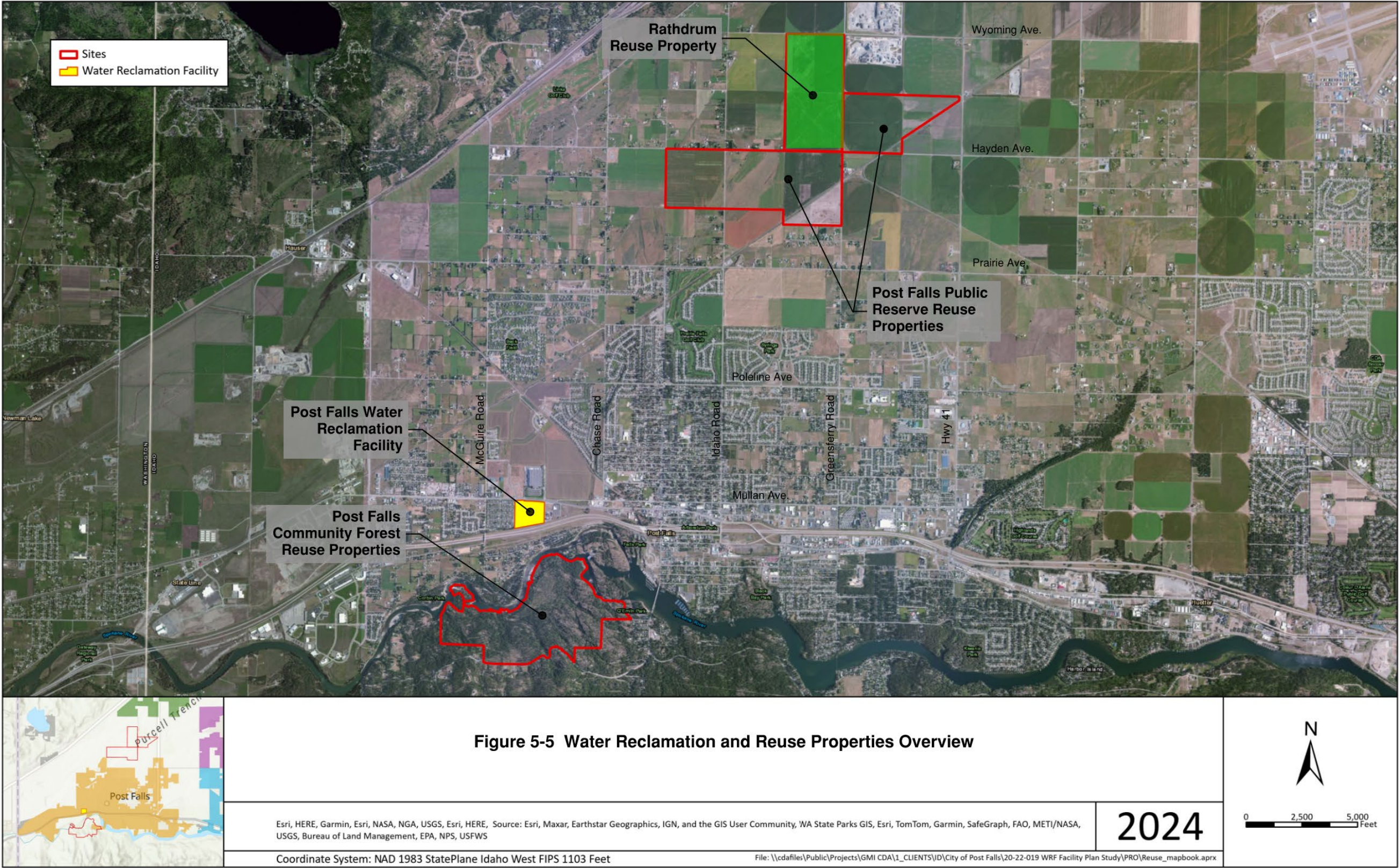
The cities of Post Falls and Rathdrum have realized that the availability of large parcels of land on the Rathdrum Prairie is rapidly diminishing while land costs are escalating. The cities have taken a proactive approach to secure land for future reuse. Rathdrum and Post Falls are distinct and autonomous municipalities. However, this analysis groups the two entities together because they have chosen to work cooperatively to treat and discharge wastewater and for wastewater reclamation and reuse.

A summary of the currently owned land/sites identified for reclamation are noted in **Table 5-15** and shown in **Figure 5-5**.

Table 5-16 - Currently Owned Land Summary

Property	Approximate Acreage Available for Reuse <i>(total gross acreage)</i>	Property Description
Community Forest (South of Spokane River)	200 (370)	Mixed timber and agricultural areas with heavy topographic relief
Public Reserve (Prairie) City Owned Prairie Property	680 (738)	Agricultural
Public Reserve Rathdrum Property	300 (314)	Agricultural

Figure 5-5 – Reuse Property and WRF



Post Falls’ purchase of the Prairie properties and Community Forest property for future reuse set their initial prioritization in motion. As stated in the introduction of this section, the next step is obtaining an appropriate Reuse Permit for the Phase 1 site. The City is currently in the process of developing applicable water balance work for that site as well as a permit application for the Community Forest property through IDEQ (T-O Engineers, 2023).

The Public Reserve (Prairie) property (including Rathdrum) were evaluated herein for potential areas that would not allow for reuse water application including necessary space for storage ponds, access roads, topographic limitations, and setbacks from existing wells that would be targeted for retention. This reduced acreage available for reuse is also presented.

A water balance was performed on the Public Reserve property to maximize reuse water that can be applied during the growing season, while balancing the amount of storage needed to account for variability in crop needs through the season. During the early spring periods, storage is utilized to divert flow to begin filling the ponds and account for precipitation being added to the ponds, and later in the growing season, storage is needed to allow for “peak” irrigation required by the crops. This overall water balance is dynamic and can be optimized to reduce storage, or maximize the water diverted from river discharge to be utilized for reuse irrigation purposes. The detailed water balance summary, assumptions and overall system phasing schematics are shown in **Appendix 5-C**.

As identified previously, it is likely to occur in phases in parallel with their river discharge waste load compliance strategy at the WRF. The three phases identified below will be combined with the overall WRF Liquids Stream Improvement Alternatives:

- Phase 1 - Reuse on Community Forest Property
- Phase 2 - Expanded Reuse to Currently Owned Prairie Public Reserve Property
- Phase 3 - Additional Land Purchase and Full Reuse (no river discharge during growing season)

A summary of the identified property and likely application volumes are shown in **Table 5-16** below.

Table 5-17 - City Owned and Allocated Properties Identified for Reclamation

Likely Phase of Reuse Implementation	Property	Approximate Acreage Available for Reuse	Likely Reuse Capacity (average daily flow) During growing Season	Storage Pond Sizing
Phase 1	Community Forest (South of Spokane River)	200	1.0 mgd (a)	1.0 Mgal
Phase 2	Public Reserve (Prairie) City Owned Prairie Property	680	4.35 mgd (b)	29 Mgal
	Public Reserve Rathdrum Property	300		
Phase 3	Additional Property Needed	608 (~653 gross acres)	2.55 mgd (b,c)	10 Mgal

(a) Phase 1 capacity determined to be approximately 1.0 mgd based on preliminary site analysis and reuse permit application (T-O Engineers, 2023)

(b) Phase 2 and 3 capacity and land requirements based on Alfalfa crop hydraulic application rates.

(c) Phase 3 additional land needs based on required capacity to fully apply Class A reuse water at the average daily flow of 7.90 mgd during the growing season

As can be seen in **Table 5-16**, the currently owned/allocated properties are likely capable of receiving and applying approximately 5.35 mgd during the growing season (Phase 1 and 2 Implementation). To shift flow completely out of the river during the growing season (no river discharge) in the future by 2042 an additional 653 acres of property would be required for Phase 3, assuming comparable site conditions (geology, topography, crop) to the City's current Prairie property.

To serve expanded growth identified as Phase 3 above, the City will need to obtain or have access to additional land for reuse. Additional land acquired adjacent to existing and future reuse sites would be ideal. It would allow conveyance, storage, and irrigation infrastructure to be efficiently consolidated while minimizing unused land due to setback requirements. While those sites are ideal and should be prioritized for the entities, there is also potential for reuse at existing large, irrigated sites in the study area.

An overarching longer-term goal as identified in the City's Water Recycling Program is for the development of a "master permit" for application of recycled water without detailed monitoring and of each application site as a hydraulic management area. There are many other areas that may potentially be viable reuse sites under this or a traditional monitored approach. Parks, schools, transportation corridors, and golf courses as well as industry partnerships are all potential candidates for reuse water and were identified in prior planning efforts and in-line with the City's

overall reuse long-term planning goals. The City should continue to pursue and vet these potential opportunities in line with their overall program goals.

Finally, reuse water must be transported from where it is treated to where it will be stored and utilized for irrigation. **Table 5-17** identifies and summarizes each of the reuse expansion phases (1,2, and 3) and the likely infrastructure needs to implement reuse activities. As part of this planning effort, costs must be developed for the transmission, storage, irrigation, and monitoring systems necessary to implement their reclaimed water programs to the various properties. Assumptions were made in order to develop planning level costs for these infrastructure improvements and are summarized as comments for each of the infrastructure items in the table.

Table 5-18 – Reuse Infrastructure Needs and Planning Assumptions

Component	Assumption for Phase 1 Costs	Assumption for Phase 2 Costs	Assumption for Phase 3 Costs
UV Disinfection	Existing Facility (no expansion)	4.5 mgd Class A UV expansion	2.5 mgd Class A UV expansion.
Pumping at WRF	Add Pumping Capacity to Existing Building	Add New Pumping Station	Expand Pumping Capacity
Piping to Site	Pipe from WRF to south side of I-90 and Drill/Bore Under Spokane River	Transmission Main to North from WRF (sized to accommodate Phase 2 at ~2.5 fps and Phase 3 at less than 5 fps)	Primary piping included in Phase 2, with extension to Phase 3 storage pond.
Storage at Site	Lined/uncovered pond. at 1MG storage, each.	Lined/uncovered pond. 29 M gallon pond	Lined/uncovered pond. 10 M gallon pond
Irrigation Pumping at Site	Multiple pressure zone pumping stations.	Pressure Pumps to 65 psi at 5.6 mgd capacity	Expanded capacity of 2.9 mgd
Irrigation Distribution	Drip Irrigation for forested areas; wheel lines for agricultural areas.	Mainlines sized for ~5 fps Mix of Center Pivots for agricultural areas. Wheel line laterals with rotary-heads for distribution	Mainlines sized for ~5 fps Mix of Center Pivots for agricultural areas. Wheel line laterals with rotary-heads for distribution

It is assumed that adequate transmission pipe capacity will be constructed for the Phase 2 project to adequately supply the entire Phase 2 and 3 properties with reuse water, with Phase 3 expanding the pumping capacity from the WRF and local irrigation distribution system to the full 7.9 mgd ADF. The storage capacity requirement for land application of reuse wastewater is summarized in **Table 5-17**. It also sets the minimum pumping and transmission rates that will be required to deliver reuse water from the reclamation plant to the irrigated land. Class A reuse requires a minimum of 7 days storage

of average flow, or an alternate discharge. The Post Falls WRF has retained its river discharge outfall and it is assumed it will be utilized this in lieu of storage to manage Non-Compliance Class A reuse water.

In addition to non-compliance storage, additional storage is often required for holding water during the non-growing season. It has been assumed that storage during the non-growing season will likely not be pursued due to the extremely large storage volumes that must be provided. Rather, reclaimed water will be applied to irrigated areas during the growing season (reducing annual waste loads discharged to the river); during the non-growing season, wastewater will be treated to IPDES requirements and discharged to the river outfall. A small amount of storage has been assumed to be stored at the reuse site to allow for buffering of pumping system capacity and to allow for additional irrigation during peak watering needs defined by the irrigation water balance requirements.

Additional assumptions for the reuse expansion and cost opinion development are noted below:

- Phase 2 and 3 will require supplemental irrigation water for peak irrigation during July and August. This has been assumed be accommodated by pumping from one of the existing wells at the site via an air-gap into the storage ponds.
- Phase 2 and likely Phase 3 will require abandoning several wells within the footprint of the reuse site. A minimum of 50-foot buffer from existing wells is required for Class A. Wells at the perimeter of the sites have been assumed to be retained for supplemental irrigation.
- Existing irrigation equipment on the current sites are assumed to be available for use with Class A water. Costs have been included for areas requiring new/additional hand or wheel lines.
- Phase 1 requires both a combination of wheel lines (agricultural areas) as well as drip irrigation (silviculture).
- Existing irrigation equipment (Phase 2) is assumed to be viable and will be maintained through OM&R budgets.
- O&M cost increases associated with reuse expansion are identified with each phase of implementation. These are considered as additional increments (beyond the O&M increases needed at the WRF) requiring additional full-time equivalent employees to manage and operate the facilities.

5.4.3 Reuse Permit Considerations

The wastewater reclamation and reuse standards for the study area are governed by the Idaho Administrative Procedures Act (IDAPA) Part 58, Title 01. IDAPA is available on the State of Idaho website at <http://adm.idaho.gov/adminrules/rules/idapa58/58index.htm>. The primary IDAPA chapters that apply are:

- *Chapter 2 – “Water Quality Standards”*
- *Chapter 8 – “Idaho Rules for Public Drinking Water Systems”*
- *Chapter 11 – “Groundwater Quality Rules”*
- *Chapter 16 – “Wastewater Rules”*
- *Chapter 17 – “Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater”*

Chapter 3 outlines the requirements for reuse of municipal reclaimed wastewater under Chapter 17 “Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater”. It subdivides reuse into five classes (A through E) from the most stringent treatment and reliability standards to the least stringent treatment standard with the most restrictive buffer zones and access requirements, respectively. With the addition of coagulation, filtration, and enhanced disinfection provided by the tertiary treatment improvements that are currently being constructed, Post Falls could practice Class B or Class A reuse, depending on their available treatment trains and target reuse location.

As discussed in Chapter 3, additional requirements and regulations exist over the SVRP Special Resource Aquifer. Reuse is a permitted activity in Idaho under IDAPA 58.01.17.300, which references the “Idaho Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater” (IDEQ, 2007). Section 12.11 of the Guidance includes the “Spokane Valley-Rathdrum Prairie Aquifer Wastewater Land Application Special Supplemental Guidelines” (IDEQ, 1995). Conclusions and recommendations of the Special Supplemental Guidelines include the following:

Conclusions:

1. Land application of treated effluent has occurred over the Rathdrum Prairie Aquifer under carefully managed conditions with limited increases for monitored constituents in vadose zone water.
2. Irrigation scheduling using daily soil moisture measurements can be used to minimize migration of nutrients past the root zone.
3. Nutrients can be applied with wastewater effluent with little or no observable migration beyond the root zone of the crops.
4. The tradeoffs between crop production and fertilizer use should be evaluated for each site considering the potential for nutrient migration and the need to establish and maintain vigorous crops.
5. Crop selection is critical to the successful operation of a land application system.

Recommendations:

1. Limit the hydraulic loading rate to the mean monthly crop water requirement. (Initial design should be based on a 5- to 10-year precipitation occurrence interval, with daily irrigation based on soil moisture monitoring always greater than 10 centibars.)
2. Limit nitrogen to crop nitrogen requirements. (Include a fraction above crop uptake to allow for losses that occur in the soil, initially 10 to 20 percent.)
3. Select deep rooting crops with high uptake rates.
4. Apply effluent with an irrigation system that is well maintained and efficient in distributing water evenly across the site. (Allow for supplemental irrigation water in years with less than design precipitation rates.)
5. Assess the site soils, hydrology, and climate. (An unacceptable evaluation on soil, buffer zones, land use, or wellhead protection can eliminate a site from consideration.)

6. Prepare a management plan that integrates effluent management with suitable agricultural best management practices (BMPs). (Include harvest schedule, hydraulic requirements, nutrient requirements, crop rotation, and pest control.)
7. Phosphorus should also be monitored, but annual application rates need not be limited to agronomic rates.
8. To determine acceptability of loading rates beyond the agronomic rates recommended, additional studies are needed.
9. Provide lagoon storage for all systems. Size the storage to retain all reclaimed water (in a single outfall system) or at least one week's flow to accommodate temporary irrigation cessation due to weather or harvest schedules (multiple outfall system). Construct all lagoons with a synthetic liner. Lagoons greater than 500,000 gallons must be constructed with a second level of protection approved by DEQ.
10. A monitoring and sampling program should include wastewater effluent sampling, soil moisture monitoring, soil water sampling, soil sampling, and groundwater monitoring in accordance with the "Interpretive Supplement to the Guidelines for Land Application of Municipal and Industrial Wastewater, March 1988" (Idaho Division of Environmental Quality, 1994). It is important to note that the "Interpretive Supplement" referred to above has been superseded by the current IDEQ Guidance for Reclamation and Reuse.

Crop Considerations

A healthy vegetative cover is essential for a wastewater land treatment system to effectively treat wastewater. The primary role of vegetation in a land treatment system is to recycle nutrients in the wastewater into a harvestable crop. In order to reuse and remove nutrients applied from wastewater land treatment, the crop must be harvested and removed from the treatment site. Harvesting operations should be conducted when soil moisture conditions are below field capacity. In slow rate systems designed for agricultural reuse, nitrogen is generally the limiting nutrient.

Hydraulic loading of wastewater and supplemental irrigation water are fundamental land treatment design and operational parameters. Appropriate hydraulic loading rates, in both the growing and non-growing seasons, are of critical importance to minimize adverse environmental impacts from wastewater reuse. The length of the growing season is an important criterion when designing a wastewater land treatment system. The growing season is determined by climatic conditions, which vary throughout the state. The IDEQ Reuse Guidance shows 135 to 155 frost-free days typically for the Rathdrum Prairie. Additional information for growing season and hydraulic loading rates for individual crops is shown on the Agrimet Web site at <http://www.usbr.gov/pn/agrimet/cropdates.html>.

5.4.4 Reuse Costs Summary and Recommendations

Reuse Costs

Coordination with the overall liquid stream alternatives and projects at the WRF are discussed in **Section 5.5**. **Table 5-18** presents preliminary opinion of probable capital costs for construction of a Class A Reuse System for the phases of implementation discussed. Additional detailed cost

breakdowns are included in **Appendix 5-B**. Coordination with the overall liquid stream alternatives and projects at the WRF are discussed in **Section 5.5**.

Table 5-19 – Class A Reuse Site Costs

Item	Description	Capital Cost (Present Worth)	O&M Cost (Present Worth)	Total Cost (Present Worth)
Phase 1	1.0 MGD Class A Land Application (Community Forest Property~200 irrigated acres)	\$21.1M	\$4.9M	\$26.0M
Phase 2	4.35 MGD Class A Land Application Reuse Expansion (Existing City Owned Property and Rathdrum land ~980 irrigated acres)	\$27.7M	\$8.3M	\$36.1M
Phase 3	2.55 MGD Class A Land Application Reuse (Additional Property to be Obtained/Purchased ~608 irrigated acres)	\$76.6M	\$4.2M	\$80.8M

Capital costs for the Phase 1 work are significantly impacted by the cost of drip irrigation and represent nearly half of the overall capital cost for this phase of work. The system size, and topography as well as the goal of creating a “park” type setting will require significant consideration as to the layout and overall irrigation system approach. Costs were developed based on traditional “drip” park project costs but adjusted downward to account for areas that will be outside the primary public “park” corridors and surface mounted piping could be used in lieu of buried irrigation lines.

Capital costs for Phase 2 take advantage of the current agriculture that is occurring on the parcels. Nearly 85% of the parcel’s acreage are currently irrigated with existing equipment (pivots, handlines, and wheel lines). Costs for “new” equipment was only included to accommodate areas/corners where irrigation could be expanded to utilize the parcels more completely, or when it was not apparent that irrigation equipment was present on the site.

Capital cost for implementation for Phase 3 are disproportionally impacted by the cost of purchasing the 653 acres of additional property; representing approximately \$49M of the capital cost for that phase.

Recommendations

The City should continue developing their Water Reclamation and Reuse system on their Community Forest property to improve the public perception of reuse activities. In addition, the City should continue planning and implementation for the Phase 2 expansion to the prairie property agricultural land as funding allows to begin to offset phosphorus being discharged to the Spokane River, reducing TP Wasteload during the planning period, and providing operational buffer for treatment operations and performance to meet river discharge standards.

The final Phase 3 work should be considered as part of the overall planning approach for expansion of overall reuse activities. As growth occurs beyond the 20-year planning horizon, additional land for

reuse will be required to offset wasteload discharged to the Spokane River. This will become increasingly important as flows increase toward the original wasteload allocation values defined by the IPDES permit. This fixed wasteload mass will require the WRF to achieve lower and lower effluent phosphorous and CBOD concentrations to meet the wasteload allocation as system capacity expands.

5.5 Alternative Review and Selection

5.5.1 Alternatives Summary

As discussed previously, three primary high-level planning alternatives were developed for consideration in addition to the No Action Alternative. These three planning alternatives were targeted to maintain compliance and flexibility with the WRF (and City's) long term water reclamation planning objectives for the WRF liquid stream. These alternatives include:

- **Alternative 1 - Facility Improvements to WRF**
 - This alternative includes general facility improvements to existing processes to mitigate known operational deficiencies and anticipated capacity needs identified previously in Chapter 4 through the 20-year planning period. Improvements will be phased as necessary to accommodate growth and necessary logistics for implementation as well as timing for capital funding.
- **Alternative 2 - Facility Improvements to WRF + Reuse on Currently Allocated Property**
 - This alternative includes and expands on Alternative 1 with the phased implementation of Reuse on currently allocated reuse properties (including the City Owned Community Forest and Public Reserve properties identified on the Rathdrum Prairie).
- **Alternative 3 - Facility Improvements to WRF + Reuse on Currently Allocated Property + Additional Property Acquisition for Full Reuse during Growing Season**
 - This alternative includes and expands on Alternative 1 and 2 with the expansion of Reuse to additional property. The alternative includes costs for additional property purchase/acquisition to expand the prairie Public Reserve property as well as infrastructure to expand reuse. The target expansion would provide adequate reuse infrastructure to allow for zero discharge to the Spokane River during the summer growing season. The River discharge would be retained for non-growing season discharge as well as for backup discharge of non-compliant Class A water meeting river standards during the growing season.

These alternatives were compiled into overall cost comparison sheet and presented in **Table 5-19** below.

Table 5-20 – Alternatives to Meet Facility Goals – Liquid Stream

Alternative	Description	Capital Improvements Cost (2023 \$)	O&M Net Present Worth Cost (2023 \$) - [Annual O&M]	Total Present Worth Cost (2023 \$)
1	Facility Improvements to WRF	\$141.9 M	Increases proportional to current O&M	\$142 M
2	Facility Improvements to WRF + <u>Reuse on Currently Allocated Property</u>	\$190.7 M	\$13.19 M [\$825,000 annually]	\$204 M
3	Facility Improvements to WRF + Reuse on Currently Allocated Property + <u>Additional Property Acquisition for Full Reuse during Growing Season</u>	\$267.3 M	\$17.38 M [\$1,085,000 annually]	\$285 M

5.5.2 Alternatives Discussion and Selection

The list of potential general facility improvements to accommodate growth and operational deficiencies were reviewed during workshops with the City staff and ultimately City council. The alternatives were reviewed with the long-term planning goals for the City to provide flexibility at the WRF to maintain permit compliance, combined with capital planning to serve anticipated growth within the planning period and staging of infrastructure beyond the 20-year planning period. Through this review and discussion process the City staff recommended Alternative 3 for their long-term liquid stream planning approach.

Phasing and site planning of the selected liquid stream projects are combined with the selected biosolids improvements alternative and presented in **Chapter 7** Summary of Recommended Improvements and Capital Improvement Plan (CIP).

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APPENDICES

Appendix 5-A – Facility Needs Assessment

Appendix 5-B – Detailed Cost Opinions

Appendix 5-C – Reuse System Calculations

Appendix 5-D – Headworks Influent Feasibility Analysis

Appendix 5-A

Facility Needs Assessment

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FACILITIES NEEDS ASSESSMENT

CITY OF POST FALLS
DECEMBER 2021

ACKNOWLEDGMENTS

CITY LEADERSHIP

MAYOR

Ronald Jacobson

CITY COUNCIL

Steve Anthony

Lynn Borders

Joe Malloy

Kerri Thoreson

Linda Wilhelm

Alan Wolfe

LEADERSHIP TEAM

John Beacham

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EXECUTIVE SUMMARY

OVERVIEW

The Post Falls Facilities Needs Assessment aims to help the City of Post Falls (City) address facility issues, improve service, and respond to regional growth. It focuses on Police, Public Works, Parks Maintenance and Operations (Parks M&O), and City Hall facility needs over the next 30 years.

Plan recommendations outline a strategy to sustain the City's high level of service to the Post Falls community by planning for cost-effective investments that protect assets and address the City's highest-priority challenges.

IN-SCOPE PORTFOLIO

- 6 facilities
- 22 buildings
- 134,500 square feet

This plan defines a "facility" as either a discrete building or several buildings on a discrete site.

ISSUES SUMMARY

GROWING DEMAND FOR SERVICES

Post Falls's Police, Public Works, Parks M&O, and City Hall facilities are critical to provide public safety, utilities, streets, and parks maintenance services. According to 2019 projections, Post Falls's population is expected to grow substantially by 2040¹. Post Falls's civic facilities will need investment to continue to provide high levels of service to the growing and changing community (see Figure 1).

HIGHEST PRIORITY ISSUES

- Aging facilities with growing maintenance needs
- Need to relocate Streets and Fleet Maintenance
- Inadequate crew space for Public Works and Parks M&O
- Uncovered high-value fleet
- Cramped Police headquarters

1. Post Falls Community Development Department Planning Division projections

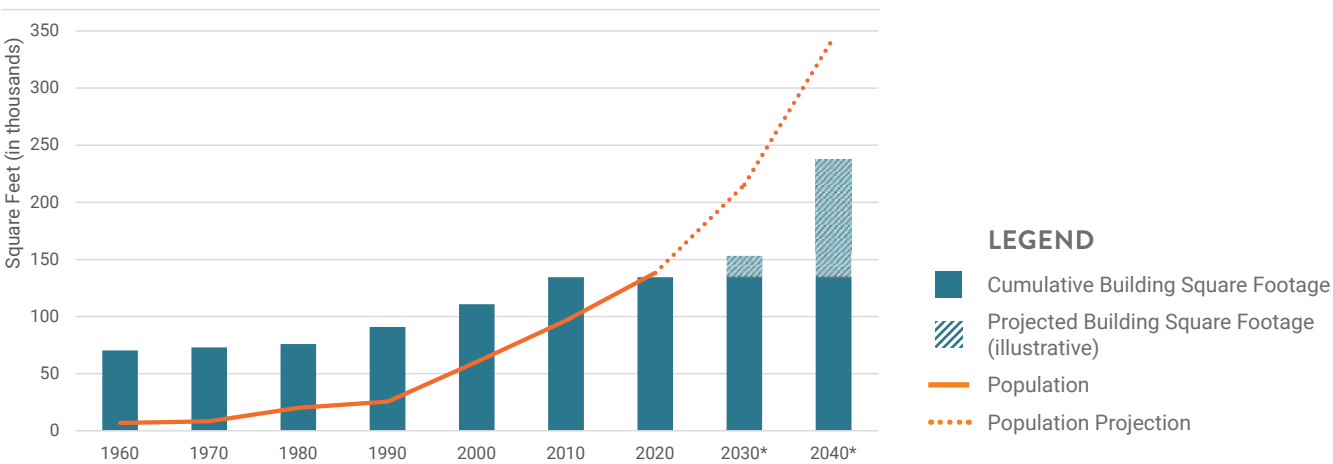


FIGURE 1. CUMULATIVE IN-SCOPE BUILDING SQUARE FOOTAGE COMPARED TO POST FALLS'S POPULATION

*Population estimates based on Post Falls Community Development Department Planning Division projections

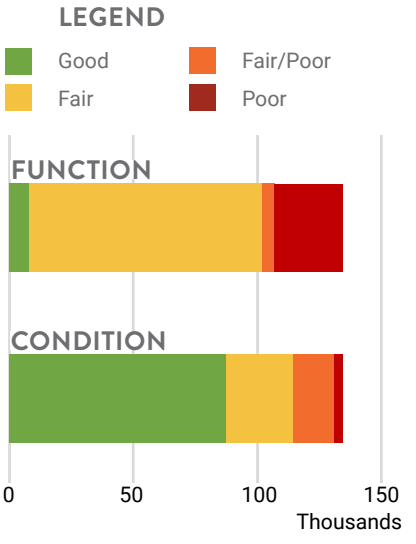


FIGURE 2. IN-SCOPE FACILITY FUNCTIONAL AND CONDITION PERFORMANCE EVALUATION FINDINGS BY BUILDING SQUARE FOOTAGE

DISPLACED STREETS AND FLEET MAINTENANCE

Work to expand the Water Reclamation Facility (WRF) is expected to use a portion of the current Streets and Fleet Maintenance (Fleet) campus. Due to this expansion, Streets and Fleet will need to move their facility by 2040.

INADEQUATE SPACE

Post Falls's in-scope facility square footage is generally in good or fair condition but a majority is functioning in a fair to poor capacity (see Figure 2). The most serious functional issue noted by facility users is the lack of sufficient space to support existing and future staff. This issue is most pressing for Parks M&O who lack space to accommodate large influxes of seasonal crew and projected growth in year-round staff.

AGING MAINTENANCE AND OPERATIONS FACILITIES

While the City has made significant investments in new Police and City Hall facilities, most maintenance and operations buildings were built over 30 years ago, have been minimally updated, and are nearing the end of their service lives. To ensure continued operations over the next 30 years, the City's maintenance and operating facilities require investment.



FIGURE 3. CRAMPED CREW SUPPORT AREAS AT THE WATER RECLAMATION FACILITY



FIGURE 4. INADEQUATE EVIDENCE STORAGE AT POLICE HEADQUARTERS

RECOMMENDATIONS SUMMARY

The table below summarizes the highest priority issues, recommended solutions, and suggested timing for critical facilities projects. Please note, each project will need to be included in the City's budget and permitted prior to the implementation timing shown below. In some cases, further coordination with stakeholders, partners, and the community will also be needed.

In addition to project recommendations, there are a few other overall actions that are recommended:

- Increase annual savings to adequately fund project recommendations.
- Anticipate and budget for predicted maintenance and life cycle milestone renovations.
- Explore partnership and land acquisition opportunities to meet future facilities needs.
- Evaluate and potentially adjust public safety impact fee rates and prioritize construction timing to make use of collected fees.

POLICE	
CRITICAL ISSUES	
Not enough office and support space to accommodate growth; undersized evidence storage and armory; inadequate secured parking and storage	
RECOMMENDATIONS & TARGET TIMING	
2023	Acquire land adjacent to or as near to headquarters as feasible
2024	Renovate the men's locker room
2025-2028	Expand and renovate headquarters
2039	Add parking
2049	Add modular storage
TBD	Build regional training facility

PUBLIC WORKS	
CRITICAL ISSUES	
Inadequate crew support and shops; limited covered storage for high-value fleet; aging facilities and increased maintenance; limited ability to accommodate growth; WRF expansion requires Streets and Fleet relocation	
RECOMMENDATIONS & TARGET TIMING	
2023	Acquire property for new Public Works campus
2025	Address interim Streets and Fleet crew and storage needs
2025	Renovate select crew support buildings and shops
2039-2046	Build new Public Works campus
	Modify Admin 2 and cover fleet at WRF

PARKS M&O	
CRITICAL ISSUES	
Inadequate crew support and shop space; increasing maintenance needs; unable to support growth	
RECOMMENDATIONS & TARGET TIMING	
2023-2024	Cover portion of fleet and improve north half of operations yard
2028-2029	Build new admin/crew support building
2033-2034	Enclose covered parking and remodel shop
2048	Add vehicle wash, cover remainder of fleet, and finish operations yard improvements

CITY HALL	
CRITICAL ISSUES	
Inadequate meeting space; some inefficient and inconsistently sized workspaces	
RECOMMENDATIONS & TARGET TIMING	
2023-2024	Build central customer service counter and add sound mitigation
2030-2032	Renovate Community Development and 2nd floor
2030-2032	Expand basement training room
2035-2037	Renovate Parks and the Community Development counter on the 1st floor
2046-2047	Repurpose basement space for offices
TBD	Consider additional measures to accommodate growth



1. INTRODUCTION

OVERVIEW & PURPOSE

The Post Falls Facilities Needs Assessment is the result of an interdepartmental effort to identify department needs, analyze the City of Post Falls's (City) facility portfolio, and develop prioritized investment recommendations to ensure the City has the facilities it needs to serve the community.

Post Falls anticipates significant growth over the next 20 years. As the population grows, facilities which have served Post Falls for decades will require investment to extend their service life. Though new construction can replace aging structures and provide new capacity, it is a relatively expensive approach. A comprehensive strategy to maintain and renovate existing facilities combined with targeted new construction will address critical issues and enable the City to realize the most value from its investments.

PROJECT OBJECTIVES

City leadership identified the following objectives to help guide project development.

COST-EFFECTIVE

Recommendations maximize benefits and leverage and protect existing assets.

POSITIONED FOR THE FUTURE

Facilities are right-sized and efficiently designed; able to accommodate growth; facilitate management, coordination, and collaboration; and position staff to serve future needs.

FEASIBLE

Facility recommendations are feasible with a reasonable path for phasing and implementation.

SUPPORTED

Investment recommendations improve customer service, meet economic and community development goals, and avoid sensitive issues that could erode support.

CHAPTER ORGANIZATION

OVERVIEW & PURPOSE

PLANNING PROCESS

DOCUMENT ORGANIZATION

PLANNING CONTEXT

FACILITIES OVERVIEW

WHY PLAN FOR FACILITIES NOW?

- Supports growing demand for services
- Optimizes space use and addresses critical needs
- Protects investments and improves efficiency in newer facilities
- Builds a case to support cost effective facilities investments



PLANNING PROCESS

This needs assessment was prepared by MAKERS architecture and urban design, LLP in partnership with the City of Post Falls. Roen Associates provided cost estimates.

The assessment was developed in the following three phases:

ASSESS NEEDS

The project team established a baseline understanding of site issues and conditions by reviewing existing information, interviewing City staff, and performing visual assessments of City facilities. City leadership identified and brainstormed solutions to the most challenging facilities issues at focus work sessions and a Visioning Workshop.

EVALUATE ALTERNATIVES

Working with City staff, the team developed and evaluated alternatives to address facility needs. During an Alternatives Workshop, staff provided feedback on how well each alternative met departmental needs and overall project objectives. The project team additionally reviewed each alternative's financial feasibility and potential funding sources with City finance experts. The team then selected the alternatives that best addressed Post Falls's highest priority issues and long-term needs to carry forward and refine in the final project phase.

REFINE RECOMMENDATIONS

Working with Finance and department leaders, the project team refined recommendations, assessed financial feasibility, and developed a suggested implementation schedule.

DOCUMENT ORGANIZATION

The remainder of this chapter provides an overview of the relevant planning context for plan recommendations. Chapter two summarizes critical issues, alternative concept evaluation, and recommendations for Police, Public Works, Parks Maintenance and Operations (Parks M&O), and City Hall facilities. Chapter three summarizes investments by phase, includes rough order of magnitude (ROM) cost estimates, and assesses the overall financial feasibility of implementation. The appendices review the alternative analyses, summarize assumptions used for cost estimation, and detail future space needs.

PLANNING CONTEXT

Post Falls is located four miles west of Coeur D'Alene in Idaho and 20 miles east of Spokane, WA on the Idaho-Washington state border. Its population in the 2020 census was reported to be approximately 38,000, but the City expects to more than double over the next 20 years (see Figure 5).

RECENT INVESTMENTS

The Police headquarters and vehicle maintenance building were built in 2003 with the addition of a storage facility and animal shelter in the last five years. City Hall was built in 2007. These relatively recent investments provide a great foundation for the civic portfolio and allow the City to prioritize maintenance and operations facility investments.

WRF EXPANSION

In 2013, the City adopted the Water Reclamation Facility (WRF) Facility Plan to expand capacity, improve technology, and comply with increased environmental regulations around wastewater treatment. The City's general fund currently leases the Streets and Fleet Maintenance (Fleet) campus from the Water Reclamation fund; Streets and Fleet operations will need to vacate this campus by 2040 (see Figure 6).

GROWTH & ANNEXATION

Post Falls's rapid growth has been fueled in part by annexation, the bulk of which has occurred in the northern part of the City (see Figure 7). Pressure from property owners seeking to annex and develop and from new residents seeking a place to live in north Idaho is expected to grow.

In anticipation of this growth pressure, the City frequently updates its Comprehensive Plan and underlying master plans, most recently with updates to the Comprehensive Plan and Parks & Recreation Plan Master Plan in 2020. The City also plans to add the Tullamore Sports Complex to serve residents in the north and completed the master plan in 2020; construction is expected to begin in 2022.

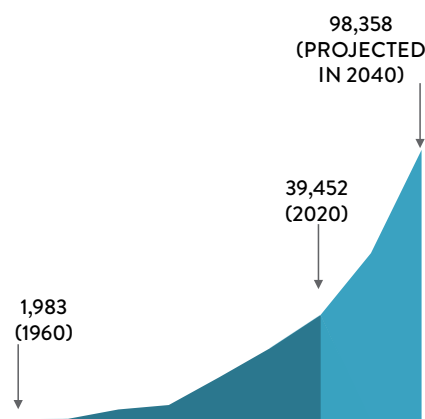


FIGURE 5. POST FALL'S POPULATION GROWTH

Post Falls Planning Division

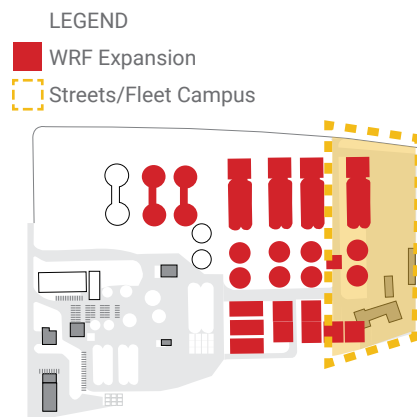


FIGURE 6. WRF EXPANSION

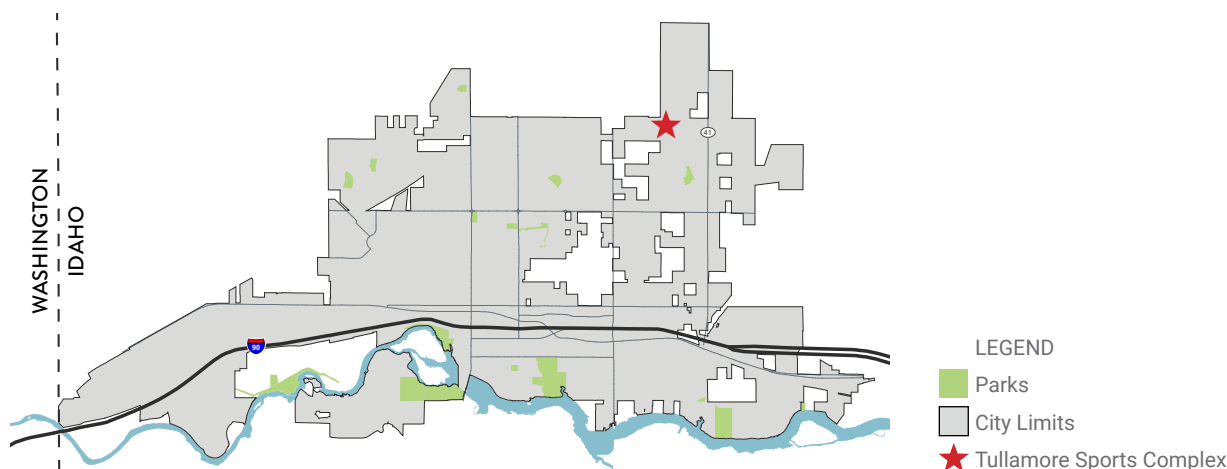


FIGURE 7. CITY OF POST FALLS CONTEXT MAP

FACILITY* PORTFOLIO	
In-scope facilities	6
In-scope buildings	22
Total in-scope building area	134,500 sf
*This assessment defines “facility” as either a discrete building or several buildings on a discrete site; and excludes water and wastewater wells, pumps, and treatment facilities; and other infrastructure.	

FACILITIES OVERVIEW

Post Falls’s in-scope facilities are grouped into four categories: Police, Public Works, Parks M&O, and City Hall (see Figure 8). Facility issues and recommendations are organized by category and presented in Chapter 2.

POLICE

This category encompasses the police headquarters campus, which includes the police administration building, evidence processing and fleet repair shop, specialized fleet storage, and an animal control facility. Police facilities tend to be complex, with a high level of security and safety requirements.

PUBLIC WORKS M&O

This category includes the operations yard and buildings used by Public Works yard and field-based staff as well as citywide fleet maintenance at the WRF and Streets/Fleets Maintenance Headquarters facilities. Operations yards are industrial facilities with significant space needs; sites for these facilities must be proximate to service areas while minimizing impacts to adjacent development.

PARKS M&O

This category includes the operations yards and storage facilities supporting Parks maintenance field-based staff. Parks M&O facilities are located at Evergreen Cemetery and Parks Maintenance Headquarters. Parks operations yards have similar facility needs to Public Works and are best located reasonably near the parks they maintain.

CITY HALL

City Hall is occupied by the Mayor’s office, City Council, Administrative Services (including City Clerk’s Office, Information Technology, Administration, and Public Information Office), Finance and Support Services, Human Resources, Legal Services, Parks Recreation and Administration, Community Development, and Public Works Administration. Administrative facilities are generally flexible buildings that are easily adaptable between different office uses. They tend to have a long service life given regular maintenance and renovations.

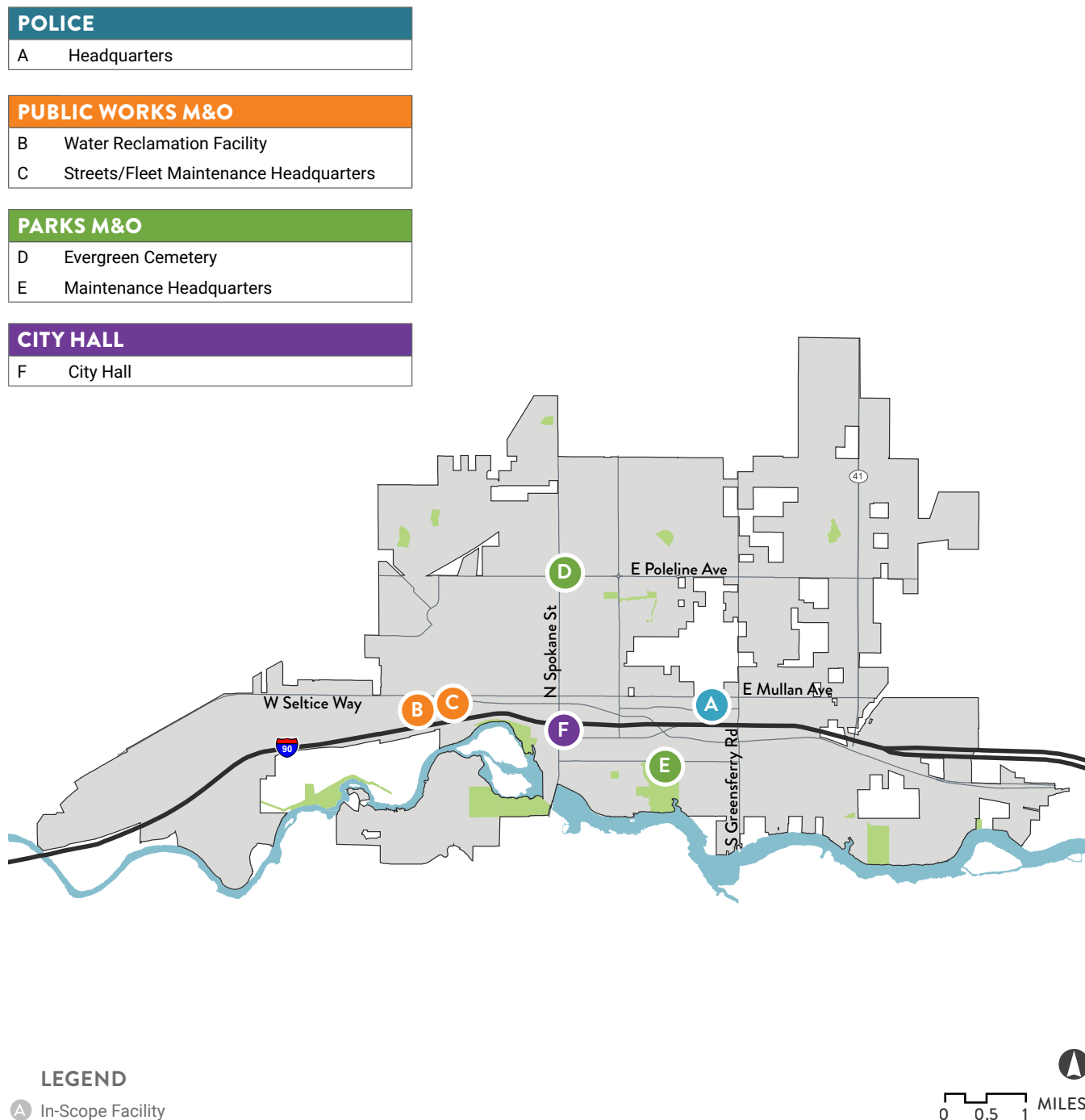


FIGURE 8. IN-SCOPE FACILITIES

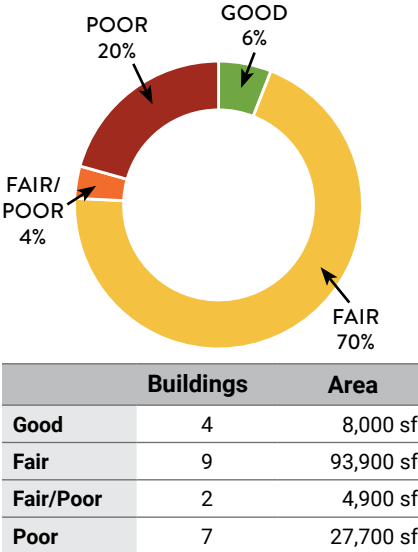


FIGURE 9. IN-SCOPE BUILDING FUNCTION BY FLOOR AREA

FACILITY ASSESSMENT

Post Falls’s in-scope facilities were given function and condition rankings based on a visual assessment, department interviews, and discussions with users. Function and condition categories are described below; assessment findings are summarized in Figure 9 and Figure 10.

FACILITY FUNCTION

This metric ranks facilities based on their ability to support current uses and accommodate department needs.

- **Good** facilities are considered highly functional by users and appear to be well-organized, efficiently used, flexible, and able to accommodate change
- **Fair** facilities appear to be reasonably well-organized and efficiently used, and are considered fairly functional by users
- **Fair/Poor** facilities appear to have functional issues, resulting in decreased efficiency and support for users
- **Poor** facilities are considered poorly functioning by users and appear to be poorly organized, inefficient, and inflexible

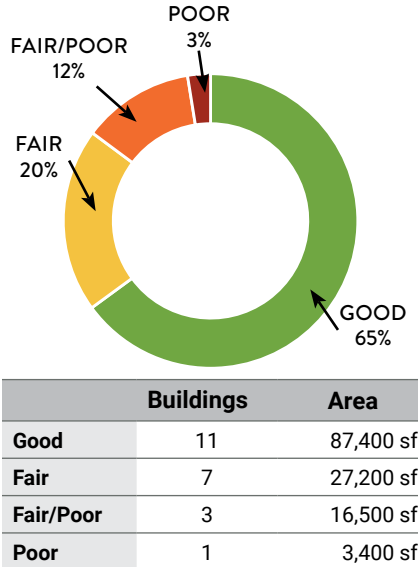


FIGURE 10. IN-SCOPE BUILDING CONDITION BY FLOOR AREA

FACILITY CONDITION

This metric ranks the physical condition of facilities and adequacy of building support systems, highlighting where near-term investment is most needed.

- **Good** facilities appear to be in good condition with few observed deficiencies, are maintained regularly, and have adequate building support systems
- **Fair** facilities appear to be in reasonable condition and have some minor issues with building support systems
- **Fair/Poor** facilities appear to be in declining condition and have building support systems issues
- **Poor** facilities appear to be in failing condition with deficiencies requiring near-term attention

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2. FACILITY ISSUES & RECOMMENDATIONS

ORGANIZATION

This chapter is subdivided by the four facility categories listed at the right. Each section includes the following subsections.

EXISTING CONDITIONS

Reviews existing conditions and issues including condition and function analysis findings.

FACILITY NEEDS

Summarizes current space use, future space needs, and future facility and location requirements. The complete space needs assessment is provided in Appendix C on page 70.

ALTERNATIVES EVALUATION

Summarizes the evaluation of alternative concepts to determine optimal facility location and space use. Concepts were evaluated based on how they performed relative to the project objectives, their ability to meet operational requirements, and how they address the highest priority needs within Post Falls's financial context.

RECOMMENDATIONS

Provides recommendations to address facilities needs, including target implementation dates, and rough order of magnitude (ROM) cost estimates. Cost estimates included in this section are in 2021 dollars and developed using the assumptions detailed in Appendix B.

IMPLEMENTATION PHASES

Implementation is envisioned in four phases as indicated below. The first two phases are in five-year increments and intended to address priority projects. The last two phases are each 10 years and address longer term needs. Target implementation dates assume council adopts a funding strategy in the near term.

CHAPTER ORGANIZATION

POLICE

PUBLIC WORKS

PARKS M&O

CITY HALL





FAST FACTS

Staff	83
Facilities	1
Buildings	4
Building Area	33,400 sf
Site Area	4.0 acres

POLICE

EXISTING CONDITIONS

The Post Falls Police Department (Police) is headquartered in central Post Falls. Administration, detectives, volunteers, and patrol office space are concentrated on the main floor of the **Headquarters Building**; communications and leadership are located on the second floor.

The facility includes three other buildings. Evidence processing and storage as well as Police fleet maintenance are located in the **Vehicle Maintenance Building**. Oversized and specialized fleet are in the **Storage Building**. The **Animal Shelter** (aka Canine Control Center) houses animals impounded by the Post Falls Police Department and the Kootenai County Sheriff’s Office.

The Police Department also stations a patrol sergeant at a substation co-located with the Kootenai County Fire and Rescue Station 2. This facility is not included in this project’s scope, but is shown in Figure 12 on page 11 for reference.

FACILITY KEY

A. Headquarters

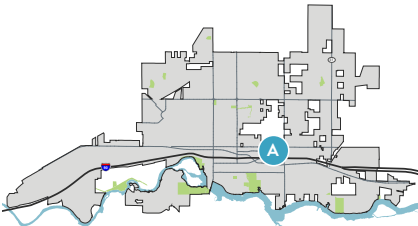


FIGURE 11. POLICE FACILITIES KEY MAP



FIGURE 12. POLICE FACILITIES CONTEXT MAP

- BUILDING KEY**
- 1. Headquarters Building
 - 2. Animal Shelter
 - 3. Storage Building
 - 4. Vehicle Maintenance Building



FIGURE 13. HEADQUARTERS CAMPUS

ISSUES SUMMARY

Police facilities lack adequate space to support current staff, operations, and future growth.

HEADQUARTERS

- Limited and poorly configured office space; unable to accommodate anticipated growth
- Not enough lockers; installing smaller replacement lockers could address this issue
- Lack of storage space, especially for equipment and maintenance supplies
- Limited touchdown space for patrol officer report-writing
- Evidence storage is at capacity
- Inadequate space for future server expansion; need for additional off-site server backup
- Secure parking often undersized, especially during shift change

VEHICLE MAINTENANCE BUILDING

- Oversized evidence storage and processing will soon reach capacity



FIGURE 14. LIMITED EVIDENCE STORAGE



FIGURE 15. POORLY CONFIGURED WORKSTATION SETUP WITH INEFFICIENT SPACE USE

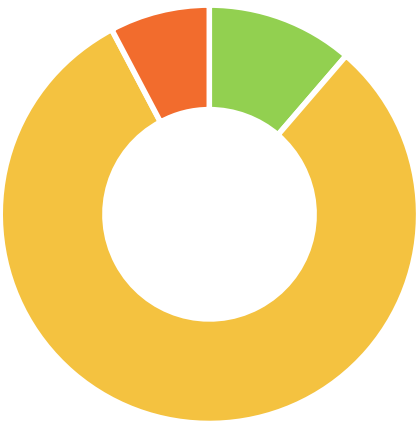


FIGURE 16. POLICE FUNCTION BY BUILDING AREA

				Good	Fair	Fair/Poor	Poor
CONDITION	FUNCTION	MAP KEY	FACILITY NAME	BUILDING AREA (SF)	YEAR BUILT	INVESTMENT RECOMMENDED	
		1	Headquarters	25,900	2003	X	
		2	Animal Shelter	3,500	2017		
		3	Storage Building	2,400	2017		
		4	Vehicle Maintenance Building	4,000	2003		

FIGURE 17. POLICE SPACE USE SUMMARY
Substation is owned and operated by Kootenai County Fire and excluded from this table.

FACILITY NEEDS

Total building area for Police is approximately 22% deficient relative to projected future needs.

SPACE NEEDS			
	EXISTING SPACE (SF)	FUTURE NEED (SF)	% DEFICIENT
Administrative and Personnel Support Space	24,400	30,500	20%
Operations	1,500	3,900	62%
Warehouse/Storage	2,300	3,000	23%
Fleet Shop	1,700	2,200	23%
Animal Shelter	3,500	3,500	0%
Fleet, Employee, and Visitor Parking	24,000	37,600	36%

FIGURE 18. POLICE SPACE NEEDS SUMMARY

The space needs summarized above are Police's highest priority and addressed in this plan's recommendations. Police additionally requires a training center to include an Emergency Vehicle Operations Course (EVOC). Other public safety entities in the region share this need; these facilities are likely best pursued in partnership with other jurisdictions through a joint-training facility.

LOCATION REQUIREMENTS

Police should be centrally located to provide timely response throughout the City and be accessible to residents. Police would prefer to be consolidated in one location for operational efficiency. Aside from their presence at Kootenai County Fire and Rescue Station 2, Police does not anticipate requiring additional substations within this plan's time frame. Police may want to consider adding a substation to the new regional training center to accommodate the City's growth and shifting public safety needs.



FIGURE 19. LACK OF STORAGE SPACE



FIGURE 20. LIMITED CAPACITY WITH DOUBLE-SIZED LOCKERS



FIGURE 21. NEW EMERGENCY COMMUNICATIONS CENTER



FIGURE 22. ADEQUATELY SIZED ANIMAL SHELTER KENNELS

ALTERNATIVES EVALUATION

The team evaluated the following three approaches to meet Police facility needs:

1. Maintain existing facility configuration and layout
2. Limited reshuffling of space in the headquarters building (see Figure 23)
3. Expand headquarters and purchase property for additional parking and storage (see Figure 24)

Alternative 1 performed poorly as it does not address critical needs or accommodate future growth. Alternative 2 reconfigures and maximizes use of workstations, lockers, and other support spaces, but fails to meet future space requirements.

Alternative 3 is the best performer. It provides space to accommodate staff growth in a central location with good public accessibility.

LEGEND

Renovation/New Construction

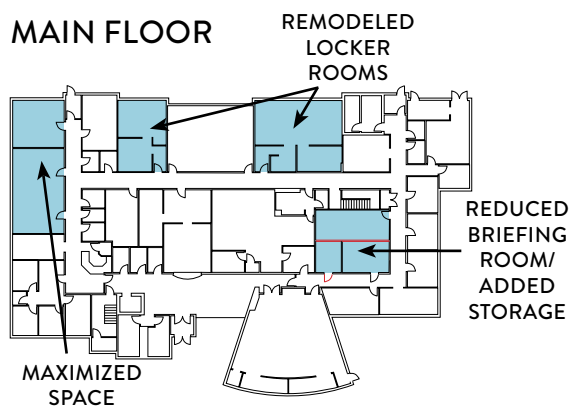


FIGURE 23. ALTERNATIVE 2

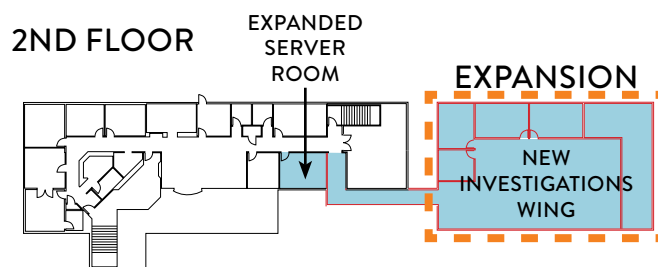
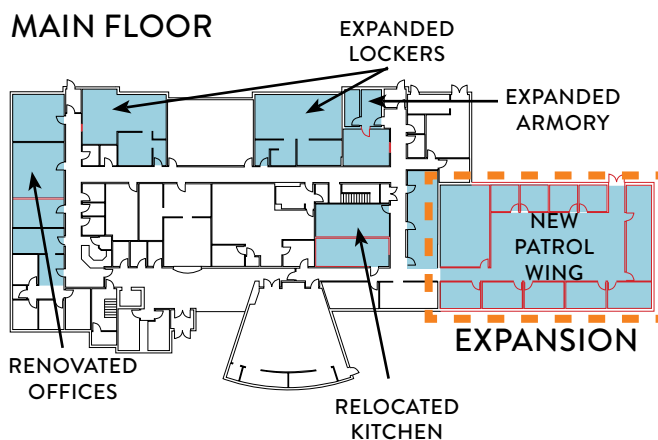


FIGURE 24. ALTERNATIVE 3

KEY OUTCOMES

Key outcomes from the alternatives analysis are summarized below. More information about analysis considerations can be found in Appendix A.

ON-SITE EXPANSION MEETS FUTURE NEED

Operating out of one headquarters (as opposed to multiple substations) is the optimal configuration for Police from an operational efficiency standpoint. A headquarters addition is recommended to meet Police's long-term space needs.

The headquarters was designed to allow for expansion of the southeast side of the building. Moving the patrol and investigation units into the addition will provide the needed space for functions where growth is likely to be concentrated. The recommended addition also adds needed storage and meeting areas. Renovation of the existing building will address remaining office space needs.

NEARBY PROPERTY ALLOWS FOR GROWTH AND PHASING

Purchase property (minimum 0.6 acres but more if possible) as close to headquarters as possible to accommodate future parking and storage needs and provide space to facilitate headquarters expansion.

MOVING SPECIALIZED FLEET INCREASES STORAGE

Specialized fleet currently in the Storage Building is infrequently used and could be located elsewhere. Move this storage off-site to another City property to free up space for higher-frequency uses.

TRAINING CENTER BEST PURSUED AS REGIONAL PARTNERSHIP

Police identified the need for a regional training center, which could be an opportunity to partner with other public safety agencies. Consider including a substation to respond to the City's growth and changing public safety needs.



FIGURE 25. UNDERUTILIZED BRIEFING ROOM



FIGURE 26. UNDERSIZED SECURED PARKING

RECOMMENDATIONS

Police facilities recommendations, approximate costs, and phasing suggestions are listed below and illustrated in Figure 29 and Figure 30 on page 17. Project costs by phase are illustrated in Figure 28.

FIGURE 34/35 KEY	RECOMMENDED PROJECT	COST (2021\$)	PHASE			
			I	II	III	IV
A	Purchase property Secure a minimum of 0.6 acres or more property nearby (not pictured)	\$440,000*				
B	Renovate the men's locker room Convert lockers to single width and renovate locker room	\$240,000				
C	Expand headquarters and renovate existing building Construct addition and relocate patrol and investigation units, relocate break room, expand women's locker room and armory, and renovate vacated areas for storage or expanded office space	\$9.0M				
D	Prepare nearby site and add parking Prepare land on nearby site and create additional secured parking (not pictured)	\$1.4M				
E	Place modular storage Build modular storage building on acquired site (not pictured)	\$1.2M				
F	Build regional training facility Partner with regional organizations to construct joint training facility (not pictured)	TBD	TBD			

FIGURE 27. POLICE RECOMMENDATIONS

*Property estimate provided by City and escalated by 10%

LEGEND

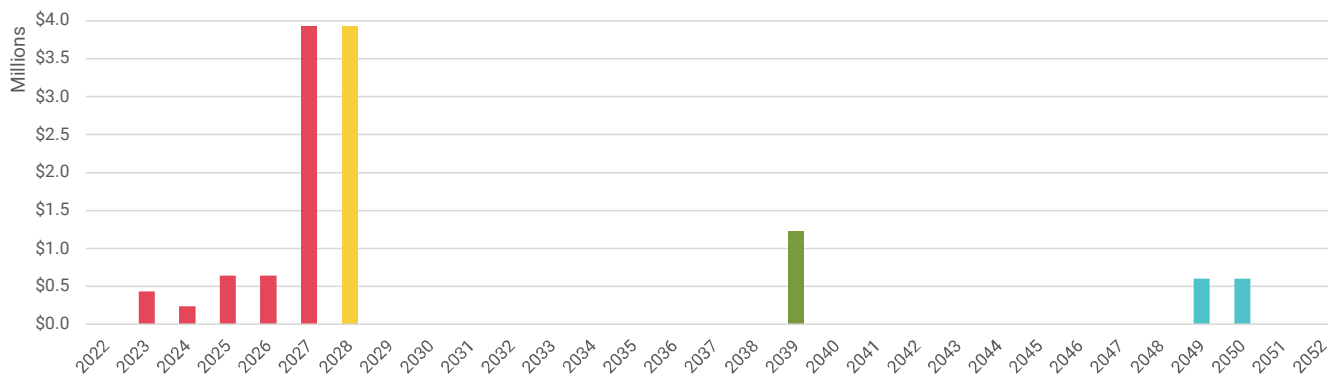


FIGURE 28. POLICE SPENDING PLAN

Project costs provided in 2021 dollars; does not include training facility

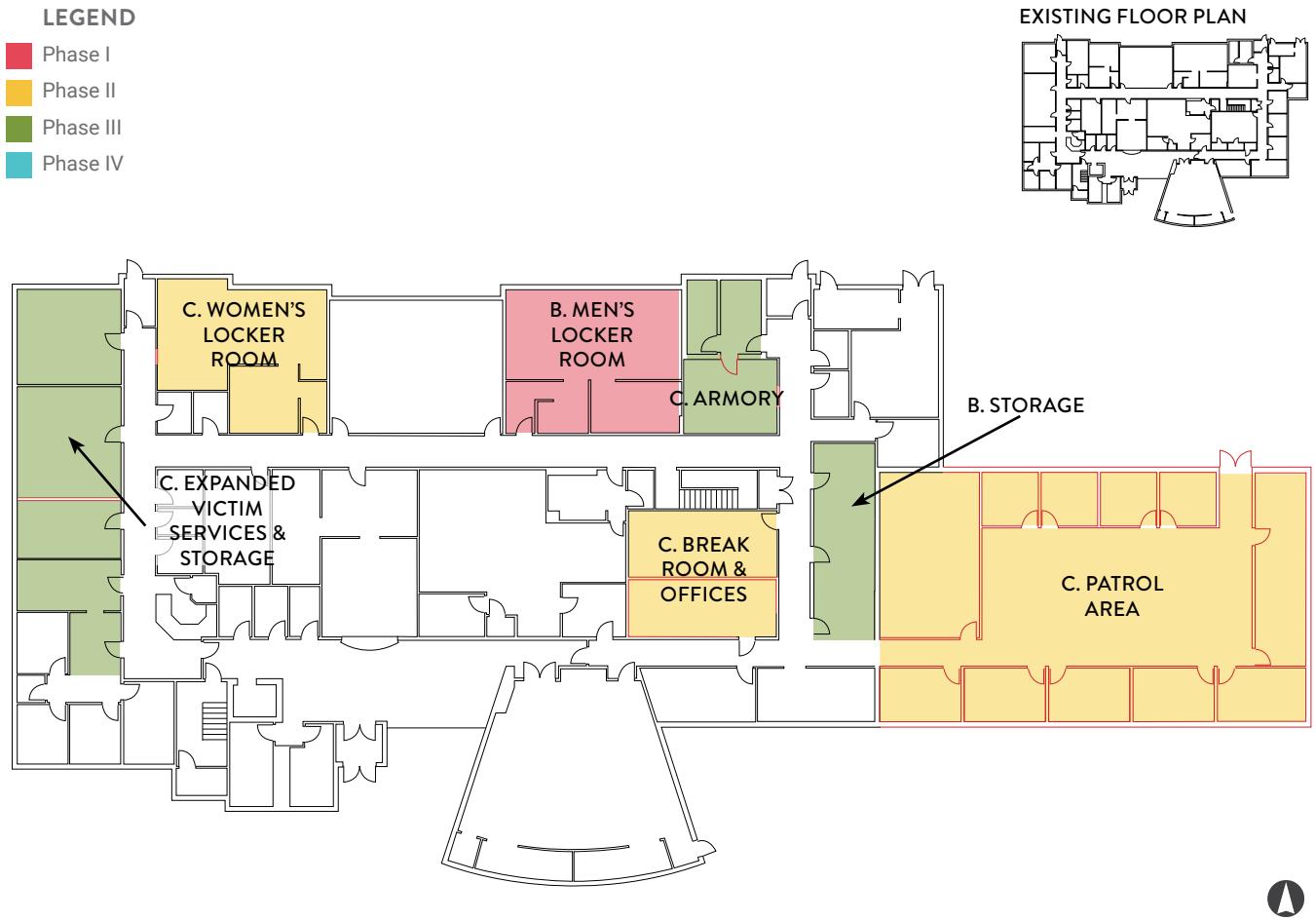


FIGURE 29. HEADQUARTERS PHASING - FIRST FLOOR

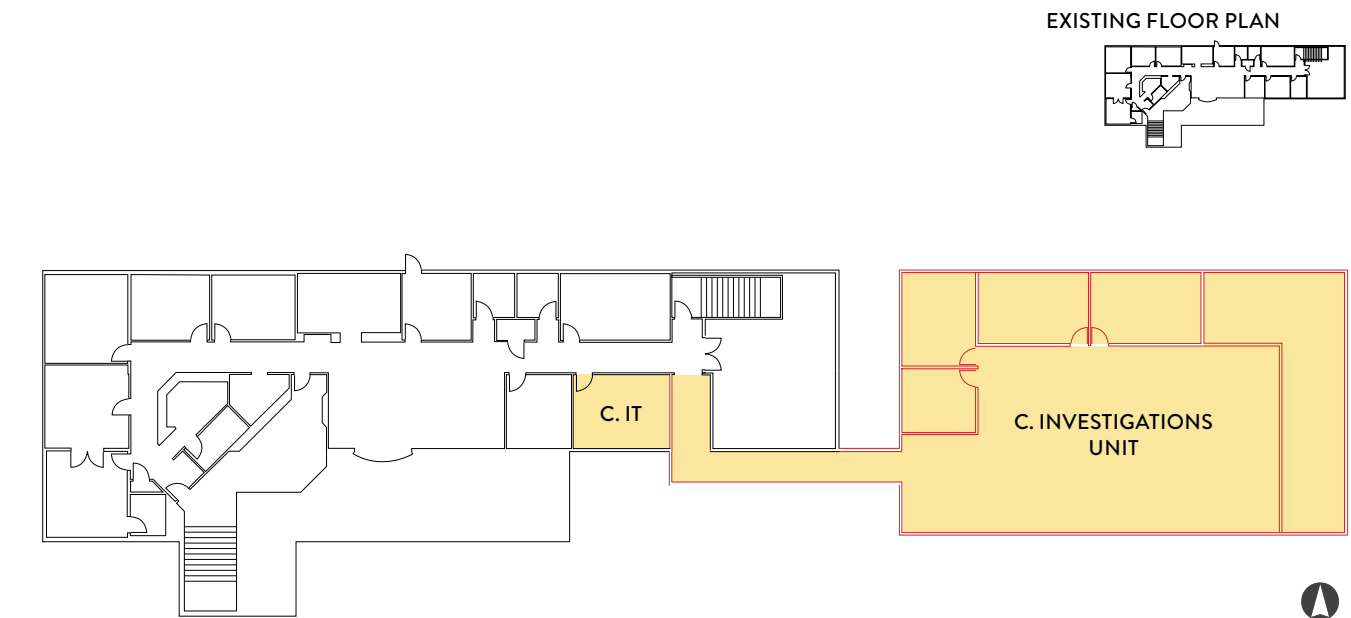


FIGURE 30. HEADQUARTERS PHASING - 2ND FLOOR



FAST FACTS

Staff	47
Facilities	2
Buildings	12
Building Area	37,300 sf
Site Area	30.7 acres

PUBLIC WORKS

EXISTING CONDITIONS

The **Water Reclamation Facility (WRF)** serves as the City’s wastewater treatment plant and headquarters for the Water and Water Reclamation divisions of the Public Works department. Water Reclamation crews staff wastewater treatment plant operations on-site, while Water division crews based at the WRF operate primarily in the field. The City has made recent investment to the Admin 2 building that includes Water Reclamation administrative offices and a conference room.

The **Streets/Fleet Headquarters** is adjacent to the WRF and houses the City’s Streets and Fleet Maintenance (Fleet) divisions. This site has an operations yard that includes a wash rack and dewatering facility. The property is owned by the City’s Water Reclamation fund and is leased to the general fund for Streets and Fleet operations. This site was a former car dealership and is currently the maintenance hub for a majority of the City’s fleet vehicles and equipment.

WRF EXPANSION

In 2013, the City formalized plans to update and expand the WRF to meet regulations and increase capacity to accommodate the City’s growth (shown in the hatch in Figure 32). Work on the expansion began in 2020 and is expected to encroach on Streets and Fleet operations by 2040. This expansion is expected to use a significant portion of the Streets and Fleet campus, forcing Streets and Fleet to relocate.

FACILITY KEY

- B. Water Reclamation Facility
- C. Streets/Fleet Headquarters

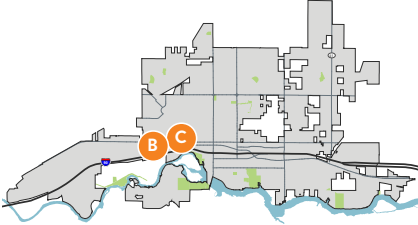


FIGURE 31. POLICE FACILITIES KEY MAP



FIGURE 32. PUBLIC WORKS CAMPUS, INCLUDES WRF AND STREETS/FLEET HEADQUARTERS



BUILDING KEY

- 1. Water Shop
- 2. Administration Building 1
- 3. Administration Building 2
- 4. Lab/Control Building
- 5. Pilot Building
- 6. Utility Building 2
- 7. Pole Building
- 8. Fleet Shop (New)
- 9. Fleet Shop (Old)
- 10. Streets Administration Building
- 11. Sign Shop
- 12. Covered Parking

□ WRF
▨ WRF Expansion
□ Streets/Fleet Headquarters

FIGURE 33. PUBLIC WORKS FACILITIES CONTEXT MAP

ISSUES SUMMARY

Public Works facilities are aging and lack space to support current crew operations and future growth.

STREETS AND FLEET

- Need to relocate by 2040 due to WRF expansion
- Former car dealership without purpose-built structures leading to inadequately sized admin and crew spaces (offices, touchdown workstations, lockers, lunchroom)
- Limited restrooms require outside access
- Wash rack needs improvement
- Limited usable conference and training space
- Undersized and poorly configured fleet shop with inadequate ventilation
- Aging buildings needing maintenance
- Poorly configured fleet maintenance staging area
- Undersized sign shop needs sterility improvements
- Limited covered parking and materials storage

WRF

- Functions spread out inefficiently across the site
- Inadequately sized and configured crew spaces (touchdown workstations, lockers, restrooms, lunchroom, and muster space)
- Inadequate shop space that is unable to absorb growth
- Undersized lab which lacks appropriate separation from operations to avoid contamination
- Aging buildings in need of maintenance
- Limited storage/warehouse space for growing service requirements
- Limited covered and heated storage for high-value equipment

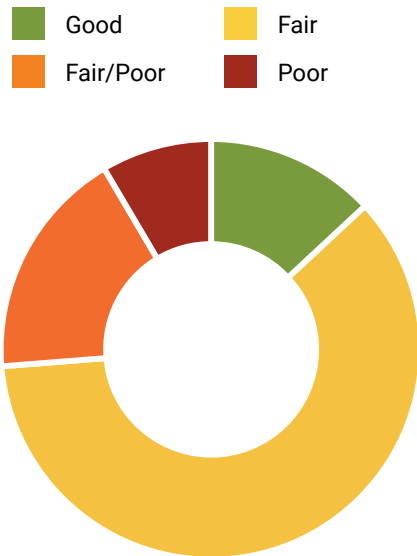


FIGURE 34. PUBLIC WORKS M&O CONDITION BY BUILDING AREA

CONDITION	FUNCTION	MAP KEY	FACILITY NAME	BUILDING AREA (GSF)	YEAR BUILT	INVESTMENT RECOMMENDED
Fair	Fair	1	Water Shop	7,200	1996	
Fair	Poor	2	Administration Building 1	2,500	1983	X
Good	Fair	3	Administration Building 2	1,500	1990	
Fair	Poor	4	Lab/Control Building	3,000	1983	X
Good	Fair	5	Pilot Building	1,300	2016	
Fair	Fair/Poor	6	Utility Building 2	2,500	1996	X
Good	Poor	7	Pole Building	2,400	2005	
Fair/Poor	Poor	8	Fleet Shop (New)	3,800	2008	X
Fair/Poor	Poor	9	Fleet Shop (Old)	3,200	1960	X
Poor	Poor	10	Streets Administration Building	3,400	1960	X
Fair	Fair	11	Sign Shop	2,700	1960	X
Fair	Fair	12	Covered Parking	6,100	2010	

FIGURE 35. PUBLIC WORKS MAINTENANCE AND OPERATIONS SPACE USE SUMMARY

FACILITY NEEDS

WATER & WATER RECLAMATION

As is summarized below, the Water and Water Reclamation divisions lack sufficient space in almost every program category.

SPACE NEEDS			
	EXISTING SPACE (SF)	FUTURE NEED (SF)	% DEFICIENT
Crew Support	5,800	10,700	46%
Shops & Operations	5,300	6,500	18%
Wash Rack	0	2,500	100%
Decant	0	1,500	100%
Covered Storage	1,000	1,100	9%
Yard Storage	20,000	20,000	0%
Heated Parking	4,800	6,000	20%
Covered Parking	0	10,500	100%
Open Parking	31,100	16,100	-93%

FIGURE 36. WATER/WATER RECLAMATION SPACE NEEDS SUMMARY

WASH RACK AND DECANT FACILITIES

Water and Water Reclamation crews currently use the wash rack and decant located at the Streets/Fleet Headquarters. As the WRF expansion project will likely displace the existing wash rack and decant facility, the WRF will need an on-campus wash rack and decant facility.

LOCATION REQUIREMENTS

A portion of the Water Reclamation staff need to be located at the WRF to maintain daily operations. Other Water Reclamation and Water staff can be at a separate location that is centrally located to facilitate citywide operations. Co-location of these crews with a new Streets and Fleet campus could increase efficiency.



FIGURE 37. UNDERSIZED LAB/CONTROL BUILDING



FIGURE 38. SMALL PILOT BUILDING USED AS TEMPORARY SHOP



FIGURE 39. FORMER ANIMAL SHELTER USED AS AD HOC GYM/STORAGE SPACE



FIGURE 40. CRITICAL ELECTRIC PANEL IN UTILITY BUILDING 2



FIGURE 41. EXPOSED FLEET STORAGE



FIGURE 42. UNDERSIZED FLEET SHOP



FIGURE 43. LIMITED COVERED FLEET PARKING



FIGURE 44. INEFFICIENTLY CONFIGURED SIGN SHOP

STREETS & FLEET

As is summarized below, the Streets and Fleet divisions lack sufficient space in almost every program category.

SPACE NEEDS			
	EXISTING SPACE (SF)	FUTURE NEED (SF)	% DEFICIENT
Crew Support	3,700	7,500	51%
Fleet Shop	6,600	14,200	54%
Shops/Storage	1,500	1,800	17%
Wash Rack	1,300	2,500	48%
Decant	1,400	1,500	7%
Covered Storage	0	6,800	100%
Yard Storage	89,000	104,000	14%
Heated Parking	0	2,800	100%
Covered Parking	6,100	21,500	72%
Open Parking	29,100	20,200	-44%

FIGURE 45. STREETS AND FLEET SPACE NEEDS SUMMARY

LOCATION REQUIREMENTS

Streets needs a central location to efficiently reach all work areas. Fleet would benefit from a location easily accessible by all City departments. Co-location with Water and some Water Reclamation crews would increase efficiency and facilitate department-wide coordination.

ALTERNATIVES EVALUATION

The team evaluated the following three approaches to meet Public Works facility needs:

1. Improve and/or build new facilities to accommodate WRF expansion and remain in place (see Figure 46)
2. Build new campus for Streets and Fleet and improve WRF as needed
3. Build new combined Public Works Operations Center (“PW Ops Center”) and improve WRF as needed (see Figure 53 and Figure 54 on page 27)

Alternative 1 performed poorly as it requires an off-site operations yard for Streets. Travel to the off-site yard would decrease efficiency and add significant operational costs.

Alternatives 2 and 3 both perform well by providing a purpose-built Public Works campus able to accommodate growth. Alternative 3 is the preferred option as it reduces costs, provides increased operational efficiency due to co-located staff and functions, and provides the most usable space in which to expand the WRF to meet future needs.

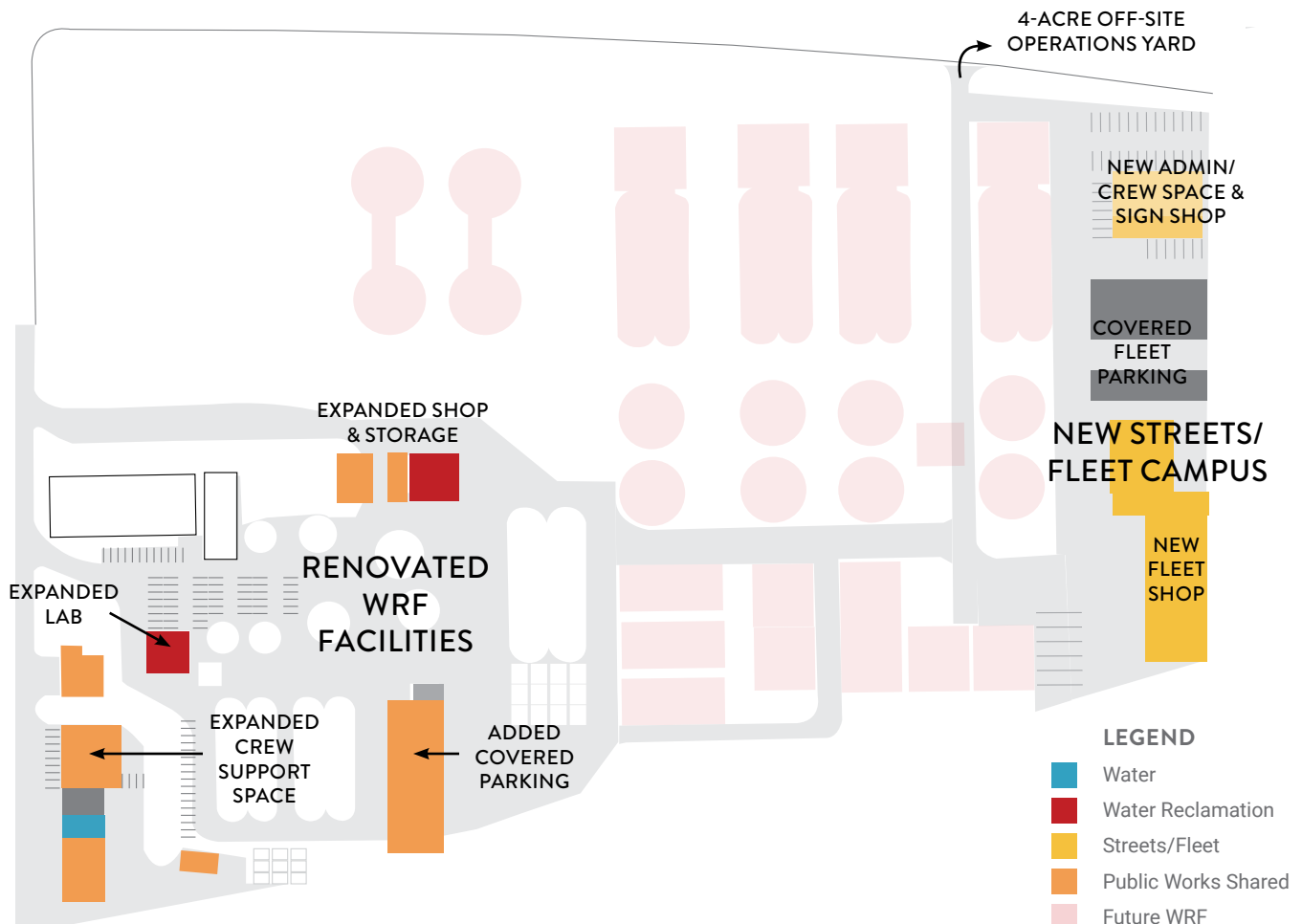


FIGURE 46. ALTERNATIVE 1 CONCEPT DIAGRAM

KEY OUTCOMES

Key outcomes from the alternatives analysis are summarized below. More information about analysis considerations can be found in Appendix A.

TIMELY INVESTMENT NEEDED

While a few buildings have been recently renovated, most Public Works facilities are in need of investment. This is especially true for Streets and Fleet whose crew support facilities were not purpose built and have not been improved since the City occupied the site in 2008.

PURCHASE PROPERTY AND CONSOLIDATE PUBLIC WORKS OPERATIONS

There is not enough space on the current site to rebuild Streets and Fleet facilities and accommodate the WRF expansion without relocating some Streets yard operations offsite. This scenario will increase travel time and decrease efficiency.

Most staff currently based at the WRF are not critical to daily plant operations and can be located elsewhere. Co-locate Streets, Fleet, Water, and most Water Reclamation staff and operations at the PW Ops Center to save space with shared functions and equipment, facilitate collaboration, and increase efficiency.

The preferred option to meet needs and support efficient operations is to purchase land and build a new PW Ops Center to accommodate Streets, Fleet, Water, and most Water Reclamation crews. The minimum space required is approximately eight acres, however the City is encouraged to purchase additional space to provide flexibility to respond to the evolving needs or unanticipated growth of any department.



FIGURE 47. INADEQUATE STREETS WASH RACK



FIGURE 48. STREETS AND FLEET BREAK ROOM

RENOVATE WRF AS NEEDED

As crews unrelated to WRF functions are relocated, renovate facilities to better serve WRF-focused crews and operations and accommodate growth for on-site functions.

ADDRESS INTERIM NEEDS

The WRF expansion is planned to infringe on the current Streets and Fleet campus and require relocation to the PW Ops Center by 2040. In the interim, the following investments in WRF and Streets and Fleet facilities will be needed to support operations during this timeframe:

- Add a modular Streets and Fleet crew support facility to meet near-term space needs
- Build covered materials storage for critical Streets storage needs, such as salt
- Renovate the WRF Water Reclamation Shop and Admin 1 building for Water Reclamation crew support space, and renovate vacated space in the Lab/Control Building to accommodate operational growth

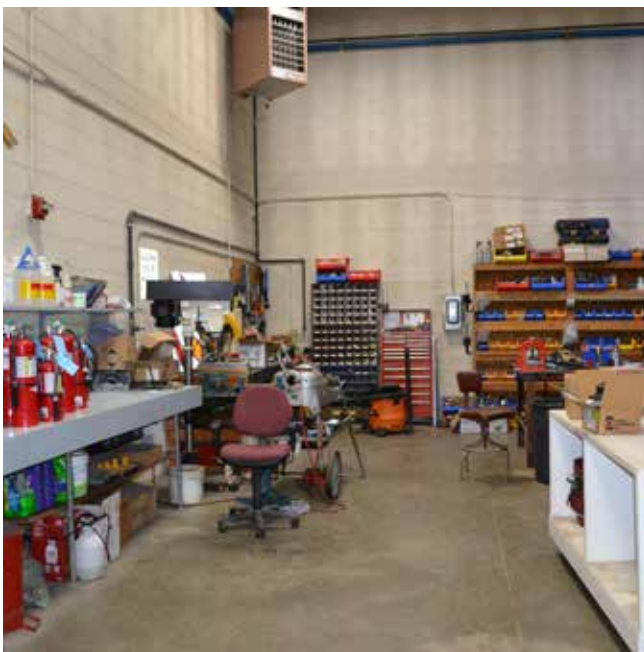


FIGURE 49. AD HOC WRF WATER SHOP



FIGURE 50. UNDERSIZED WRF SCADA CONTROL

RECOMMENDATIONS

Public Works facilities recommendations, approximate costs, and phasing suggestions are listed below and illustrated in Figure 53 and Figure 54 on page 27. Project costs by phase are illustrated in Figure 52.

FIGURE 53/56 KEY	RECOMMENDED PROJECT	COST (2021\$)	PHASE			
			I	II	III	IV
A	Purchase property Secure approximately eight acres or more to locate the future PW Ops Center (not pictured)	\$480,000				
B	Renovate existing and add new crew support facilities at Streets/Fleet Modify the Sign Shop to improve function and add modular crew support facility (not pictured)	\$440,000				
C	Add covered bulk materials storage at Streets/Fleet Build modular covered structure for salt and other bulk materials (not pictured)	\$590,000				
D	Renovate shop, Admin 1, and Lab/Control building at the WRF Remodel Water Reclamation Shop, renovate Admin 1 for Water Reclamation crew space, and renovate the Lab/Control building	\$1.9M				
E	Build crew facilities, shops, and heated parking at the PW Ops Center Construct shops for Fleet, Water, and Streets; build crew support building, and add heated parking for fleet	\$19.8M				
F	Add wash rack, decant, covered parking, and materials storage at the PW Ops Center Build a wash rack and decant, cover high value fleet and equipment, and build storage space for bulk materials	\$7.7M				
G	Modify Admin 2 for meeting space and cover high value fleet and equipment at the WRF Convert Admin 2 to meeting space and build structures to cover fleet and equipment	\$270,000				

FIGURE 51. PUBLIC WORKS RECOMMENDATIONS

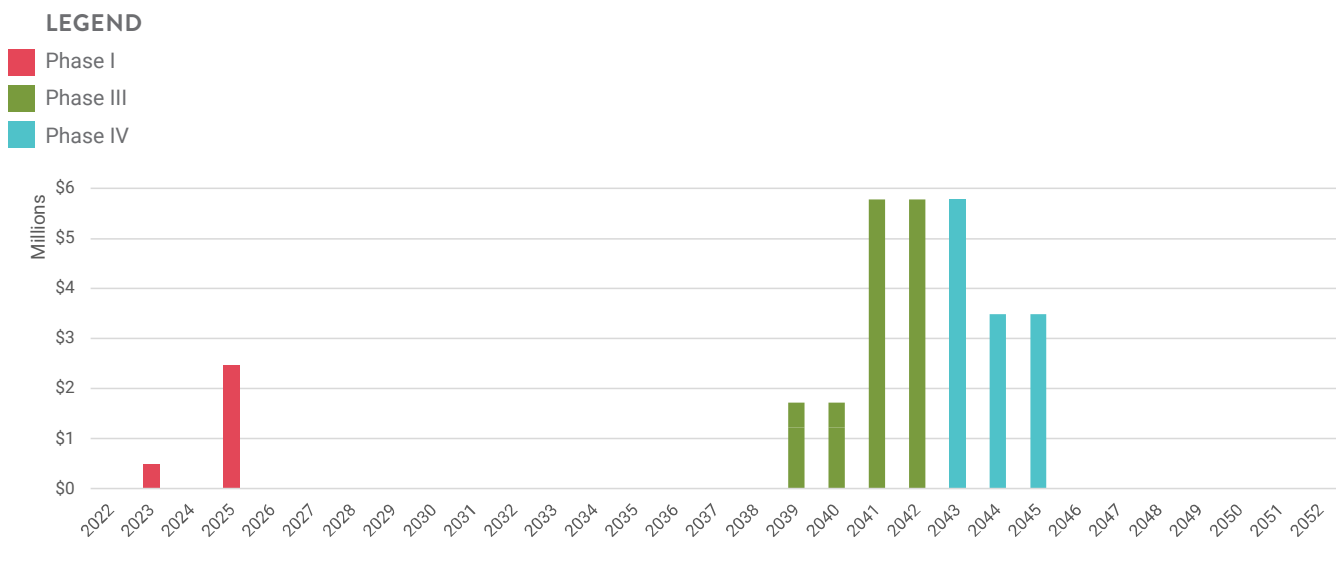


FIGURE 52. PUBLIC WORKS SPENDING PLAN
Projects are in 2021 dollars

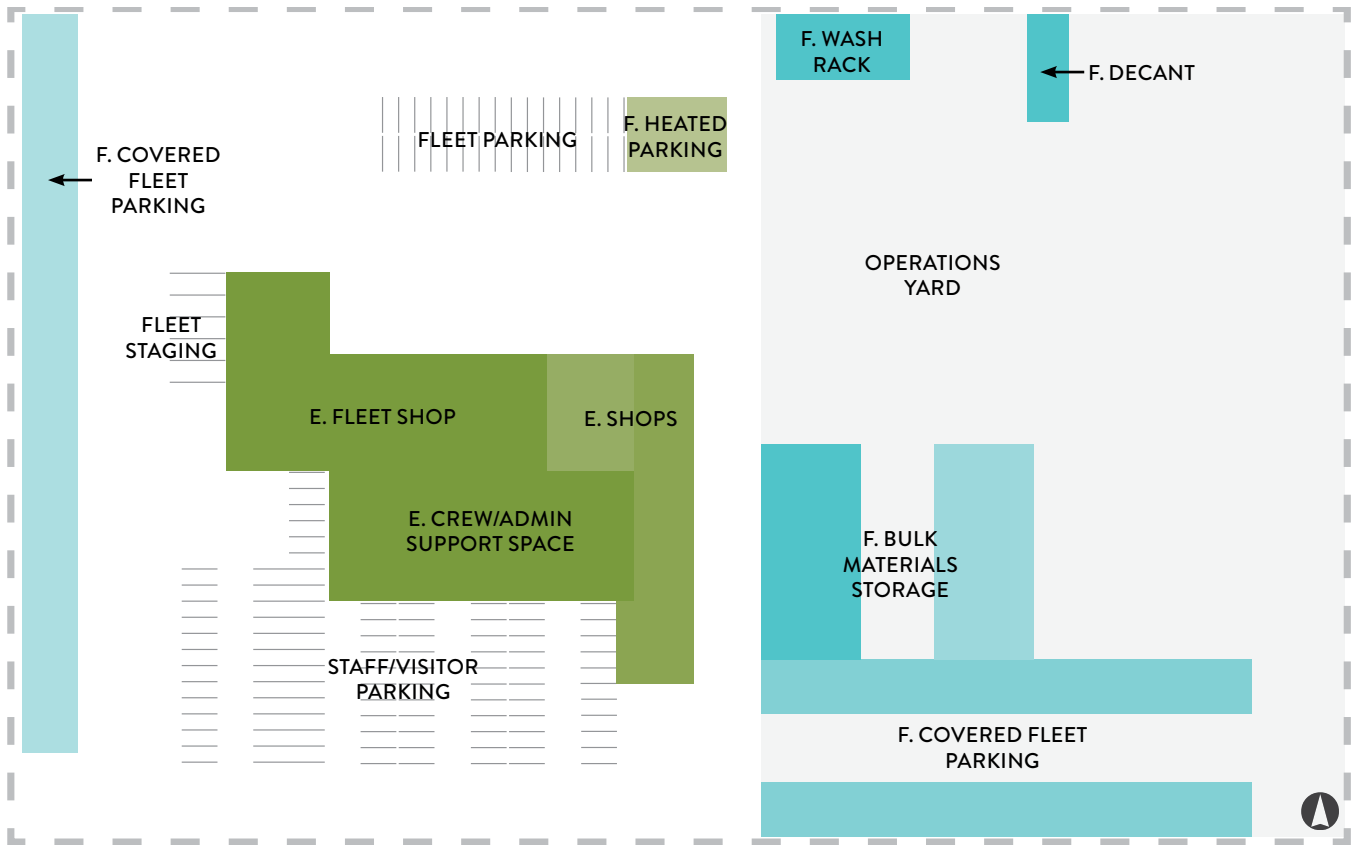


FIGURE 53. PW OPS CENTER CONCEPT DIAGRAM

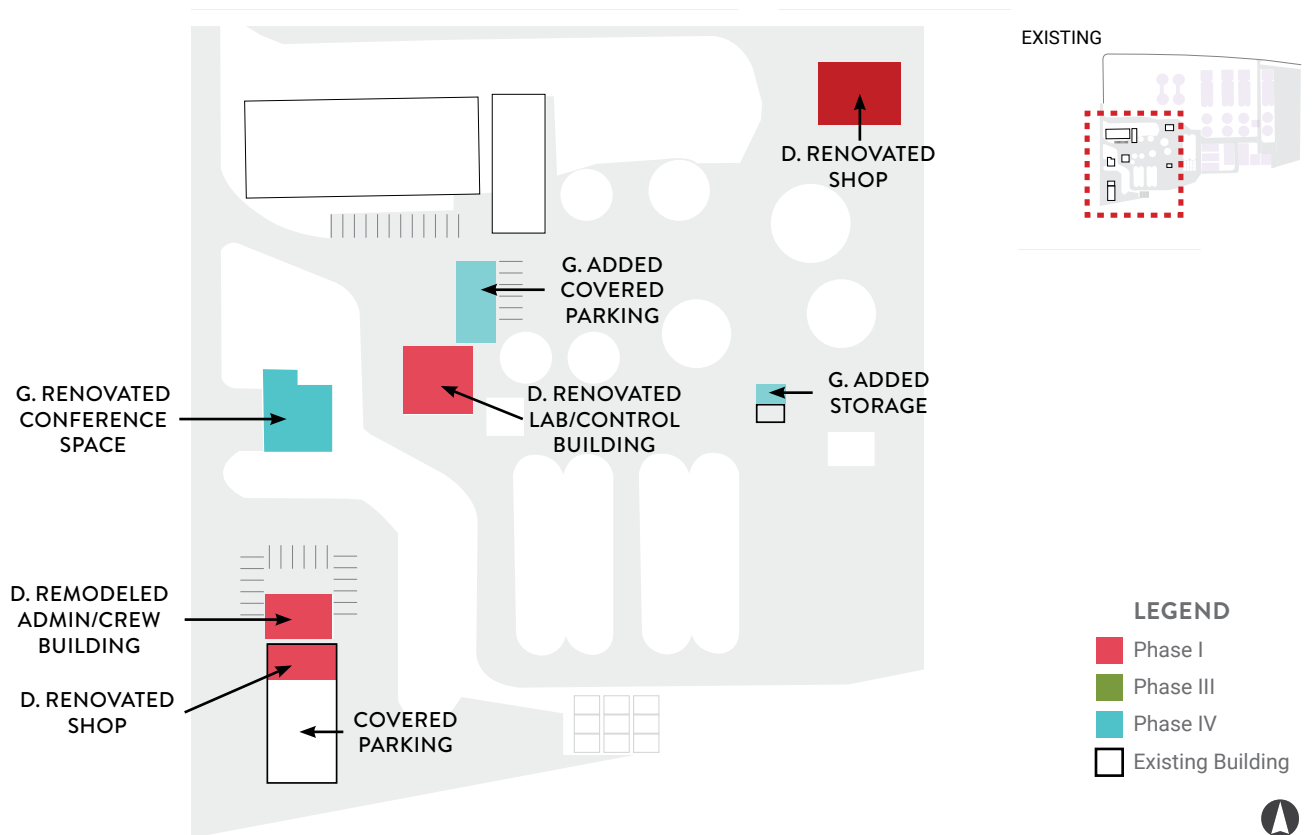


FIGURE 54. WRF RENOVATION AND ADDITION CONCEPT DIAGRAM



FAST FACTS	
Staff	16
Facilities	2
Buildings	5
Building Area	17,300 sf
Site Area	4.5 acres

PARKS M&O

EXISTING CONDITIONS

The Parks M&O Headquarters campus contains the **Parks Maintenance Shop** with administrative offices, crew support, equipment maintenance shop, and storage. The campus also includes the **Parks Maintenance Warehouse** which holds the construction shop and recreation storage, and the **Urban Forestry Storage Shed**. The operations yard contains the plant nursery, bulk materials and laydown storage, and a few equipment storage structures. A greenhouse is also planned to be erected within the year. Crews that report here maintain most of the City’s parks and civic facility grounds.

Parks M&O also has a small operations base at the Evergreen Cemetery. The **Evergreen Cemetery Office** serves as the main customer service interface with a show room and office space for burial planning. Crews operate out of the **Evergreen Cemetery Maintenance Building** which serves as the shop and covered storage area for the cemetery. Bulk materials storage is located adjacent to N Spokane Street.

FACILITY KEY

- D. Evergreen Cemetery
- E. Parks M&O Headquarters

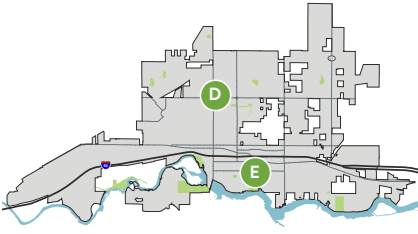


FIGURE 57. POLICE FACILITIES KEY MAP



FIGURE 58. PARKS M&O FACILITIES CONTEXT MAP

BUILDING KEY

1. Parks Maintenance Shop
2. Parks Maintenance Warehouse
3. Urban Forestry Storage Shed
4. Evergreen Cemetery Office
5. Evergreen Cemetery Maintenance Building



FIGURE 59. EVERGREEN CEMETERY



FIGURE 60. PARKS M&O HEADQUARTERS

ISSUES SUMMARY

ParksM&O headquarters is aging, lacks space to support current crews and future growth, and provides low-quality support space for crews. Evergreen Cemetery facilities are newer, purpose-built construction in good condition.

HEADQUARTERS

- Aging building needs repairs
- Inadequate crew work and support spaces
- Limited parking and storage
- Exposed high-value fleet and equipment
- Operations yard requires improved organization and screening

EVERGREEN CEMETERY

- Bulk materials storage will need to be relocated as the cemetery expands.



FIGURE 61. SHOP CEILING IN NEED OF REPAIR



FIGURE 62. EXPOSED HIGH-VALUE FLEET AND EQUIPMENT



FIGURE 63. PARKS M&O CONDITION BY BUILDING AREA

Good Fair Fair/Poor Poor							
CONDITION	FUNCTION	MAP KEY	FACILITY NAME	BUILDING AREA (GSF)	YEAR BUILT	INVESTMENT RECOMMENDED	
		1	Parks Maintenance Shop	9,500	1974	X	
		2	Parks Maintenance Warehouse	3,300	1990		
		3	Urban Forestry Storage Shed	300	2020		
		4	Evergreen Cemetery Office	2,400	2015		
		5	Cemetery Maintenance Building	1,200	2015		

FIGURE 64. PARKS MAINTENANCE AND OPERATIONS SPACE USE SUMMARY

FACILITY NEEDS

As summarized below, Parks M&O is deficient in a number of program categories.

SPACE NEEDS			
	EXISTING SPACE (SF)	FUTURE NEED (SF)	% DEFICIENT
HEADQUARTERS			
Admin/Crew Support	2,000	3,500	43%
Shops	5,300	8,200	35%
Warehouse & Storage	6,100	9,700	37%
Wash Rack	0	2,500	100%
Covered Parking	3,000	10,200	71%
Covered Storage	1,200	1,600	25%
Yard Storage	31,500	31,500	0%
Open Parking	30,900	19,200	-61%
CEMETERY			
Admin/Crew Support	1,000	1,000	0%
Shops	2,900	2,900	0%
Yard Storage	3,600	3,600	0%
Open Parking	6,400	6,400	0%

FIGURE 65. PARKS M&O SPACE NEEDS SUMMARY

BLACK BAY PARK EXPANSION

Black Bay Park's entrance expansion project will merge Parks M&O and Black Bay Park public parking and reorient a small portion of the north end of the M&O site. As peak use of the public park and M&O site are at different times, the new shared parking lot should be adequate for both uses.

EVERGREEN CEMETERY EXPANSION AND ADDITION

Future plans should consider how best to relocate bulk materials within the site to accommodate cemetery expansion and the addition of a pet cemetery.

LOCATION REQUIREMENTS

Parks M&O facilities need to be located near the parks they serve and headquarters is well-located relative to the City's existing park system. As the City continues to grow and add parks, the department will need additional locations for materials storage and waste handling. Options to meet this need include increasing capacity at the Parks M&O facility planned for the Tullamore Sports Complex and/or using space at other City operations yards.



FIGURE 66. INADEQUATE HEADQUARTERS CREW LOCKERS



FIGURE 67. UNDERSIZED MAIN HEADQUARTERS SHOP



FIGURE 68. UNDERSIZED HEADQUARTERS BREAK ROOM



FIGURE 69. EXPOSED FLEET AND EQUIPMENT STORAGE AT CEMETERY

ALTERNATIVES EVALUATION

The team evaluated the following three approaches to meet Parks M&O headquarters facility needs:

- 1. Maintain existing facility configuration and layout
- 2. Complete minor renovations and add covered storage (see Figure 70)
- 3. Build new crew building, renovate shop, and reconfigure yard (see Figure 71)

Alternative 1 does not address critical needs or accommodate future growth. Alternative 2 renovates the existing main shop and crew space and reconfigures the operations yard, but fails to meet future space requirements.

Alternative 3 meets future needs and is the recommended option. This option provides a new crew building to accommodate future staff growth and renovates former crew spaces to expand the shop and address building condition deficiencies. Additional covered equipment storage, and a wash rack are also provided to meet current needs and accommodate growth.

The Evergreen Cemetery is in good condition and adequately sized for future growth. No alternative concepts were created for this site.

LEGEND

- Renovation/New Construction
- Existing Building

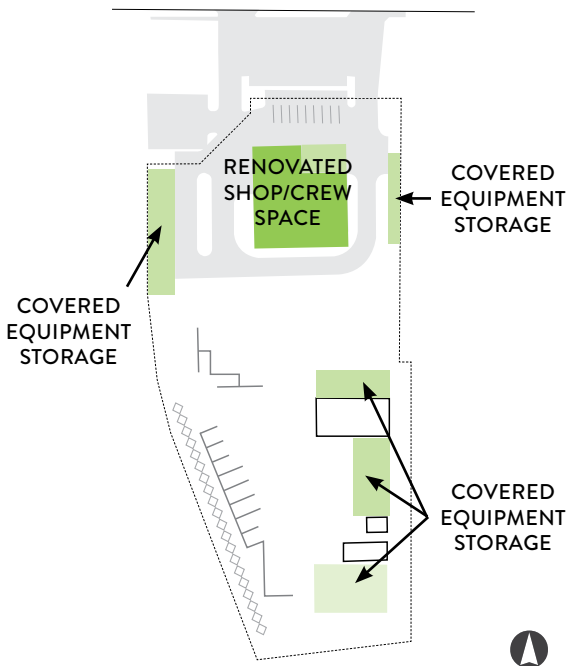


FIGURE 70. ALTERNATIVE 2

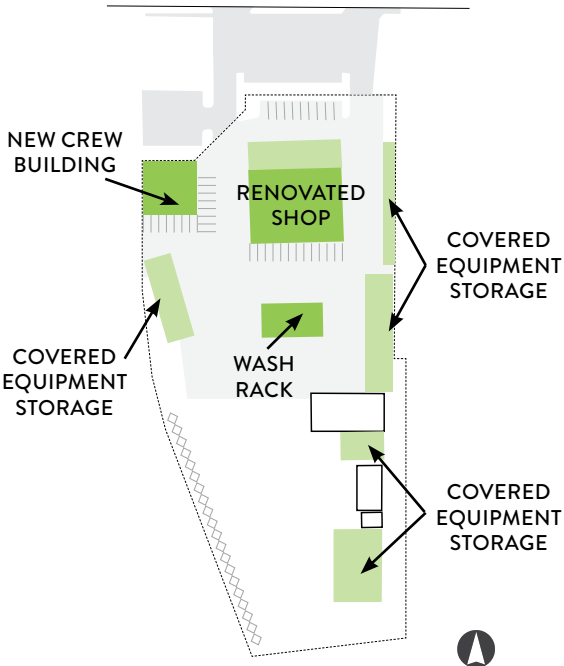


FIGURE 71. ALTERNATIVE 3

KEY OUTCOMES

Key outcomes from the alternatives analysis are summarized below. More information about analysis considerations can be found in Appendix A.

REMAIN IN PLACE AND MAXIMIZE OPERATIONS YARD

Many Parks M&O yard structures were recently constructed and meet foreseeable operational needs. The current site is also large enough to accommodate projected space needs and is in an optimal location to service parks. Parks M&O should continue to occupy this site to maximize existing investments and leverage the site's capacity to support operations with an affordable phased construction strategy.

SUPPORT CREWS

The current headquarters building is in need of significant repair and is not large enough to accommodate seasonal staff. A new crew and administrative facility will provide a purpose-built structure that accommodates future full-time and seasonal staff growth.

LEVERAGE EXISTING ASSETS AND PROTECT INVESTMENTS

The most cost-effective approach to provide adequate shop space is to renovate the existing building once crews have relocated. This renovation should enclose the existing covered parking areas and address deferred maintenance.

Most fleet and equipment are currently stored in the open, which reduces service life and requires more frequent maintenance. Covered storage and parking structures will protect high-value equipment from the weather and increase their longevity.



FIGURE 72. UNDERSIZED EQUIPMENT SHED



FIGURE 73. URBAN FORESTRY SHED (BACKGROUND), NURSERY, AND RECREATION STORAGE

RECOMMENDATIONS

Parks M&O facilities recommendations, approximate costs, and phasing suggestions are listed below and illustrated in Figure 76 on page 35. Project costs by phase are illustrated in Figure 75.

FIGURE KEY	RECOMMENDED PROJECT	COST (2021 \$)	PHASE			
			I	II	III	IV
A	Cover fleet and equipment Add covered storage to for high-value fleet and equipment	\$913,000				
B	Improve operations yard Organize yard storage, improve landscaping with added privacy screening, relocate nursery, and add paving	\$352,000				
C	Build new admin/crew support building Build modular building to support crews and administration	\$1.4M				
D	Remodel shop and enclose covered parking Renovate vacated office space and enclose covered parking to expand shop	\$1.1M				
E	Add vehicle wash Add wash rack for fleet and equipment	\$351,000				
F	Relocate bulk materials at cemetery Move the cemetery’s bulk materials bins to accommodate growth	TBD	TBD			

FIGURE 74. PARKS M&O RECOMMENDATIONS

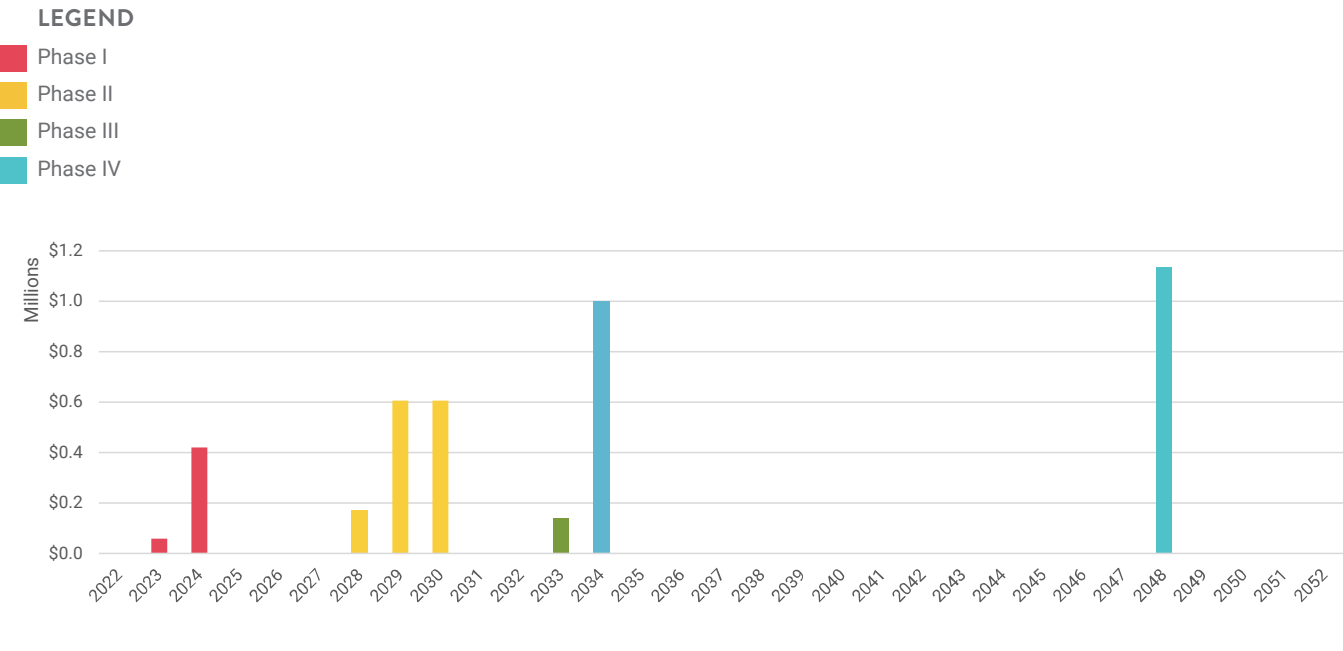


FIGURE 75. PARKS M&O SPENDING PLAN
Costs are in 2021 dollars

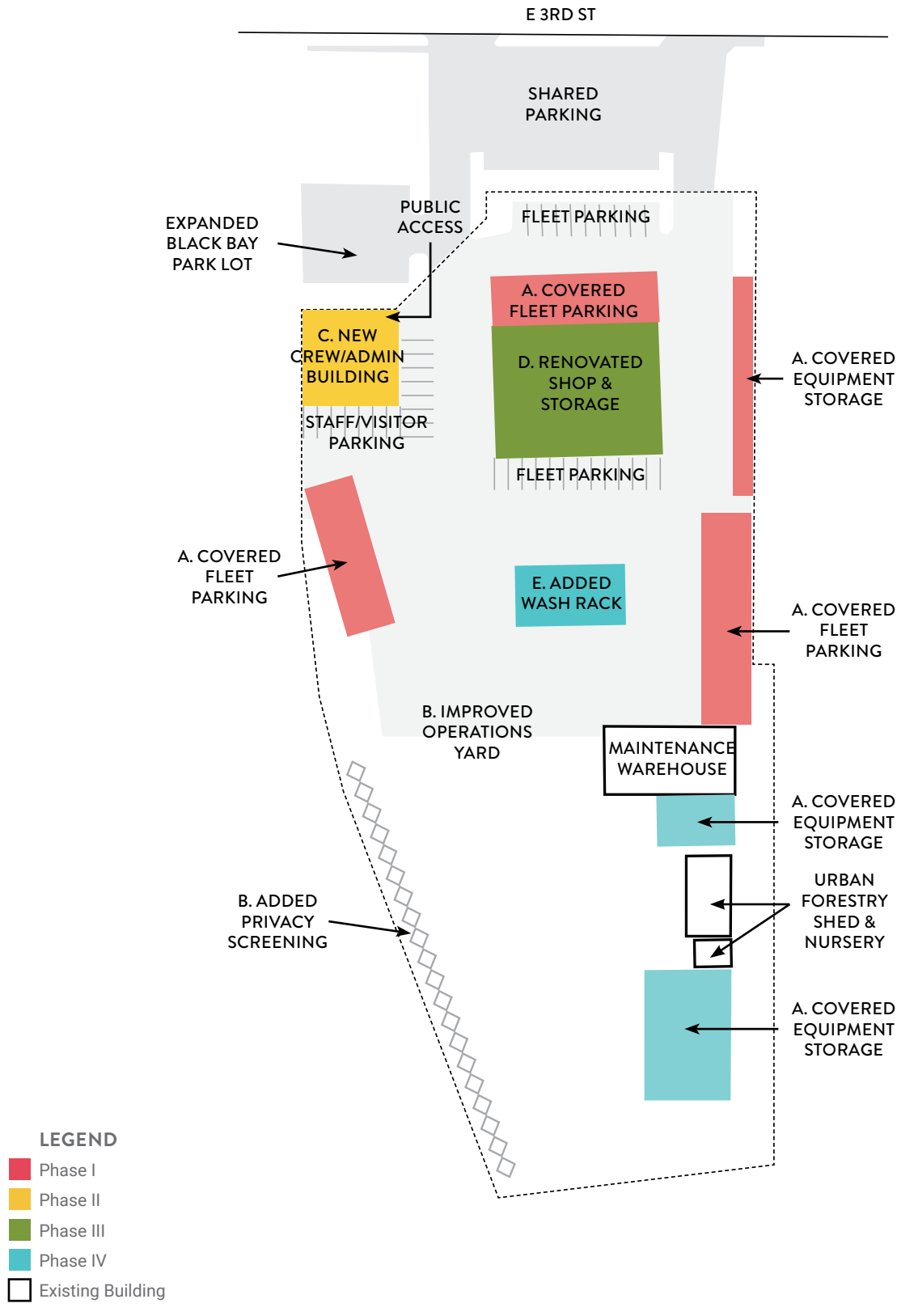


FIGURE 76. PARKS M&O RECOMMENDATIONS



FAST FACTS

Staff	64
Facilities	1
Buildings	1
Building Area	41,900 sf
Site Area	2.6 acres

CITY HALL

EXISTING CONDITIONS

City administrative functions are centrally located at City Hall. The Post Falls Historical Society Museum and Post Falls Chamber of Commerce are adjacent and share the parking lot. Community events are held in the large plaza adjacent to City Hall.

City Hall was built in 2007 and serves as the seat of government, housing the offices of the Mayor and City Councilmembers, City Clerk, Human Resources, Legal, Finance, Community Development, IT, Administration, and Facilities Maintenance. The building has two wings joined by a central rotunda. The Council Chambers is located in the southeast wing and the administrative offices are in the three-story northwest wing. The basement contains the IT offices, facilities maintenance shop, and storage for multiple departments. It also contains two multi-purpose rooms and a large conference room. The remaining departments are dispersed throughout the two upper floors, each with their own customer service counter.

FACILITY KEY

F. City Hall

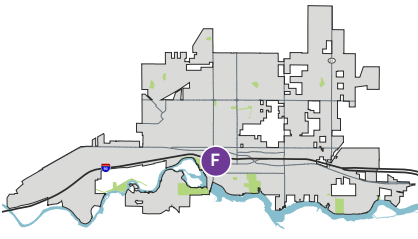


FIGURE 77. CITY HALL FACILITIES KEY MAP



FIGURE 78. CITY HALL CONTEXT MAP



FIGURE 79. CITY HALL CAMPUS

ISSUES SUMMARY

City Hall is a newer facility but is inefficiently configured to accommodate growth.

CITY HALL

- Lack of conference rooms publicly accessible after regular business hours
- Existing conference rooms are poorly configured to facilitate meetings
- Lack of conference space sized to accommodate training events
- Inadequate office space to accommodate future growth
- Poorly configured fire/security doors
- Rotunda reflects and amplifies noise which carries into office spaces
- Underutilized informal copy and break room spaces
- Underutilized lobby/customer service spaces with inadequate security measures
- Occasional limited parking during events with peak attendance



FIGURE 80. POORLY CONFIGURED CONFERENCE SPACE



FIGURE 81. UNDERUTILIZED COPY ROOM SPACE

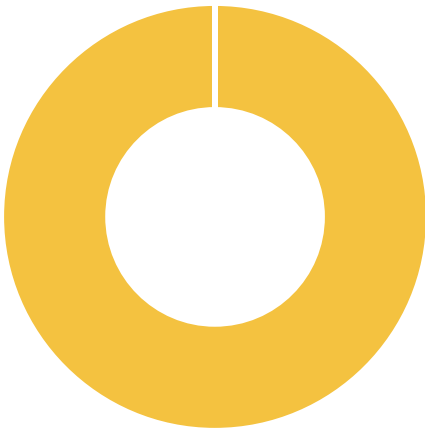


FIGURE 82. FACILITY FUNCTION BY CITY HALL BUILDING AREA

CONDITION	FUNCTION	MAP KEY	FACILITY NAME	BUILDING AREA (GSF)	YEAR BUILT	INVESTMENT RECOMMENDED
Good	Fair	A	City Hall	41,900	2007	X

FIGURE 83. ADMINISTRATION SPACE USE SUMMARY

FACILITY NEEDS

As is summarized below, City Hall space is not well configured for efficient space use and is slightly undersized to meet future needs.

SPACE NEEDS			
	EXISTING SPACE (SF)	FUTURE NEED (SF)	% DEFICIENT
Offices, Council Chambers & Lobbies	41,500	45,700	9%
Facilities Maintenance Shop	400	400	0%
Open Parking	46,300	46,300	0%

FIGURE 84. CITY HALL SPACE NEEDS SUMMARY

CONFERENCE SPACE

Most conference rooms are not conducive to collaborative meetings due to their size and configuration. The room that does meet those needs is in the basement which is not as publicly accessible. The need for a larger training room was also noted.

ADDITIONAL PARKING

Parking for City Hall and the surrounding buildings can become limited, especially during well-attended meetings or community events. This is further constrained during periods of snow accumulation when some parking spaces serve as snow storage. Creating a plan to provide additional parking as the City grows is recommended.

ROTUNDA NOISE ATTENUATION

The rotunda is the main point of entry to City Hall in addition to being a gathering space. Noise attenuation measures should be explored as the City continues to consider maximizing use of the space.

LOCATION REQUIREMENTS

City Hall is well-served by its central location.



FIGURE 85. ROTUNDA ACTIVITY CREATES NOISE FOR INTERIOR OFFICES



FIGURE 86. INEFFICIENT SPACE AT PARKS CUSTOMER SERVICE COUNTER



FIGURE 87. UNDERUTILIZED CLERK'S CUSTOMER SERVICE COUNTER



FIGURE 88. WELL-CONFIGURED BASEMENT CONFERENCE ROOM

ALTERNATIVES EVALUATION

The team evaluated the following three approaches to address City Hall facilities issues and meet future needs:

- 1. Maintain current layout and use
- 2. Reconfigure layout to maximize use of existing space (see Figure 89)
- 3. Build customer service counter in rotunda and renovate office spaces (see Figure 94 on page 43)

Alternative 1 performed poorly as it did not address issues. Alternative 2 made minor improvements but did not fully accommodate projected space needs.

Alternative 3 met most existing and future City Hall needs and is the preferred option. Having a consolidated service counter frees up underutilized interior space to meet other needs, such as additional conference spaces or staffing growth. It also provides accessible public meeting rooms near the entrance and restricts public access to staff work areas.

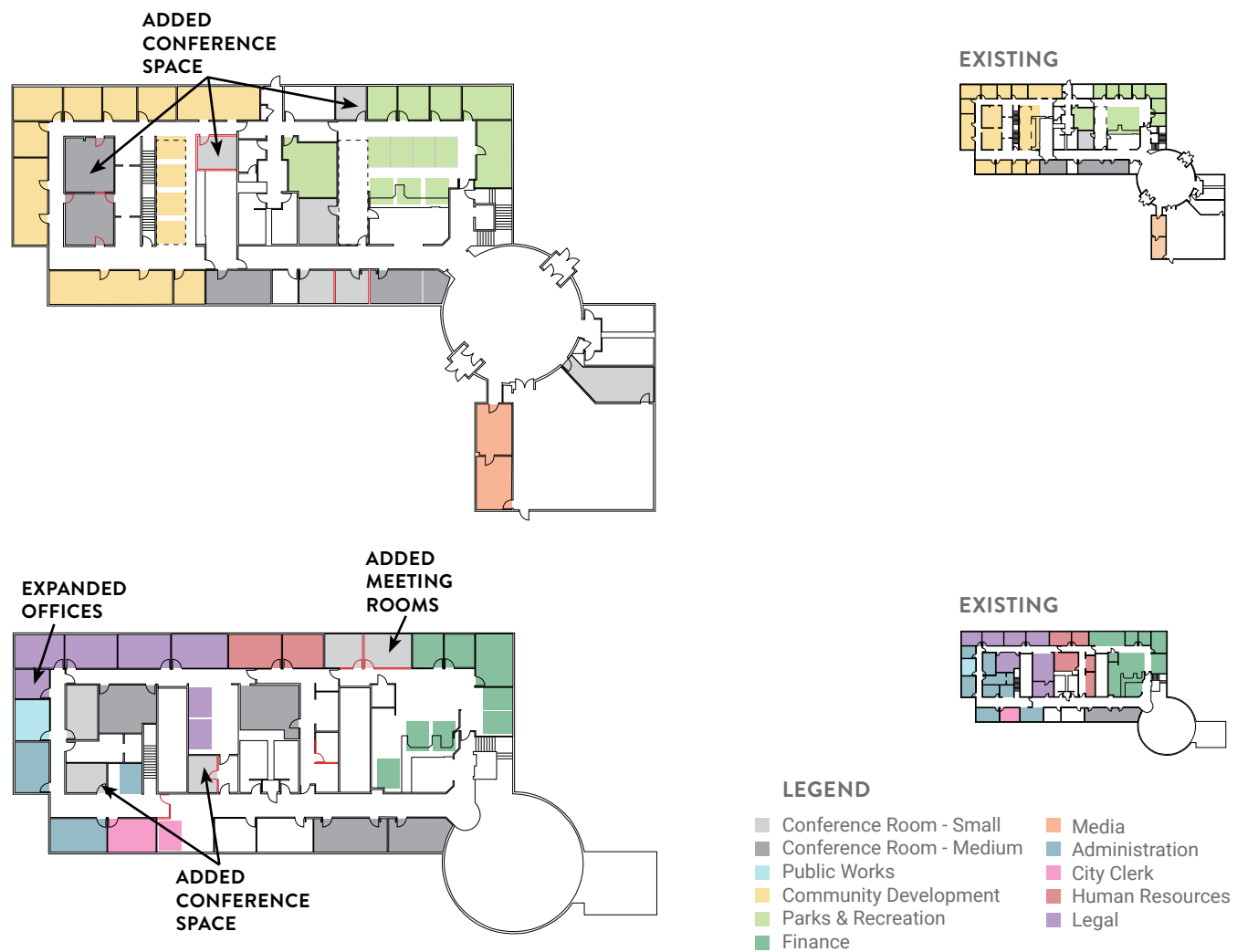


FIGURE 89. ALTERNATIVE 2

KEY OUTCOMES

Key outcomes from the alternatives analysis are summarized below. More information about analysis considerations can be found in Appendix A.

RENOVATE AND RECONFIGURE TO MEET NEED

Space in City Hall should be maximized as the building is in good condition and well-located. Renovation of the existing building is the most cost effective option to meet current and future needs

PHASE PROJECTS TO ADDRESS PRIORITIES

As City Hall's issues are not as critical as other facilities, renovation should be phased to address near-term priorities and remaining projects scheduled as funding becomes available. Re-purposing underutilized space in the basement for temporary offices during construction will facilitate implementation.

CONSIDER OTHER SOLUTIONS

There are other options the City could consider as space becomes more constrained.

- City Hall's design includes light wells that could be infilled to increase usable space; potential daylighting impacts should be evaluated if this option is pursued
- City Hall could increase usable space by re-purposing the museum or building a larger structure on this site to include the museum and other uses
- The City could purchase a nearby property or build structured parking to accommodate future parking demand



FIGURE 90. INEFFICIENTLY USED AREA BEHIND CUSTOMER SERVICE COUNTER



FIGURE 91. LIGHT WELLS DAYLIGHT TO BUILDING INTERIOR

RECOMMENDATIONS

City Hall facilities recommendations, approximate costs, and phasing suggestions are listed below and illustrated in Figure 94 on page 43. Project costs by phase are illustrated in Figure 93.

FIGURE 94 KEY	RECOMMENDED PROJECT	COST (2021 \$)	PHASE			
			I	II	III	IV
A	Build central customer service counter Construct service counter in rotunda and add noise attenuation	\$522,000				
B	Renovate Community Development and 2nd floor Repurpose Community Development storage as conference space, renovate offices, add mother’s room and conference space, and renovate customer service counters for office space	\$1.2 M				
C	Expand basement training room Expand conference room to create a larger training room	\$630,000				
D	Renovate Parks and the Community Development counters Repurpose Parks and revise Community Development customer service counters	\$1.2 M				
E	Repurpose space in basement for offices When demand warrants, renovate space in basement for office expansion	\$522,000				
F	Consider additional measures to accommodate long-term growth Evaluate need for additional property or structures to absorb longer term growth needs (not pictured)	TBD	TBD			

FIGURE 92. CITY HALL RECOMMENDATIONS

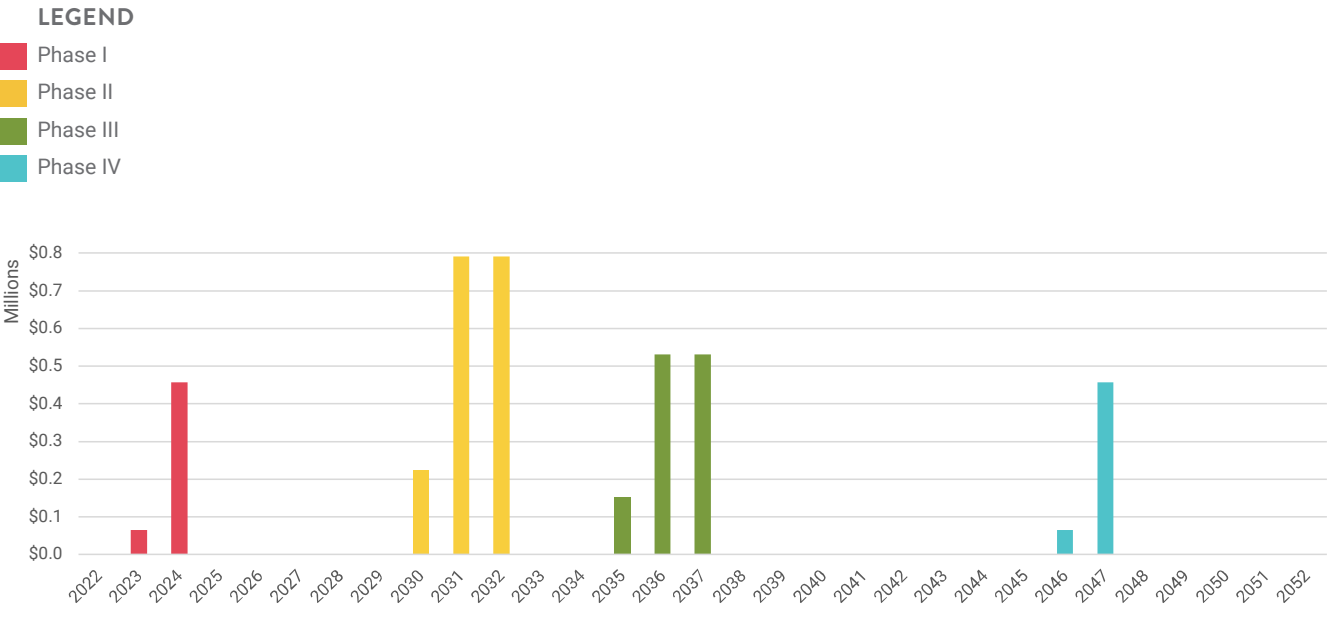


FIGURE 93. CITY HALL SPENDING PLAN
Projects are in 2021 dollars

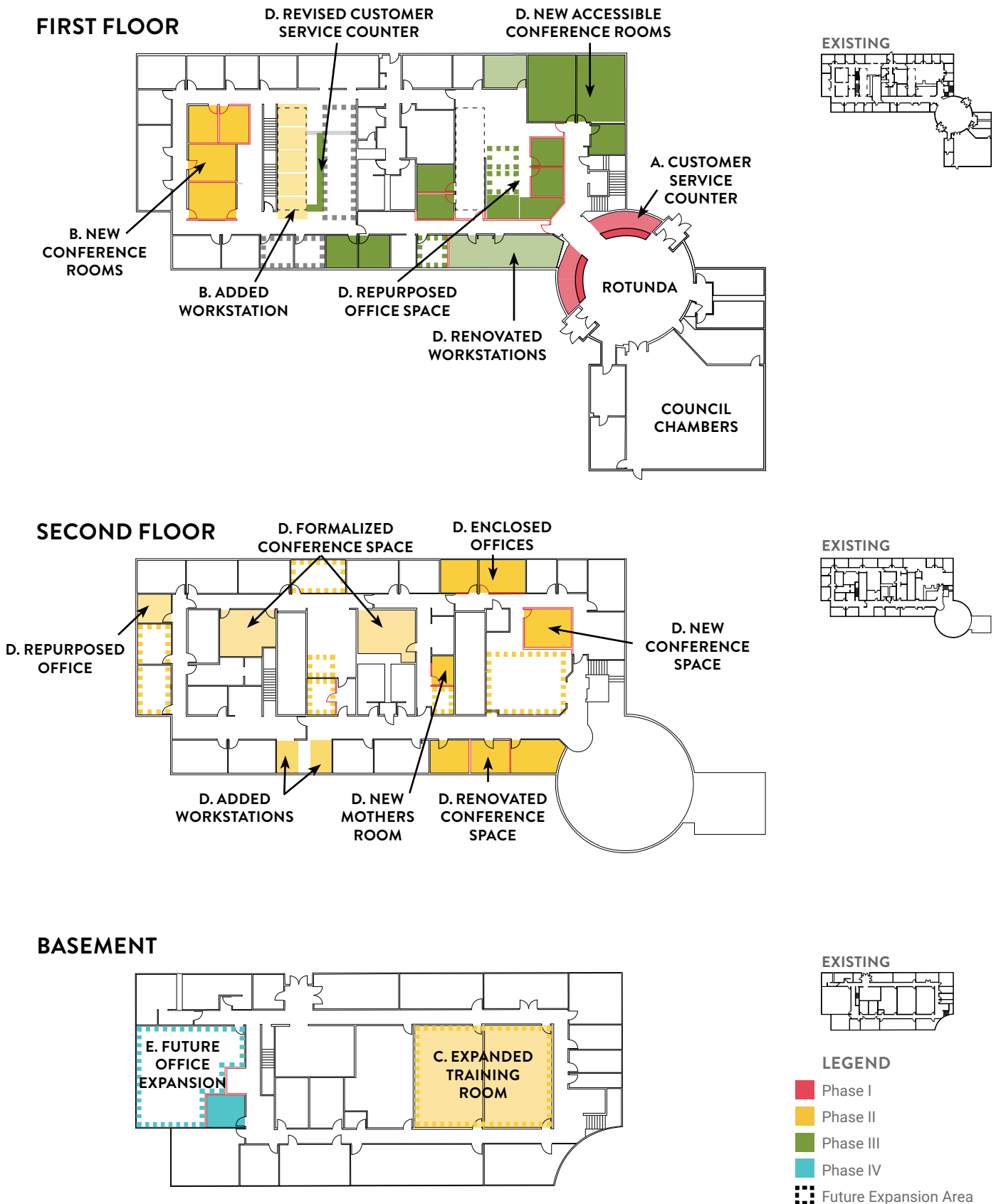


FIGURE 94. CITY HALL RENOVATION CONCEPT DIAGRAM



3. RECOMMENDATIONS SUMMARY

This chapter compiles recommendations by function and phase, summarizes results of the financial feasibility analysis, reviews maintenance funding, covers tactics to keep the plan relevant if conditions change, and ends with conclusions and next steps.

RECOMMENDATIONS BY FUNCTION

This plan recommends the following investments to address facility issues, improve operations and efficiency, and serve Post Falls residents into the future.

POLICE

- Build a two-story expansion and renovate interior
- Acquire and prepare a minimum 0.6-acre site as nearby as possible, add parking, and place modular storage facility
- Partner with other law enforcement agencies to build a regional training facility

PUBLIC WORKS

- Purchase a minimum of eight acres for future PW Ops Center
- Renovate and add Streets/Fleet crew support space and bulk materials storage
- Renovate administrative, lab, and shop buildings and cover fleet and equipment at the WRF
- Build new PW Ops Center with crew facilities, shops, heated and covered parking, and an operations yard

PARKS M&O

- Cover high-value fleet and equipment
- Improve organization and efficiency of the operations yard and add a vehicle wash
- Build a new admin/crew support building
- Enclose covered parking and remodel shop

CITY HALL

- Build a central customer service counter in rotunda and improve noise attenuation
- Renovate Community Development and Parks areas and add conference and office space
- Renovate the second floor to add meeting rooms and maximize space
- Expand basement training room and repurpose space for offices

CHAPTER ORGANIZATION

RECOMMENDATIONS BY
FUNCTION

RECOMMENDATIONS BY PHASE

FINANCIAL FEASIBILITY
ASSESSMENT

PLANNING FOR MAINTENANCE

TACTICS FOR IMPLEMENTATION
FLEXIBILITY

CONCLUSION

RECOMMENDATIONS BY PHASE

Recommended projects, approximate cost, and target time frames are listed in Figure 95. Phasing is intended to be flexible and respond to shifting priorities.

PROJECT	COST (\$M)	START YEAR	PHASE I	PHASE II	PHASE III	PHASE IV
			2023-2027	2028-2032	2033-2042	2043-2052
Purchase property (0.6 acre minimum but more if possible)	\$0.4	2023				
Renovate men's locker room	\$0.2	2024				
Build expansion and renovate	\$9.0	2027				
Prepare nearby site and parking	\$1.9	2039				
Place modular storage	\$1.4	2049				
Build regional training facility	TBD			TBD		
Purchase property (eight acres minimum but more if possible)	\$0.5	2023				
Renovate existing and build new crew support facilities at Streets/Fleet campus	\$0.4	2025				
Add covered bulk materials storage at Streets/Fleet campus	\$0.6	2025				
Renovate shops, Admin 1, and Lab/Control building at WRF	\$1.9	2025				
Build crew facilities, shops, and heated parking at PW Ops Center	\$19.8	2041				
Add wash rack, decant, covered parking, and materials storage at PW Ops Center	\$7.7	2041				
Modify Admin 2 and cover fleet at WRF	\$0.3	2044				
Cover fleet and equipment	\$0.9	2024				
Improve operations yard	\$0.4	2024				
Build new admin/crew support building	\$1.4	2028				
Remodel shop and enclose covered parking	\$1.1	2033				
Add vehicle wash	\$0.4	2048				
Build a central customer service counter and improve noise attenuation	\$0.5	2023				
Renovate Community Development area and 2nd floor	\$1.2	2030				
Expand basement training room	\$0.6	2030				
Renovate Parks area and Community Development counter	\$1.2	2035				
Repurpose space in basement for offices	\$0.5	2046				
Consider additional measures to accommodate growth	TBD			TBD		

FIGURE 95. RECOMMENDED PROJECTS AND TARGET TIME FRAME

SPENDING PLAN

Recommended project spending by function is pictured in Figure 96.

NEAR-TERM PROJECT RECOMMENDATIONS (2023-2032)

Proposed spending through 2032 prioritizes interim Public Works projects as well as the Police headquarters expansion to address space deficiencies. Other near-term projects include adding the customer service counter in the rotunda and reconfiguring meeting rooms in City Hall, and building an administrative/crew support building and covering some equipment at the Parks M&O headquarters.

LONG-TERM PROJECT RECOMMENDATIONS (2033-2052)

Longer term projects include renovations to accommodate growth, lower-priority projects not funded in the short term, and investments to sustain levels of service as the City grows. The most expensive longer term project is the new PW Ops Center. Other longer term projects include adding parking and storage for Police; remodeling the shop, covering remaining equipment, improving the yard, and adding a vehicle wash to Parks M&O; and completing first floor and basement remodels at City Hall.

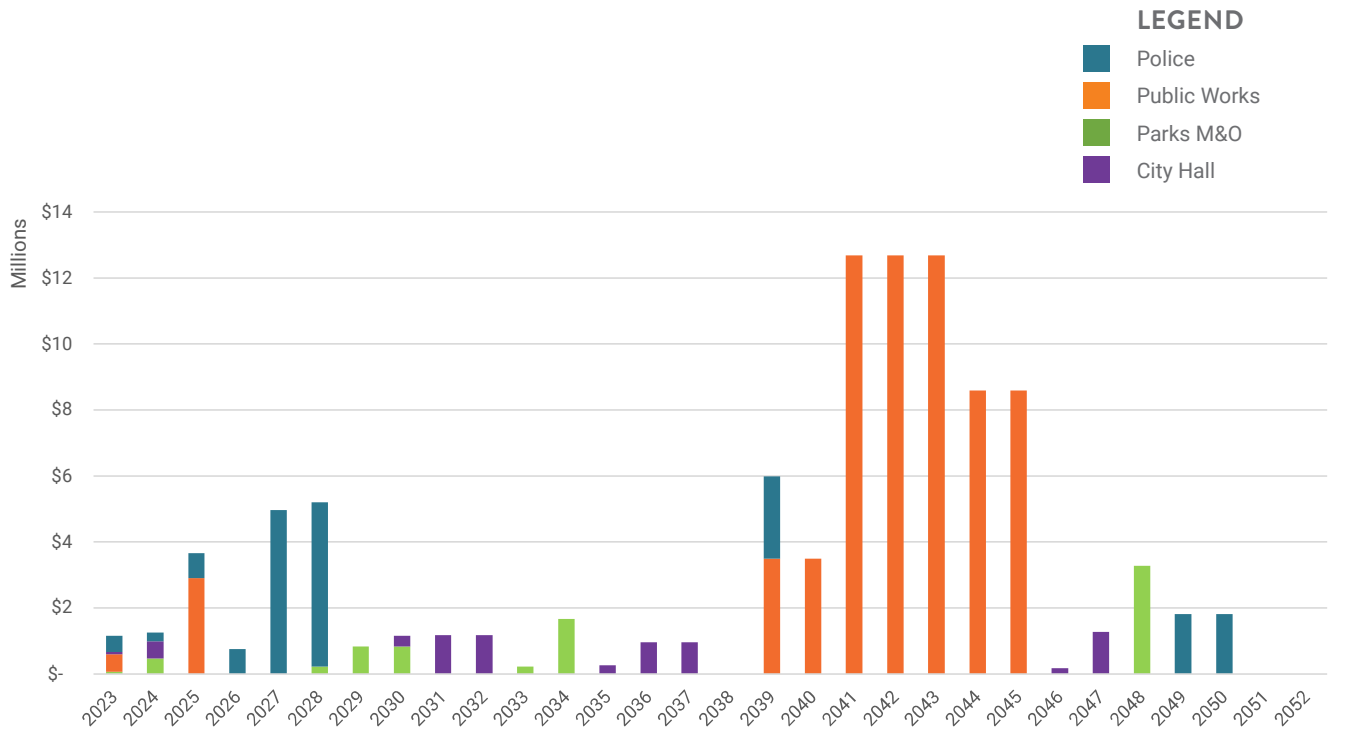


FIGURE 96. RECOMMENDED SPENDING 2023-2052
Costs are escalated to year of construction

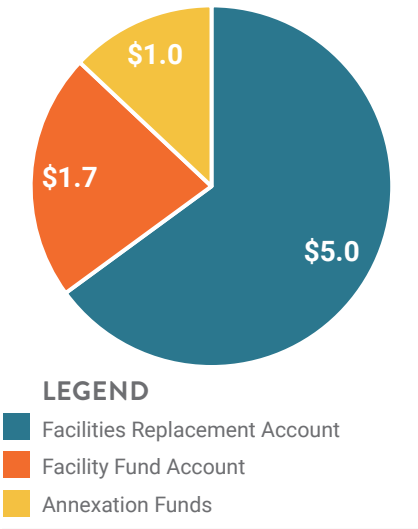


FIGURE 97. FUNDS AVAILABLE FOR FACILITIES REPLACEMENT
Estimates in millions

CAPITAL IMPROVEMENT FUNDS	
Water Reclamation	\$1.9
Water	\$5.0
IMPACT FEES	
Public Safety	\$3.4

FIGURE 98. DEPARTMENT-SPECIFIC FUNDS AVAILABLE FOR FACILITIES INVESTMENTS
Estimates in millions

FINANCIAL FEASIBILITY ASSESSMENT

The team collaborated with City leadership to analyze the financial feasibility of the recommended spending plan. The following summarizes current available funding, different financing scenarios explored, and options for reducing costs. This assessment was conducted to demonstrate recommendations are feasible within Post Falls resources; City Council will determine the actual funding strategy to support implementation.

POTENTIAL FUNDING SOURCES¹

Civic facilities projects are typically financed using a combination of sources including savings, impact fees, grants, capital improvement funds, and municipal bonds.

GENERAL FUND

Post Falls has proactively saved \$7.7 million, and is currently saving approximately \$350,000 per year for facilities replacement.

Current available funds are from the following sources (see Figure 97):

- Facility replacement account
- Facility fund account
- Annexation fund

DEPARTMENT-SPECIFIC FUNDS

Water and Water Reclamation capital improvement funds and public safety impact fees are also available to fund needed facilities. Approximately \$6.9 million in capital improvement funds will be available to support needed Water and Water Reclamation facility improvements. Approximately \$3.44 million in impact fees are likely to be available for growth-related public safety facilities projects. See Figure 98 for a breakdown.

Additional Water and Water Reclamation capital improvement funds are anticipated to be generated as future rate studies incorporate facilities improvement needs. Additional public safety impact fees could also potentially be leveled to support investments in public safety facilities needed to serve growth.

The general fund, Water and Water Reclamation capital improvement funds, and public safety impact fees provide a starting point to address critical facility needs; however, additional measures will be needed to fund recommendations. For purposes of this financial feasibility assessment, procuring a general obligation bond was assumed to be the funding tool used to cover this gap. In actual implementation of this plan, another strategy or multiple strategies may be used.

GENERAL OBLIGATION BONDS

General obligation bonds are issued by local governments and secured by a pledge of the district’s tax authority. General obligation bonds are the traditional form of financing for municipal capital projects.

1. Source: City of Post Falls

FINANCING EXPLORED

Two bonding scenarios were explored to assess plan feasibility. Both scenarios assume currently available funds are applied to near-term projects and the City obtains a bond in 2039 to fund remaining projects.

SCENARIO ONE

Scenario one assumes annual savings to the facilities replacement account would be maintained at \$350,000 per year. In this scenario, the City would save approximately \$6.3 million for facilities by 2039. Assuming project costs inflate at an average rate of four percent per year, \$65.8 million in remaining facilities investment projects would need to be funded through a general obligation bond. Using the financing terms noted at right, the City would incur a bond payment of \$3.8 million per year in 2039 dollars (\$2.1 million in 2021 dollars). As shown in Figure 99, this is a significant jump in annual spending and does not seem feasible.

FINANCING TERMS

- Interest Rate: 4%
- Term: 30 years/semiannual payments

SCENARIO ONE SUMMARY

- Total bond amount: \$114.1M
- Bond principal: \$65.8 M
- Annual debt service: \$3.8M (~\$2.1 in 2021 \$)

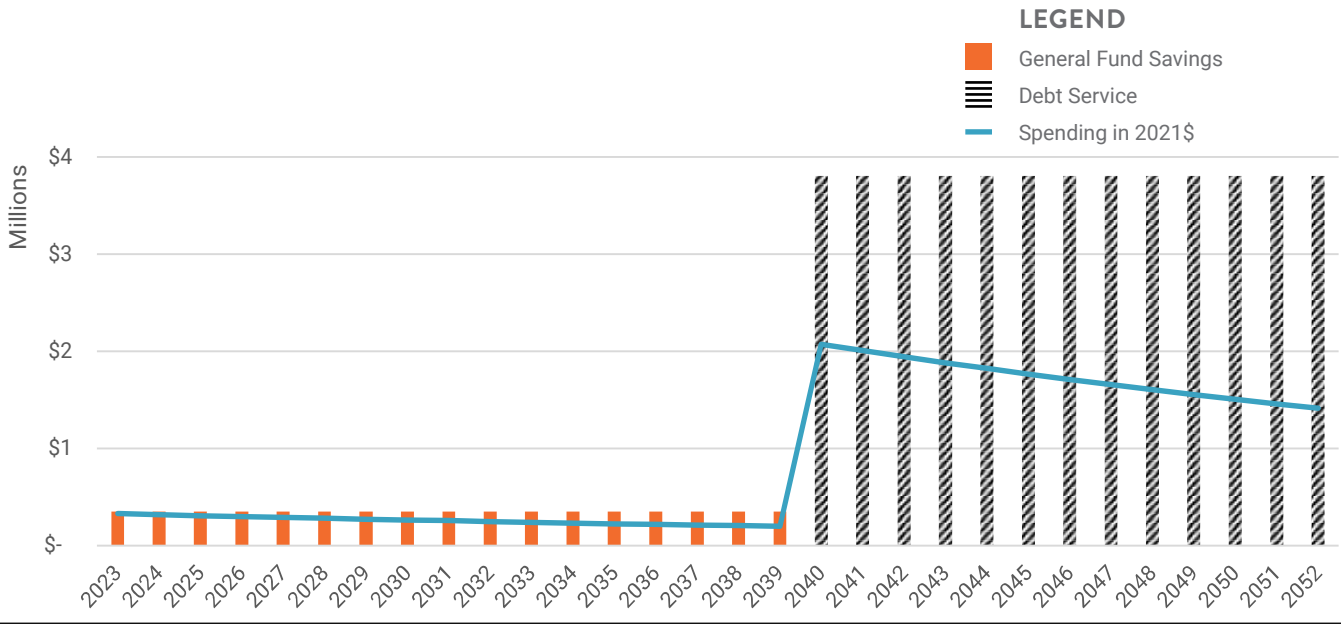


FIGURE 99. SCENARIO ONE GENERAL FUND SPENDING 2023-2052

SCENARIO TWO SUMMARY

- Total bond amount: \$71.1M
- Bond principal: \$41.0 M
- Annual debt service: \$2.4M (~\$1.3 in 2021 \$)

LEGEND

- General Fund Savings
- Debt Service
- Spending in 2021\$

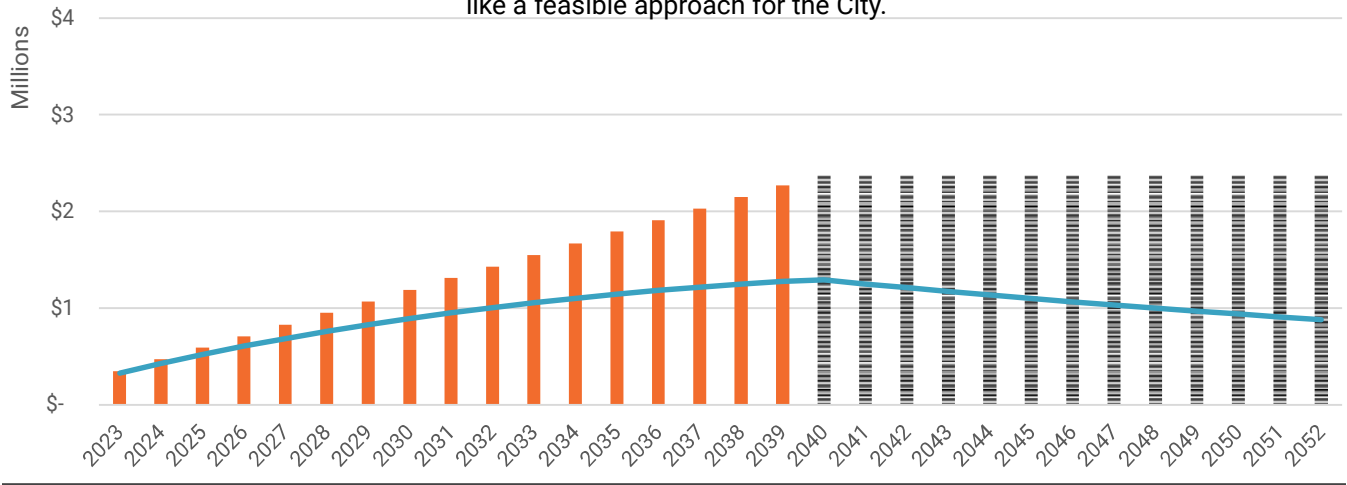


FIGURE 100. SCENARIO TWO GENERAL FUND SPENDING 2023-2052

SCENARIO TWO

Scenario two assumes annual savings to the facilities replacement account increases by \$120,000 per year. In this scenario, the City would save approximately \$22.6 million for facilities by 2039. Applying the same project cost inflation assumptions as scenario one, \$41.0 million in remaining facilities projects would need to be funded through a general obligation bond. Assuming the same financing terms as scenario one, the City would incur a bond payment of \$2.4 million per year in 2039 dollars (\$1.3 million in 2021 dollars). This scenario produces a lower bond payment and overall cost, and gradually prepares the City to assume the debt service. As shown in Figure 100, this gradual increase in savings and lower overall debt seems like a feasible approach for the City.

COST REDUCTION APPROACHES

To reduce total costs, the City could consider:

- Updating public safety impact fees to account for the cost of Police facilities improvements needed to serve population growth
- Augmenting annual general fund savings to scenario two levels or greater
- Obtaining federal or state grant funds to fund facilities projects
- Pursuing advantageous bond financing terms when available

The City could also choose to phase projects over a longer period, which would decrease the annual debt service but also increase the interest and total project costs due to inflation. The City could also choose to split financing packages or issue multiple bonds to lower annual costs.

SUMMARY FINDINGS

The financial feasibility assessment indicates there is a reasonable path forward to fund project recommendations. The assessment highlights the importance of increasing annual savings and considering updating public safety impact fees to fund recommended facilities solutions.

PLANNING FOR MAINTENANCE

The International Facility Management Association sets operations and maintenance benchmarks that include all repair, preventative, materials, direct labor, and contract costs for facilities. According to the 2017 “Operations and Maintenance Benchmarks” set for city and county government facilities, the City would expect to spend \$3.88 (2017 dollars) per rentable square foot on facility operations and maintenance.¹ When applying this benchmark to Post Falls, the estimated operations and maintenance budget required to serve Post Falls’s current in-scope facility portfolio is approximately \$522,000 per year.

As buildings in Post Falls’s portfolio continue to age and the City grows, investment will be required to expand service capacity and maintain, modernize, or replace existing facilities. As the City begins implementing recommendations, planning to increase maintenance funding to approach industry standards is recommended.

RENTABLE AREA

Rentable square feet is defined as the usable square feet (area unique to tenant) plus a portion of the building’s common space.

Common spaces are areas usable by all tenants in the building and include, but are not limited to, hallways, lobbies, public restrooms and fitness facilities.

1. *Industry standard - City/County Government facilities in “Operations and Maintenance Benchmarks” (International Facility Management Association, 2017).*



FIGURE 101. STREETS SIGN SHOP ROOF IN NEED OF REPAIR



FIGURE 102. EXPOSED INSULATION AT THE PARKS M&O SHOP

TACTICS FOR IMPLEMENTATION FLEXIBILITY

The project and implementation timing recommendations provided in Chapter 2 and summarized in this chapter (see Figure 96 on page 47) outline an achievable approach to meet Post Falls's facility needs. Project scopes, cost estimates, and recommended timing were sequenced using the best information available at the time of this report; however, implementation details may need to adjust based on budget realities or new opportunities. This section describes common adjustments to scope and schedule that may be needed to respond to changing circumstances. Project implementation schedules have been provided and should be evaluated and updated as conditions change.

SCOPE REFINEMENT

This report's cost estimates were prepared conservatively at a rough-order-of-magnitude planning level and were not informed by detailed programming, technical analysis, or feasibility studies. Future technical study may, in some cases, increase project scope and cost estimates. Conversely, other projects may be delivered at a lower cost than assumed in this plan through scope reduction.

SCHEDULE ADJUSTMENTS

Project implementation timing intends to provide relatively balanced annual spending over the plan timeframe and ensures the highest-priority projects are funded in the near term, but anticipates target implementation years will be adjusted to respond to changing conditions. If schedule delays occur, they should be carefully considered for their impacts to planned maintenance for existing facilities.

EXAMPLE SCENARIOS

As new information becomes available and conditions and priorities change, the plan intends to serve as a dynamic tool to guide future facilities decision-making. Figure 103 illustrates how the plan could be used as a tool to respond to typical scenarios likely to occur over time.

TYPICAL SCENARIO	PLAN GUIDANCE	CONSIDERATIONS
There is a new functional need...	Identify ideal implementation date. Evaluate project priority relative to recommended projects and adjust implementation timing accordingly. Figure 95 on page 46 provides a complete list of project recommendations with their implementation year.	<i>Is there a cost to postponing implementation?</i> <i>Are there opportunities to reduce project costs and accelerate implementation by bundling with another planned project?</i>
There is a new maintenance need...	Postpone investments to prioritize the new maintenance need.	<i>Is there a cost to postponing implementation?</i> <i>Are there other facility needs that may be postponed or accelerated for efficient project delivery at that facility?</i>
A property owner offers to sell land to the City...	Evaluate property relative to long-term projected City needs.	<i>Does the property size, location, and development context correspond with documented needs?</i> <i>What City goals might this asset support?</i>

FIGURE 103. EXAMPLE SCENARIOS, PLAN GUIDANCE, AND CONSIDERATIONS

CONCLUSION

The project recommendations summarized in this chapter set an achievable path to address specific facility needs. The following strategic recommendations were derived from the financial feasibility analysis and the facilities maintenance spending review. They are portfolio-wide suggestions intended to augment the specific capital investment recommendations provided in Figure 95 on page 46.

STRATEGIC RECOMMENDATIONS & BENEFITS SUMMARY

The following strategic recommendations will enable Post Falls to maximize the benefits of implementing facilities needs assessment recommendations.

INCREASE FACILITIES FUNDING; PLAN FOR MAINTENANCE

Step up annual funding for facilities capital projects and maintenance. Set a goal to increase savings levels by an additional \$120,000 per year each year and consider funneling all or a portion of unplanned revenues into facilities replacement and maintenance. Note, state-level regulations may impact savings strategies.

ACTION ITEMS

- Increase annual savings to adequately fund project recommendations.
- Anticipate and budget for predicted maintenance and life cycle milestone renovations.

BENEFITS

- Addresses facility needs and decreases debt service.
- Protects existing assets and reduces costs and risk due to deferred maintenance and reactive fixes.

PURSUE OPPORTUNITIES TO INCREASE AVAILABLE FACILITIES FUNDING

Pursue appropriate state and federal funding for civic facilities investments. Consider revising the public safety impact fee study to incorporate facilities recommendations.

ACTION ITEMS

- Proactively track federal and state legislation and apply for funds appropriate for civic facilities investments.
- Evaluate the potential to update the public safety impact study and prioritize project construction timing to make use of development impact fees.

BENEFITS

- Reduces bond funds or other debt required to implement recommendations.

FACILITY RECOMMENDATIONS SUMMARY

The plan recommends addressing Post Falls's most critical facility needs; addressing aging, deteriorating, and outmoded facilities; and investing in modest new properties to support City growth and transformation. Adequately funded facilities will ensure the City of Post Falls continues to provide timely emergency response, efficiently maintain its critical infrastructure, and equitably serve all residents.

PLAN HIGHLIGHTS

POLICE

RECOMMENDATION SUMMARY

Expanding the headquarters will address the department's needs into the future. Acquiring property in the near-term will ensure this site continues to be a thriving headquarters to serve Post Falls.

IMMEDIATE ACTIONS

- Purchase property close to headquarters
- Add capacity to men's locker room

PUBLIC WORKS

RECOMMENDATION SUMMARY

Acquiring property and building a new PW Ops Center will give the department the purpose-built facilities it needs, protect its highest value fleet, and provide room to expand if needed. Renovating existing structures at the WRF will maximize facility use and position crews to best serve the new facility.

IMMEDIATE ACTIONS

- Purchase property for new PW Ops Center
- Address interim projects

PARKS M&O

RECOMMENDATION SUMMARY

Building a new crew support building and renovating the headquarters shop will help the department accommodate growth and make the best use of their facilities. Covering high value fleet and equipment and improving the operations yard will support efficient operations and position the department to make maximum use of the site and serve the City's parks.

IMMEDIATE ACTIONS

- Begin covering some high-value fleet and equipment
- Make improvements to the operations yard

CITY HALL

RECOMMENDATION SUMMARY

Creating a central customer service counter, adding more publicly accessible conference spaces, and renovating the office spaces will help administrative staff maintain their high level of customer service.

IMMEDIATE ACTIONS

- Build the main customer service counter in the rotunda and address noise attenuation



APPENDICES

Appendix A. Alternatives Evaluation Summary 58

Appendix B. Project Cost Summary 66

Appendix C. Space Needs Summary 70

APPENDIX A. ALTERNATIVES EVALUATION SUMMARY

This section summarizes alternatives evaluated and major considerations for Police, Public Works, Parks M&O, and City Hall. Cost estimates in this section are in 2021 dollars and developed using the assumptions detailed on Appendix B on page 67.

POLICE ALTERNATIVE CONCEPTS AND EVALUATION

ALTERNATIVE	CONSIDERATIONS
ALTERNATIVE A STATUS QUO	
1. No changes made	• No additional cost • Does not address current deficient space or accommodate growth in staff and operations
ALTERNATIVE B RESHUFFLED SPACE ~\$1.0M	
1. Maximizes workstations and locker rooms	• Targeted reconfiguration maximizes space use
2. Reduces briefing room and adds office space	• Increases capacity in locker rooms and adds office space • Does not fully address future space needs • Moderate costs with modest benefits
PREFERRED ALTERNATIVE C EXPANSION & RENOVATION ~\$12.3M	
1. Adds two-story expansion for patrol and investigation divisions as well as storage and meeting space	• Meets long-term space needs
2. Relocates kitchen and expands locker rooms and armory	• Supports future growth in operations and allows for improved service and function
3. Renovates and expands area for victim services and evidence storage	• Requires land acquisition and a willing seller
4. Purchases nearby property for expanded parking and storage	

FIGURE 104. POLICE ALTERNATIVE CONCEPTS AND EVALUATION

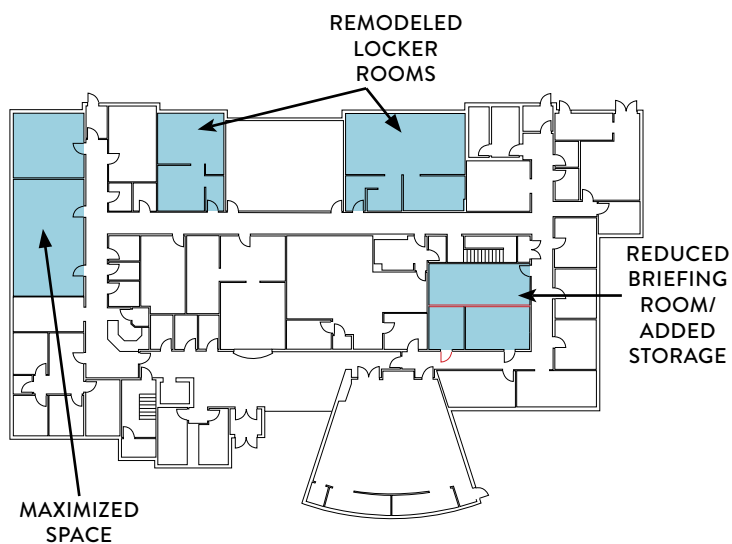


FIGURE 105. POLICE ALTERNATIVE B MAIN FLOOR

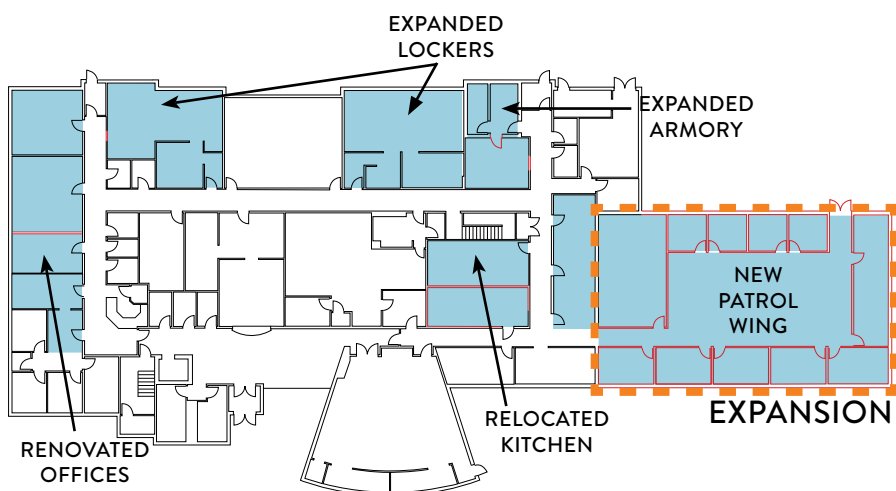


FIGURE 106. POLICE ALTERNATIVE C MAIN FLOOR

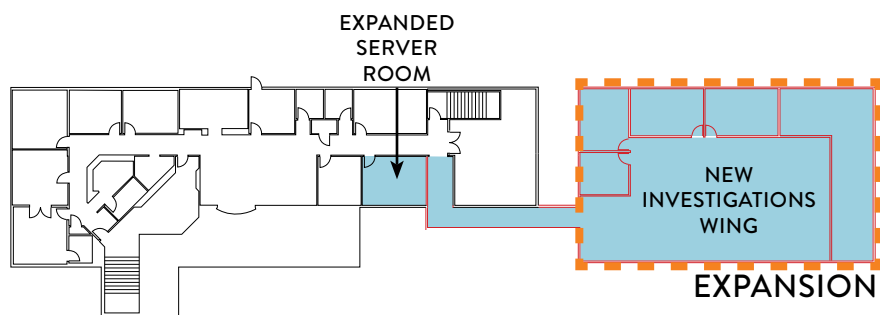


FIGURE 107. POLICE ALTERNATIVE C SECOND FLOOR

LEGEND

■ Modified area

PUBLIC WORKS

ALTERNATIVE CONCEPTS AND EVALUATION

ALTERNATIVE	CONSIDERATIONS
ALTERNATIVE A REMAIN IN PLACE ~ \$29.0 M 1. Builds new buildings for admin, crew, shops, and a fleet shop at Streets/Fleet campus 2. Adds some covered fleet parking at Streets/Fleet campus 3. Renovates existing WRF buildings and adds new covered parking and operations facilities	• New Streets/Fleet crew and shop buildings are purpose-built and able to accommodate growth • Downsized Streets/Fleet campus requires off-site yard for fleet parking, storage, and operations • Renovated and new WRF buildings provide room for growth within existing campus • Minor initial cost savings, but increased cost and reduced efficiency with separate yard
ALTERNATIVE B NEW STREETS/FLEET CAMPUS ~ \$30.5 M 1. Build new facility for Streets and Fleet with crew/ admin space, shops, covered parking, storage, and an operations yard 2. Renovate and build new structures at WRF for Water and Water Reclamation	• New purpose-built Streets/Fleet campus provides enough room for growth and supports operations • Modifies WRF to support growth and operations at existing campus • Decreased efficiency with separated crews • Requires land acquisition and a willing seller
PREFERRED ALTERNATIVE C NEW COMBINED PW OPS CENTER ~ \$30.7 M 1. Address interim projects to support crews prior to relocation 2. Build new Public Works Operations Center and combine Streets, Fleet, Water, and most Water Reclamation crews 3. Modify WRF facility to support treatment-related crews and operations	• Combining crews at PW Ops Center increases efficiency and supports growth • New purpose-built facility adequately supports operations • Minor cost savings through shared space • WRF modifications address space needs for remaining crews • Requires land acquisition and a willing seller

FIGURE 108. PUBLIC WORKS CONCEPTS AND EVALUATION

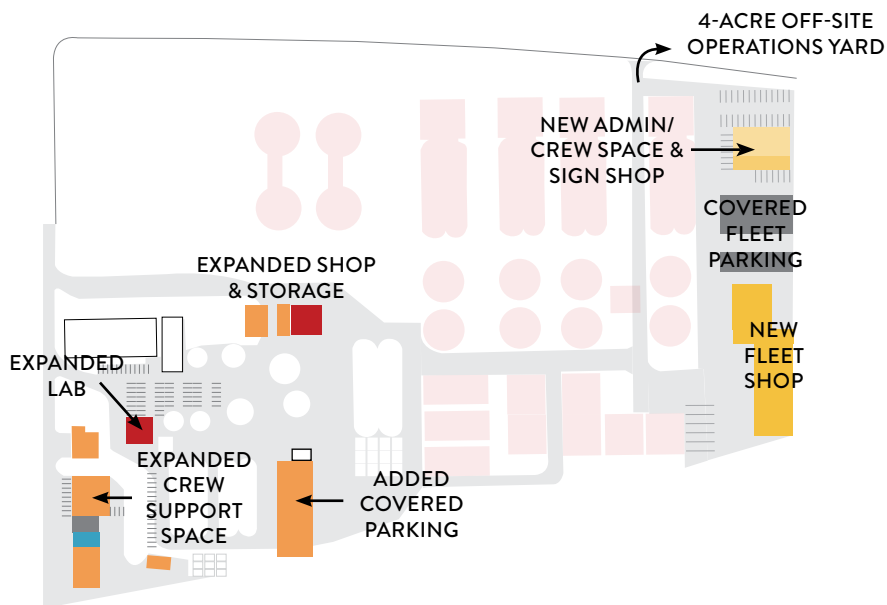
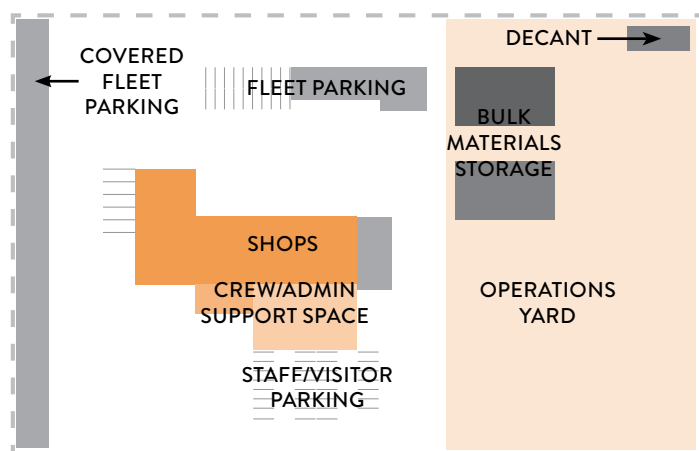


FIGURE 109. PUBLIC WORKS ALTERNATIVE A



LEGEND

- Water
- Water Reclamation
- Streets/Fleet
- Public Works Shared
- Future WRF

FIGURE 110. PUBLIC WORKS ALTERNATIVE B

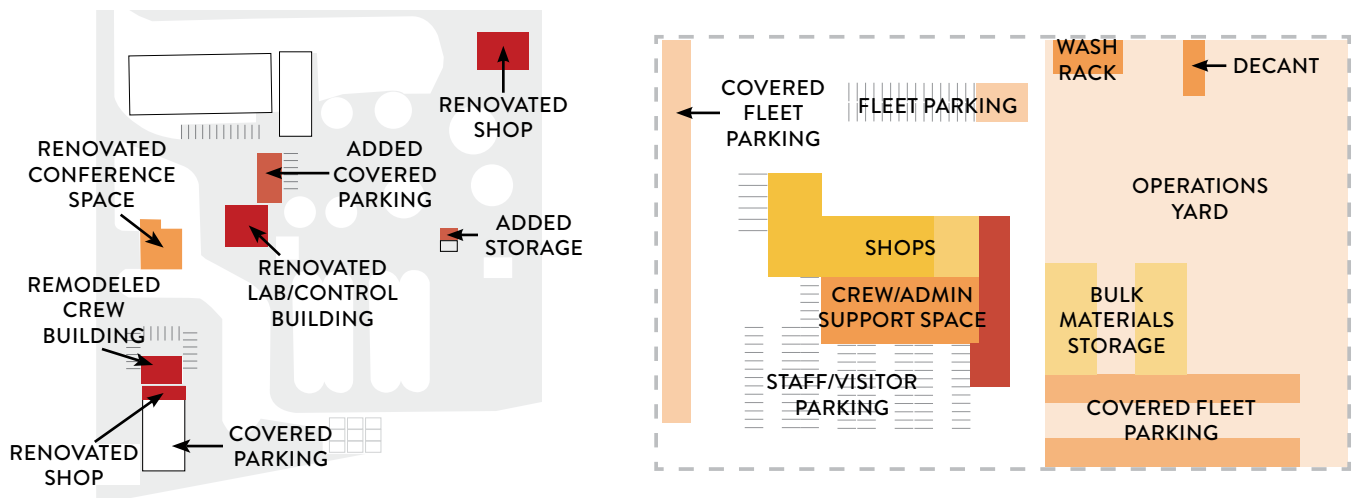


FIGURE 111. PUBLIC WORKS ALTERNATIVE C

PARKS M&O

ALTERNATIVE CONCEPTS AND EVALUATION

ALTERNATIVE	CONSIDERATIONS
ALTERNATIVE A STATUS QUO 1. No changes made	• No additional cost • Does not address current deficient space or accommodate growth in staff and operations
ALTERNATIVE B IMPROVE FACILITY ~ \$1.1 M 1. Renovate main crew support and shop building 2. Add covered storage for fleet and equipment 3. Improve organization of operations yard	• Renovated crew support and shop building addresses maintenance need but fails to provide space required for staff growth • Covers most high-value fleet and extends service life • Organizes yard to improve operations • Less costly but does not meet all department space needs
PREFERRED ALTERNATIVE C MAXIMIZE SITE ~ \$4.1 M 1. Build new admin/crew facility 2. Renovate and expand main shop building 3. Add covered storage for fleet and equipment 4. Add a wash rack and improve organization of operations yard	• New crew building fully accommodates year-round and seasonal staff growth • Renovated shop supports operations and addresses maintenance need • Covers most high-value fleet and extends service life • Organizes yard to improve operations • Maximizes site use to leverage investment and maintain current level of service

FIGURE 112. PARKS M&O CONCEPTS AND EVALUATION

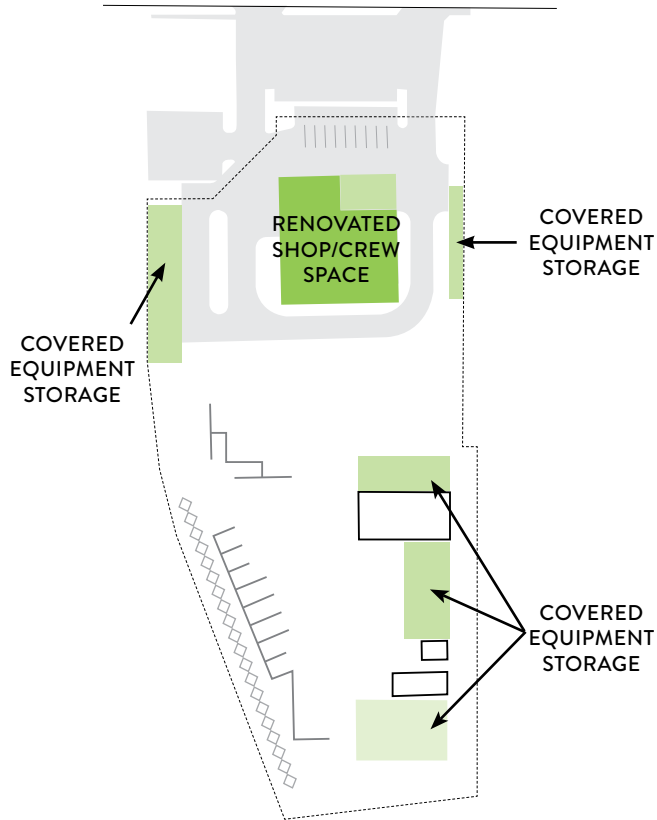


FIGURE 113. PARKS M&O ALTERNATIVE B

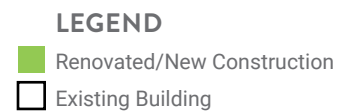
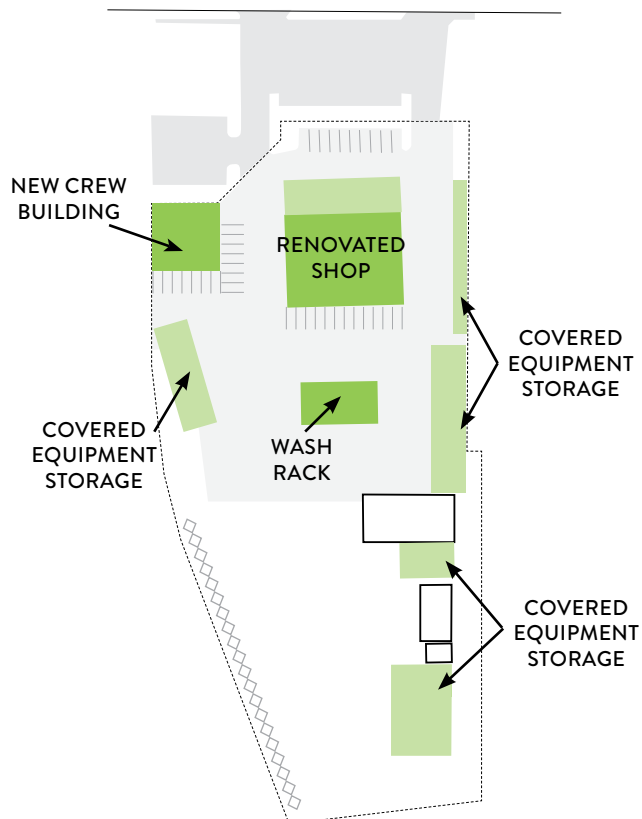


FIGURE 114. PARKS M&O ALTERNATIVE C

CITY HALL

ALTERNATIVE CONCEPTS AND EVALUATION

ALTERNATIVE	CONSIDERATIONS
ALTERNATIVE A STATUS QUO 1. No changes made	• No additional cost • Does not address current deficient space or accommodate growth in staff and operations
ALTERNATIVE B RESHUFFLE SPACE ~ \$0.6 M 1. Make minor renovation to add more conference space on first and second floors 2. Maximize workstation configuration	• Makes minor adjustments to increase amount of conference spaces • Maintains separate customer service points and increased public access • Reduced cost does not provide for full space needs
PREFERRED ALTERNATIVE C CENTRAL SERVICE COUNTER ~ \$4.1 M 1. Build central customer service counter in rotunda and attenuate for noise 2. Expand basement training room 3. Reconfigure former service counter spaces as offices and workstations 4. Add more conference space and increase access 5. Plan areas for future growth, including re-use of multi-purpose room in basement	• Centralized service counter provides single stop for public controls access • Reconfigured conference spaces are better sized and publicly accessible • Departments are able to accommodate growth by recapturing service counter space • Most costly option that fully accommodates future growth

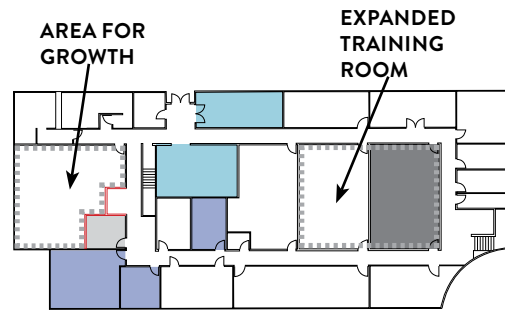
FIGURE 115. CITY HALL ALTERNATIVE CONCEPTS AND EVALUATION

LEGEND

Conference Room - Small	Media
Conference Room - Medium	Administration
Public Works	City Clerk
Community Development	Human Resources
Parks & Recreation	Legal
Finance	

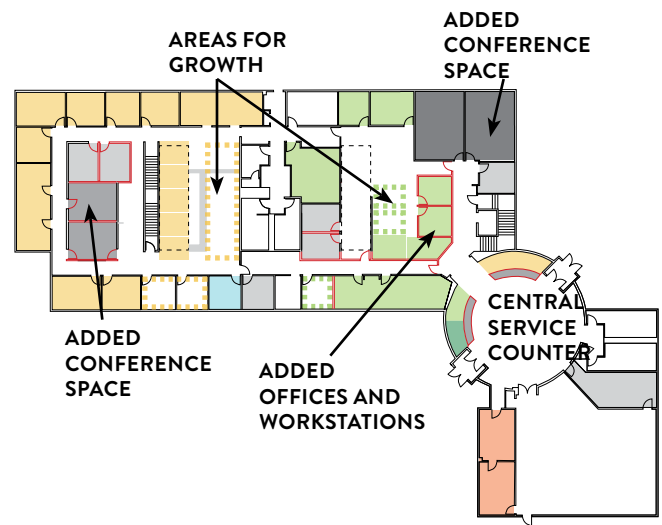
BASEMENT

EXISTING



1ST FLOOR

ADDED
CONFERENCE
SPACE



2ND FLOOR

EXISTING



ADDED
MEETING
ROOMS

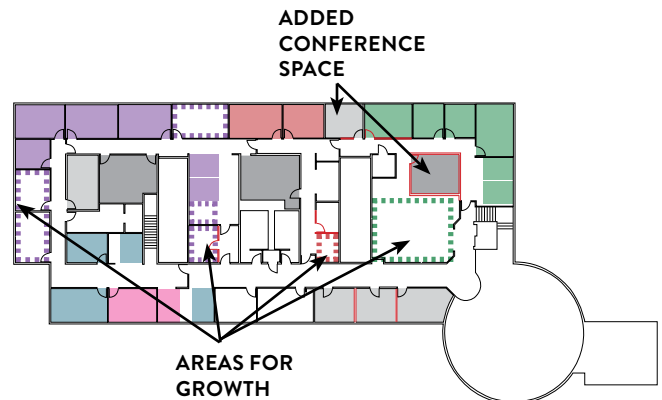


FIGURE 116. CITY HALL ALTERNATIVE B

FIGURE 117. CITY HALL ALTERNATIVE C

APPENDIX B. PROJECT COST SUMMARY

PROJECT COST MARK-UPS	
Sales tax	6%
Soft cost markups	35%
Project contingency	15%
Annual escalation	4%
Property escalation	5%

FIGURE 118. PROJECT COST MARK-UP



FIGURE 119. MODULAR SHOP, WAREHOUSE, OR EVIDENCE FACILITY



FIGURE 120. MODULAR CREW SUPPORT FACILITY

ASSUMPTIONS

Cost estimates supporting this project were provided by Roen Associates and MAKERS and are rough-order-of-magnitude (ROM) costs appropriate for planning and decision-making. Direct costs were escalated to project costs using the mark-ups noted in Figure 118. Costs assume no hazardous materials abatement. Figure 121 shows project costs in 2021 dollars by space type.

SPACE TYPE	DIRECT COST (per square foot in 2021\$)	PROJECT COST (per square foot in 2021\$)
POLICE		
Renovated office	\$150	\$243
New office	\$450	\$730
MAINTENANCE & OPERATIONS		
Modular crew space	\$200	\$324
Renovated crew space	\$125	\$203
Renovated lab	\$230	\$373
Fleet shop	\$200	\$324
Modular shop	\$220	\$357
Warehouse	\$165	\$268
Decant	\$176	\$285
Vehicle wash rack	\$85	\$138
Decant	\$176	\$285
Heated parking	\$165	\$268
Covered parking	\$55	\$89
Covered storage	\$55	\$89
Covered bulk bins	\$85	\$138
Bulk bins	\$45	\$73
Uncovered storage	\$10	\$16
CITY HALL		
Major renovation	\$175	\$284
Minor renovation	\$125	\$203
GENERAL COSTS		
Sitework (landscaped)	\$15	\$24
Building demolition	\$15	\$24
Parking demolition	\$4	\$6
Utilities (new PW campus)		\$450,000
Utilities (WRF/Parks M&O)		\$250,000

FIGURE 121. DIRECT AND PROJECT CONSTRUCTION COSTS (2021\$)

SOFT COSTS

Soft costs are in addition to the contractor's costs, and typically include:

- A/E fees - Architect and consultants under the Architects Contract
- Engineering fees and studies - Other project specific consultants not under the Architect's contract (Ex: Environmental impact, location selection, etc.)
- Permits and Fees - Includes MUP, building permits, Fire Department review, etc.
- Commissioning - Third Party System Commissioning
- GC Pre-construction - Applies only if using CM GC (Construction Manager/General Contractor) contract
- Jurisdictional costs

Furniture, fixtures and Equipment (FF&E) and personnel relocation costs are not included.

Project costs are escalated to year of construction at 4.0% annually and property costs are escalated to year of purchase at 5.0% annually.

PROPERTY ACQUISITION COSTS

Land value estimates were provided by the City of Post Falls, escalated to the assumed year of purchase, and listed in Figure 122. Estimates assume the following:

- The value of **Location A** is based on a recent property purchase by the Idaho Transportation Department near Highway 41 at W Hayden Avenue at approximately \$65,000 per acre.
- The value of **Location B** adds ten percent to the City's assessed value of an adjacent property.

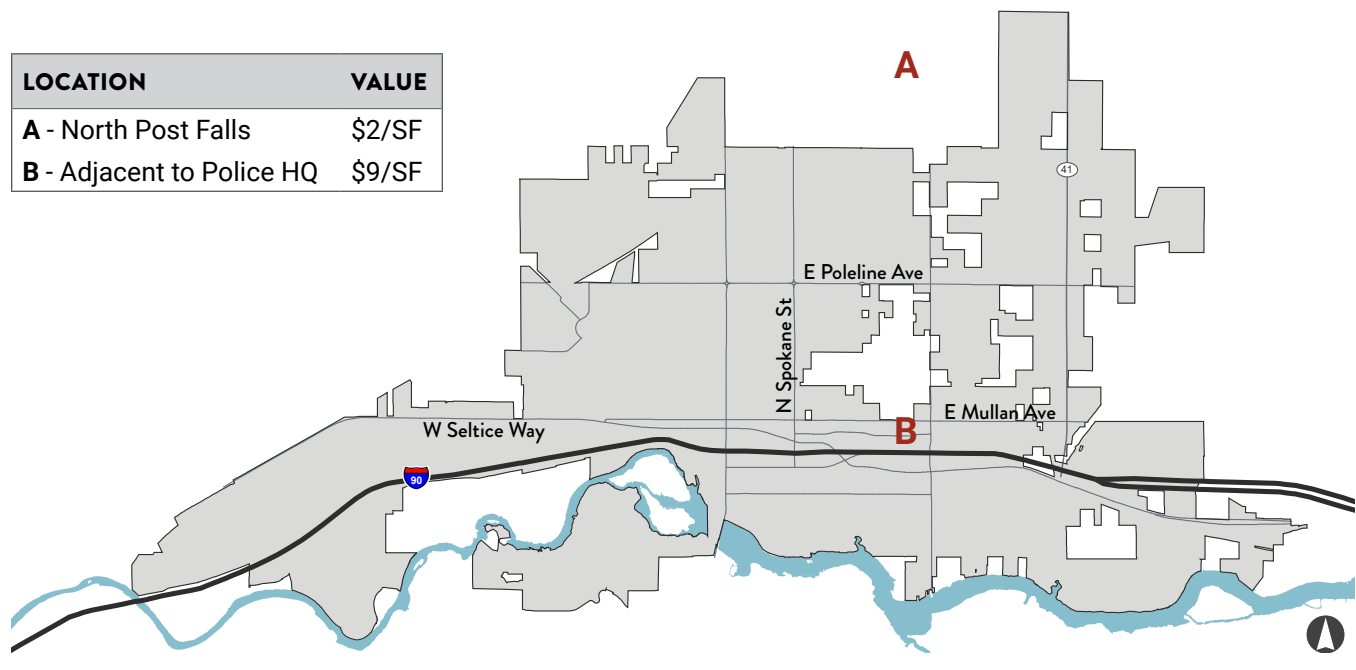


FIGURE 122. PROPERTY VALUE ASSUMPTIONS

MASTER PLAN RECOMMENDATION COSTS

Master plan recommendation costs in 2021 dollars are shown in Figures 103-105.

FIGURE 123. POLICE PROJECT COSTS

POLICE	GSF	PROJECT COST (\$M)
Renovated office	2,363	\$0.6
Expansion	11,833	\$8.6
Modular storage	3,582	\$1.0
Sitework cost	57,652	\$1.4
Utilities		\$0.2
Total Cost (2021\$)		\$11.8

FIGURE 124. PUBLIC WORKS PROJECT COSTS

PUBLIC WORKS	GSF	PROJECT COST (\$M)
PW Ops Center		
Modular crew space	12,398	\$4.0
Fleet shop	14,236	\$4.6
Modular shop	1,746	\$0.6
Warehouse	1,274	\$0.3
Decant	2,340	\$0.7
Vehicle wash rack	2,546	\$0.4
Covered parking	31,411	\$2.8
Heated parking	6,963	\$1.9
Uncovered storage	122,200	\$2.0
Covered bulk bins	6,808	\$0.9
Bulk bins	13,000	\$0.9
Sitework cost	324,998	\$7.9
Utilities		\$0.5
WRF		
Renovation	2,933	\$0.6
Modular shop	2,400	\$0.8
Covered storage	1,200	\$0.1
Covered parking	1,856	\$0.2
Streets/Fleet Headquarters		
Modular crew support	700	\$0.2
Renovation	1,060	\$0.2
Covered storage	6,602	\$0.6
Total Cost (2021\$)		\$30.3

PARKS M&O	GSF	PROJECT COST (\$M)
Modular crew space	3,492	\$1.1
Renovated shop	3,000	\$0.6
Modular shop	1,500	\$0.5
Covered storage	1,560	\$0.1
Vehicle wash	2,546	\$0.4
Covered parking	8,679	\$0.8
Sitework cost	14,455	\$0.4
Utilities		\$0.2
Total Cost (2021\$)		\$4.1

FIGURE 125. PARKS M&O PROJECT COSTS

CITY HALL	GSF	PROJECT COST (\$M)
Minor office renovation	1,650	\$0.3
Major office renovation	13,148	\$3.7
Total Cost (2021\$)		\$4.0

FIGURE 126. CITY HALL PROJECT COSTS

APPENDIX C. SPACE NEEDS SUMMARY

INTRODUCTION

This appendix summarizes space needs projections for City functions to inform Post Falls's Facilities Needs Assessment. Space needs projections are based on industry standards and staffing levels based on City projections for population and service demand growth. Projections are planning level and appropriate to support strategic decision-making.

This document includes:

- A summary of space needs by function (Water/Water Reclamation, Streets/Fleet, Parks M&O Headquarters, Parks Cemetery, Police, and City Hall)
- A list of space standards for commonly-used components
- Program area multipliers used to estimate building systems and circulation space requirements, and
- Space needs, staffing counts, and fleet counts for each in-scope function.

SPACE CATEGORIES

Space needs are presented in the following categories:

- Admin/Crew/Support Spaces. These include offices and workstations, meeting spaces, breakrooms, and other crew support spaces.
- Shops/Warehouse/Operations. This includes shop, covered storage, and operations spaces.
- Yard Storage. This includes open storage, bulk bins, or storage that is covered by an open-sided shed structure/canopy.
- Parking. This includes heated, covered, or open-surface parking for fleet, staff, and visitors.

ASSUMPTIONS

- Estimated space needs incorporate staffing increases provided by the City of Post Falls to address current deficiencies and known near-term service needs. Future space needs are factored up by 30% to account for the 318% population growth anticipated in Post Falls by 2040.¹
- Space needs assume each function is located on a stand-alone site. If functions are co-located, there may be limited efficiencies due to shared use of spaces; this will be evaluated and refined at a later project phase.
- One wellness/lactation room will be provided on a site-by-site basis; the square footage for this function is not included in the space needs here but will be accounted for in a later project phase.

1. Post Falls Community Development Department Planning Division projections

FUTURE SPACE NEEDS SUMMARY			
	Total Building Area (in rounded square feet)	Total Covered Parking Area (in rounded square feet)	Total Site Area ¹ (in acres)
Water & Wastewater	22,000	16,600	2.79
Water	3,200	9,900	
Wastewater	18,800	6,700	
Streets & Fleet	34,400	24,300	6.47
Parks Maintenance	25,400	-	2.52
Parks Cemetery	3,800	-	0.43
Police	43,100	6,700	2.89
City Hall	46,100	-	2.78

¹ total site area includes single-story building footprints, site circulation, and an additional 5% site area contingency to account for inefficiencies due to irregular sites and to meet landscaping and setback code requirements

PROGRAM SPACE STANDARDS

Program Item	Space Standard (in NSF)	Description
ADMIN/CREW/SUPPORT SPACES		
Private Office		
Private Office, Large	144	12'x12', includes seating for 2 visitors
Private Office, Standard	100	10'x10' private office
Shared Private Office		
Shared Private Office, F/T	64	8x8 Area per person in a shared private office for their workstation
Shared Private Office, Large	84	Area per person in a shared private office for their workstation; includes meeting space
Open Office		
Open Office Workstation	48	6'x8' workstation
Touchdown Workstation	24	4'x6' unassigned workstation, 1 per 5 field staff
Meeting Spaces		
Small Meeting Room	120	2-4 people
Medium Meeting Room	240	6-8 people
Large Meeting Room	416	10-12 people
XL Meeting Room	540	16-person table + 8-16 back row seating
Multi-purpose/Training Room	1200	max capacity 40-60 people seated at tables
Support Spaces		
Service Counter + Lobby	100	For each staffed position at the counter, this space needs allowance includes counter space and waiting area
Operations Breakroom/Muster Room	20	20 nsf per peak occupants if used for muster space
Kitchenette	60	12'x5' space, includes space for sink, refrigerator, and countertop for appliances
Copy/Print Room	120	12' x 10'
Locker	9	2' x 1'8"
Mudroom	100	10' x 10'
Shower	15	3'x3' shower + 3'x2' dressing vestibule; one shower for every 8 field workers
Laundry	100	10'x6' space with 1 washer/dryer and folding table plus 10'x4' circulation
COVERED/YARD STORAGE/SITE OPERATIONS		
Wash Rack (1 Vehicle)	1925	55' x 35'
Fuel Island	2025	45' x 45' (2 dispensers on a central platform... 2 vehicle drive-throughs)
Bulk Bin	384	16'x24' individual bin made of ecology blocks 2x2x6
Loading Bay	120	10' x 12'
Decant	1170	15' wide x (8' back channel + 20' collection area)... add 50' approx driveway in front
PARKING		
Small Equipment	81	9' x 9'
Light-Duty Fleet	180	20' x 9'
Medium-Duty Fleet	360	30' x 12'
Heavy-Duty Fleet	675	45' x 15'

PROGRAM AREA MULTIPLIERS

Building Circulation Multiplier - NSF to USF

Accounts for primary circulation and interior partition walls

Cellular Admin/Crew	1.43	<i>For buildings with primarily enclosed spaces</i>
Storage/Warehouse/Shops	1.15	
None	1.00	<i>Includes fuel, vehicle wash, parking stalls</i>

Building Gross Multiplier - USF to BGSF

Accounts for exterior walls, vertical penetrations, building circulation, mechanical, and support (janitor closet and restrooms).

Admin/Crew	1.25	
Shops/Warehouse/Shed Structure	1.15	
Non-covered Structure	1.00	

Site Circulation Multiplier - BGSF/Site NSF to Gross Site Area

Admin/Crew	1.20	
Surface Parking	1.75	
Operations Buildings and Site Uses	2.00	<i>Covered/heated parking, oversized parking, fuel/wash rack, laydown storage, bulk bins, etc.</i>

Growth/Markup Factors

Growth Markup	30%	<i>Markup to account for 20-year population growth</i>
Site Area Contingency	5%	<i>Markup to total site area to accommodate code-required landscaping, setbacks, and/or inefficiencies due to irregular site configuration. Some amount of landscaping is accounted for in-site circulation factors.</i>

NSF = net square feet

USF = usable square feet

BGSF = building gross square feet

GSF = gross square feet

TSF = total site area, including building footprints

WATER & WASTEWATER

SPACE NEEDS SUMMARY				
(all areas in square feet)	Gross Bldg Area (BGSF) ¹	GSF with 30% growth	Site Area	Total Site Area With 30% Growth (TSF) ²
Admin/Crew/Support Space	7,940	10,322	n/a	12,386
Water	1,489	1,935	n/a	2,322
Wastewater	6,451	8,387	n/a	10,064
Shops/Operations	4,987	6,483	n/a	12,967
Water	980	1,274	n/a	2,548
Wastewater	4,007	5,209	n/a	10,419
Wash Rack	2,546		n/a	5,092
Water	n/a	n/a	n/a	
Wastewater	2,546	n/a	n/a	5,092
Yard Storage (Covered)	880	1,144	n/a	2,288
Water	-	-	n/a	-
Wastewater	880	1,144	n/a	2,288
Decant	1,547		-	3,094
Water	n/a	n/a	n/a	-
Wastewater	1,547	n/a	n/a	3,094
Yard Storage (Laydown)	n/a	n/a	20,000	26,000
Water	n/a	n/a	n/a	-
Wastewater	n/a	n/a	20,000	26,000
Parking (Heated)	4,642	6,035	n/a	12,069
Water	952	1,238	n/a	2,476
Wastewater	3,690	4,797	n/a	9,593
Parking (Covered)	8,094	10,522	n/a	21,044
Water	6,665	8,665	n/a	17,330
Wastewater	1,428	1,857	n/a	3,714
Parking (Surface)	n/a	n/a	16,065	20,885
Water	n/a	n/a	10,190	13,247
Wastewater	n/a	n/a	5,875	7,637

WATER & WASTEWATER

Existing Built Area	11,936
Existing Parking (Covered)	4,800

Total Required Building Area (in square feet)	17,900
Total Required Covered Parking Area (in square feet)	12,736

Total Building Area with 30% growth (in square feet)	22,042
Water	3,209
Wastewater	18,833
Total Covered Parking Area with 30% growth (in square feet)	16,556
Water	9,903
Wastewater	6,653

Total Site Area with 30% growth (in square feet)	115,824
Water	37,923
Wastewater	77,901
Total Site Area with 30% growth (in acres)	2.66
Water	0.87
Wastewater	1.79

Total Site Area with 5% contingency (in square feet)	121,615
Total Site Area (in acres)	2.79

¹ Gross building area incorporates administration, office, and equipment storage space; excludes unit processes, and accounts for interior circulation, exterior walls, vertical penetrations, mechanical, and support spaces like restroom

² Total site area includes single-story building footprints and accounts for vehicular site circulation

Personnel Counts	
Wastewater	
Chief Water Reclamation Operator	1
Assistant Chief WR Operator	1
Pretreatment Coordinator	1
Operator	9
Lab Technician	2
Stormwater Technician	1
Subtotal	15
5-Year Projection	25
Water	
Chief Water Operator	1
Utility Billing Specialist	1
Operator	5
Subtotal	7
5-Year Projection	7
Admin	
Utilities Manager	1
Operations Support Specialist	1
Utilities Project Manager	1
Environmental Specialist	1
Subtotal	4
5-Year Projection	4
Total	26
5-Year Staff Projection	36

Fleet Counts	
Wastewater	
Fleet - 20x9	12
Fleet - 30x12	7
Fleet - 45x15	2
Water	
Fleet - 30x12	12
Surface Water	
Fleet - 9x9	4
Fleet - 20x9	3
Fleet - 30x12	4
Total	44

WATER & WASTEWATER

SPACE NEEDS PROJECTIONS

		Unit Area	Qty	NSF	USF	BGSF	Net Site Area	Gross Site Area	Notes
Admin/Crew/Support Spaces						7,940		9,528	
	Breakroom/Kitchen								
	Water	20	9	240	343	429			provides 20 SF muster space and 60 SF for kitchenette
	WW	20	27	600	858	1,073			provides 20 SF muster space and 60 SF for kitchenette
	WW								not needed
	Conference Rooms (WW)								
	Small (2-4 ppl)	120	1	120	172	215			
	Medium (6-8 ppl)	240	1	240	343	429			
	Extra Large (16-20 ppl)	708	1			708			same as existing
	Touchdown Stations								
	Water	24	1	24	34	43			added for crew use, ~ 1 per 5 field workers
	WW	24	3	72	103	129			added for crew use, ~ 1 per 5 field workers
	Document Storage								
	Water	291	1			291			same as existing
	WW	1,388	1			1,388			+25% over existing
	Server Room (WW)								
	Water	25	1			25			same as existing
	WW	103	1			103			+25% over existing
	Lockers/Mudroom								
	Water	9	9	181	259	324			9 SF/locker + 100 SF mudroom for all FTE staff
	WW	9	25	325	465	581			9 SF/locker + 100 SF mudroom for all FTE staff
	Showers								
	Water	15	1	15	21	27			~ 1 per 8 field workers
	WW	15	3	45	64	80			~ 1 per 8 field workers
	Laundry (WW)	100	1	100	143	179			
	Gym (WW)	682	1			682			same as existing
Assigned Offices and Workstations									
	Private Office, Large	144	1	144		-			Utilities Manager
	Water								converted to standard size
	WW								converted to standard size
	Private Office, Standard								
	Water	100	1	100	143	179			Chief Water Op
	WW	100	4	400	572	715			Ut PM, Env Spec, Chief WR Op, Pretreat Coor
	Shared Office (WW)								converted to standard size
	Workstations								
	Water	48	2	96	137	172			Ut Billing, Ops Support
	WW	48	2	96	137	172			storm tech, Asst Chief WR Op (co-located with SCADA)
Operations/Shops						4,987		9,974	
	Drinking Water Shop	960	1			960			existing - 1 full bay
	Wastewater Shop	2,400	1			2,400	900		2x Pilot Bldg to accommodate fleet
	Wastewater Lab	1,390	1			1,390			2x existing
	SCADA								
	Water	20	1			20			same as existing
	WW	217	1			217			Adds 20% to existing; additional space for Assistant Chief workstation in SCADA room accounted for above under workstation

WATER & WASTEWATER

SPACE NEEDS PROJECTIONS

		Unit Area	Qty	NSF	USF	BGSF	Net Site Area	Gross Site Area	Notes
Wash Rack									
	Wash Rack (WW)	1,925	1	1,925	2,214	2,546		5,092	
Covered Storage									
	Wastewater Storage	880	1			880			Storage in former animal shelter
Decant									
	Decant (WW)	1,170	1	1,170	1,346	1,547		3,095	
Heated Parking									
	Fleet Parking - 30x12					4,642		9,284	
	Water	360	2	720	828	952			
	WW	360	4	1,440	1,656	1,904			added 3 spaces
	Fleet Parking - 45x15 (WW)	675	2	1,350	1,553	1,785			added spaces for vactors
Covered Parking									
	Fleet Parking - 30x12					8,094		16,187	
	Water	360	14	5,040	5,796	6,665		-	existing less heated spaces
	WW	360	3	1,080	1,242	1,428		-	existing less heated spaces
Yard Storage									
	Laydown storage (WW)	10,000	1				10,000	20,000	same as existing
Surface Parking									
	Fleet Parking - 9x9						9,180	16,065	
	Water	81	4	324			324	567	same as existing
	Fleet Parking - 20x9								
	Water	180	3	540			540	945	same as existing
	WW	180	12	2,160			2,160	3,780	same as existing
	Fleet Parking - 30x12								
	Water								
	WW								
	Fleet Parking (WW) - 45x15	675		-			-	-	moved to heated parking
	Staff/Visitor Parking - 20x9								
	Water	180	7	4,959			4,959	8,678	90% staff and 5% visitor of 7 projected staff
	WW	180	28	1,197			1,197	2,095	90% staff and 5% visitor of 29 projected staff

STREETS & FLEET

SPACE NEEDS SUMMARY				
<i>(all areas in square feet)</i>	Gross Bldg Area (BGSF) ¹	GSF with 30% growth	Site Area	Total Site Area With 30% Growth (TSF) ²
Admin/Crew Building	5,794	7,532	n/a	9,039
Fleet Shop	10,951	14,236	n/a	28,472
Shops/Storage	1,363	1,772	n/a	2,126
Sign Shop	383	498	n/a	597
Storage	980	1,274	n/a	1,529
Wash Rack	2,546	n/a	n/a	3,055
Decant	1,547	n/a	n/a	1,857
Yard Storage (Covered)	5,237	6,808	n/a	13,616
Yard Storage (Laydown)	n/a	n/a	104,000	135,200
Bulk Bins	n/a	n/a	5,000	6,500
Parking (Heated)	2,142	2,785	n/a	5,570
Parking (Covered)	16,544	21,508	n/a	43,016
Parking (Surface)	n/a	n/a	20,207	26,269

Existing Built Area	14,400
Existing Parking (Covered)	6,120

Total Required Building Area (in square feet)	27,438
Total Required Covered Parking Area (in square feet)	18,687

Total Building Area with 30% growth (in square feet)	34,442
Total Covered Parking Area with 30% growth (in square feet)	24,293

Total Site Area with 30% growth (in square feet)	268,221
Total Site Area with 30% growth (in acres)	6.16

Total Site Area with 5% contingency (in square feet)	281,632
Total Site Area (in acres)	6.47

¹ Gross building area accounts for interior circulation, exterior walls, vertical penetrations, mechanical, and support spaces like restroom

² Total site area includes single-story building footprints and accounts for vehicular site circulation

Personnel Counts	
Streets	
Maintenance Manager	1
Administrative Assistant	1
Streets Supervisor	1
Maintenance Lead	1
Traffic Lead	1
Streets Maintenance Worker	10
Sign Maintenance Worker	3
Subtotal	18
5-Year Projection	22
Fleet	
Fleet Supervisor	1
Mechanic	2
Subtotal	3
5-Year Projection	4
Total	21
5-Year Staff Projection	26

Fleet Counts	
Streets	
Fleet - 20x9	19
Fleet - 30x12	35
Fleet - 45x15	2
Total	56

STREETS & FLEET

SPACE NEEDS PROJECTIONS

	Unit Area	Qty	NSF	USF	BGSF	Net Site Area	Gross Site Area	Notes
Admin/Crew/Support Spaces					5,794		6,953	
Assembly/Breakroom								
Conference Room, Med	240	1	240	343	429			
Training/Multipurpose Rm	1,200	1	1,200	1,716	2,145			
Breakroom	20	26	520	744	930			provides 20 SF muster space per projected FTE staff roughly 1 per 5 staff
Touchdown Stations	24	3	72	103	129			doubled
Kitchen	60	2	120	172	215			same as existing
Workroom	126	1			126			one per projected 26 staff
Crew Lockers/Mudroom	9	26	334	478	597			one per 8 field staff
Showers	15	3	45	64	80			
Laundry	100	1	100	143	179			
Assigned Offices and Workstations								
Private Office, Large	144	1	144	206	257			Maintenance Manager
Private Office, Standard	100	3	300	429	536			supervisors (2), traffic lead
Workstations	48	2	96	137	172			admin, sign design software station
Fleet Shop					10,951		21,901	
Vehicle Work Bays (standard 30'x12')	360	7	2,520	2,898	3,333		6,665	
Vehicle Work Bays (heavy 55' x 14')	770	6	4,620	5,313	6,110		12,220	add 2 more bays
Parts/Tire/Compressor Storage	1,028	1			1,028		2,056	existing plus 50% of storage in sign storage
Fabrication Shop	480	1			480		960	half of large bay
Wash Rack					2,546		5,092	
Wash Bay (35'x55')	1,925	1	1,925	2,214	2,546		5,092	converted to standard size
Streets Shops					1,363		1,636	
Sign Shop	383	1			383			same as existing
Sign Storage	780	1			780			same as existing
Streets Storage	200	1			200			same as existing
Heated Parking					2,142		4,285	
Fleet Parking - 30x12	360	4	1,440	1,656	1,904			parking for current 4 sand trucks
Fleet Parking - 20x9	180	1	180	207	238			
Covered Storage/Operations					5,237		10,474	
Storage								
Bulk Bins	384	10	3,840	4,416	5,078		10,157	added to cover salt & sand
Loading Bay	120	1	120	138	159		317	
Covered Parking					16,544		33,089	
Fleet Parking - 30x12	360	31	11,160	12,834	14,759			100% covered
Fleet Parking - 45x15	675	2	1,350	1,553	1,785			moved to heated
Yard Storage/Operations						52,000	104,000	
Storage								
Laydown	47,000	1				47,000	94,000	+10,000 for asphalt grinding; no site
Bulk bins	5,000	1				5,000	10,000	2x existing
Decant					1,547		3,095	
Decant	1,170	1	1,170	1,346	1,547		-	same as existing
Surface Parking						11,547	20,207	
Parking								
Fleet Parking - 20x9	180	18	3,240	3,240		3,240	5,670	
Fleet Parking - 30x12				-		-	-	moved to covered parking
Fleet Parking - 45x15	675	5	3,375	3,375		3,375	5,906	staging, fleet moved to covered parking
Staff/Visitor Parking - 20x9	180	27	4,932	4,932		4,932	8,631	90% projected 26 staff + 4 visitor parking

PARKS MAINTENANCE

SPACE NEEDS SUMMARY				
<i>(all areas in square feet)</i>	Gross Bldg Area (BGSF) ¹	GSF with 30% growth	Site Area	Total Site Area With 30% Growth (TSF) ²
Admin/Crew Building	2,686	3,492	n/a	4,191
Shops	6,283	8,168	n/a	16,336
Warehouse/Storage	7,443	9,676	n/a	19,352
Wash Rack	2,546	n/a	n/a	5,092
Yard Storage (Covered)	1,200	1,560	n/a	3,120
Yard Storage (Laydown)	n/a	n/a	31,500	
Bulk Bins	n/a	n/a	9,100	n/a
Parking (Covered)	-	-	n/a	-
Parking (Surface)	n/a	n/a	19,152	24,898

Existing Built Area	14,408
Existing Parking (Covered)	3,000

Total Required Building Area (in square feet)	20,158
Total Required Covered Parking Area (in square feet)	-

Total Building Area with 30% growth (in square feet)	25,442
Total Covered Parking Area with 30% growth (in square feet)	-

Total Site Area with 30% growth (in square feet)	104,488
Total Site Area with 30% growth (in acres)	2.40

Total Site Area with 5% contingency (in square feet)	109,712
Total Site Area (in acres)	2.52

¹ Gross building area accounts for interior circulation, exterior walls, vertical penetrations, mechanical, and support spaces like restroom

² Total site area includes single-story building footprints and accounts for vehicular site circulation

PARKS MAINTENANCE

Personnel Counts	
Parks Maintenance	
Parks Manager	1
Parks Maintenance Supervisor	1
Administrative Assistant	1
Senior Park Irrigation Worker	1
Senior Park Turfgrass Worker	1
Senior Park Worker	2
Park Worker	2
Subtotal	9
5-Year Projection	12
Construction	
Parks Construction Supervisor	1
Senior Park Worker	1
Park Worker	1
Subtotal	3
5-Year Projection	4
Urban Forestry	
City Arborist	1
Urban Forestry Technician	1
Subtotal	2
5-Year Projection	2
Total	14
5-Year Staff Projection	18

Fleet Counts	
Parks Maintenance	
Fleet - 9x9	16
Fleet - 20x9	20
Fleet - 30x12	16
Fleet - 45x15	2
Urban Forestry	
Fleet - 20x9	3
Fleet - 30x12	2
Total	59

PARKS MAINTENANCE

SPACE NEEDS PROJECTIONS

	Unit Area	Qty	NSF	USF	BGSF	Net Site Area	Gross Site Area	Notes
Admin/Crew/Support Spaces			2,197		2,686		3,224	
Assembly Space/Breakroom Seating								
Conference Room, Small	120	1	120		147			
Breakroom	749	1	749		915			add 50% to existing, provides 21 SF muster space per projected staff
Crew Lockers	480	1	480		587			same as existing
Shower	15	4	60		73			1 shower/~8 field staff, based on 5 yr projection
Assigned Offices and Workstations								
Private Office, Large								
Maintenance	144	1	144		176			parks manager
Private Office, Standard	100	5	500		612			supervisors (2), admin spec, + 2
Touchdown Stations	24	6	144		176			adds 4 providing 1 per 5 field staff
Shops					6,283		12,566	
Maintenance shop	5,463	1			5,463			added 50% to accommodate added hoist
Construction shop	820	1			820			same as existing
Warehouse/Storage					7,443		14,886	
Chemical/paint storage	541	1			541			added 30%
Urban Forestry tool storage	320	1			320			same as existing
Maintenance warehouse	3,690	1			3,690			added 50%
Loft storage	1,932	1			1,932			same as existing plus construction shop loft storage
Greenhouse	960	1			960			3x size of urban forestry shed
Wash Rack					2,546		5,092	
Wash Rack	1,925	1	1,925	2,214	2,546			single-vehicle, added per worksession
Covered Parking							0	
Fleet Parking - 30x12	360	18	6,480		6,480	8,829		includes existing covered area in main
Fleet Parking - 45x15	675	2	1,350		1,350			
Yard Storage (covered)					1,200		2,400	
Equipment storage	1,200	1			1,200			same as existing
Yard Storage						15,750	31,500	
Pot storage	3,200					3,200		same as existing
Bulk bins	4,550					4,550	9100	same as existing, ~8 bins
Laydown storage	8,000					8,000		same as existing
Surface Parking						10,944	19,152	
Fleet Parking - 9x9	81	16	1,296			1,296		
Fleet Parking - 20x9	180	23	4,140			4,140		
Fleet Parking - 30x12	360					-		moved to covered parking
Fleet Parking - 45x15	675							moved to covered parking
Staff/Visitor Parking - 20x9	180	31	5,508			5,508		90% of 18 projected staff +16 seasonal staff

PARKS CEMETERY

SPACE NEEDS SUMMARY

<i>(all areas in square feet)</i>	Gross Bldg Area (BGSF) ¹	GSF with 30% growth ²	Site Area	Total Site Area With 30% Growth (TSF) ³
Admin/Crew Building	952	952	n/a	1,142
Shops	2,888	2,888	n/a	5,776
Yard Storage (Laydown)	n/a	n/a	3,600	4,680
Parking (Covered)		-	n/a	-
Parking (Surface)	n/a	n/a	6,410	6,410

Existing Built Area	3,840
Existing Parking (Covered)	-

Total Building Area with 30% growth (in square feet)	3,840
Total Covered Parking Area with 30% growth (in square feet)	-

Total Site Area with 30% growth (in square feet)	18,009
Total Site Area with 30% growth (in acres)	0.41

Total Site Area with 5% contingency (in square feet)	18,909
Total Site Area (in acres)	0.43

¹ Gross building area accounts for interior circulation, exterior walls, vertical penetrations, mechanical, and support spaces like restroom

² Building square footage remains the same as no growth is expected for this facility

³ Total site area includes single-story building footprints and accounts for vehicular site circulation, growth factor not applied to buildings and surface parking

Personnel Counts	
Cemetery Sexton	1
Cemetery Maintenance Worker	1
Total	2
5-Year Staff Projection	3

Fleet Counts	
Fleet - 9x9	3
Fleet - 20x9	3
Fleet - 30x12	4
Total	10

PARKS CEMETERY

SPACE NEEDS PROJECTIONS

	Unit Area	Qty	NSF	USF	BGSF	Net Site Area	Gross Site Area	Notes
Admin/Crew/Support Spaces				688	952		1,142	
Breakroom	143	1		143				same as existing
Cemetery display/waiting room	369	1		369				same as existing
Assigned Offices and Workstations								
Private Office, Large								
Cemetery	176	1		176				cemetery sexton, same as existing
Shops					2,888		5,776	
Cemetery Maintenance Shop	1440	1			1440			same as existing
Cemetery Shop	1448	1			1448			same as existing
Yard Storage						1,800	3,600	
Bulk bins								
Cemetery Bins	1800	1				1800	3600	doubles existing materials storage
Surface Parking						3,663	6,410	
Fleet Parking - 9x9	81	3	243			243		same as existing
Fleet Parking - 20x9	180	3	540			540		same as existing
Fleet Parking - 30x12	360	4	1440			1440		same as existing
Staff/Visitor Parking - 20x9	180	8	1440			1440		same as existing

POLICE

SPACE NEEDS SUMMARY				
<i>(all areas in square feet)</i>	Gross Bldg Area (BGSF) ¹	GSF with 30% growth	Site Area	Total Site Area With 30% Growth (TSF) ²
Admin/Support Space	23,455	30,492	n/a	36,590
Operations	2,985	3,881	n/a	4,657
Animal Shelter	3,500	n/a	n/a	4,200
Warehouse/Storage	2,345	3,048	n/a	6,097
Fleet Shop	1,655	2,152	n/a	4,303
Parking (Heated)	2,400	n/a	n/a	4,800
Parking (Covered)	4,300	n/a	n/a	8,600
Parking (Surface)	n/a	n/a	38,903	50,573

Existing Built Area	33,422
Existing Parking (Covered)	6,700

Total Required Building Area (in square feet)	33,940
Total Required Covered Parking Area (in square feet)	6,700

Total Building Area with 30% growth (in square feet)	43,073
Total Covered Parking Area with 30% growth (in square feet)	6,700

Total Site Area with 30% growth (in square feet)	119,820
Total Site Area with 30% growth (in acres)	2.75

Total Site Area with 5% contingency (in square feet)	125,811
Total Site Area (in acres)	2.89

¹ Gross building area accounts for interior circulation, exterior walls, vertical penetrations, mechanical, and support spaces like restroom

² Total site area includes single-story building footprints and accounts for vehicular site circulation

POLICE

Personnel Counts	
Administration	
Chief of Police	1
Management Assistant	1
Captain	2
Subtotal	4
5-Year Projection	4
IT	
IT Administrator	1
IT Analyst	1
IT Technician	1
Subtotal	3
5-Year Projection	3
Detectives/VSU	
Investigation Division	8
Victims Services	2
Community Services	2
Subtotal	12
5-Year Projection	13
Patrol	
Patrol Lieutenant	1
Patrol Sergeant	8
Patrol Officer	32
Subtotal	41
5-Year Projection	49
Animal Safety	
Animal Safety Division	3
5-Year Projection	4
Fleet Maintenance	
Fleet Maintenance	1
5-Year Projection	1
Comm/Records/Evidence	
Communications Director	1
Emergency Communications	15
Department Specialists	3
Subtotal	19
5-Year Projection	24
Total	83
5-Year Staff Projection	97

Fleet Counts	
Police	
Fleet - 9x9	4
Fleet - 20x9	58
Fleet - 30x12	3
Animal Control	
Fleet - 20x9	3
Total	68

POLICE

SPACE NEEDS PROJECTIONS

	Unit Area	Qty	NSF	USF	BGSF	Net Site Area	Gross Site Area	Notes
Admin/Crew/Support Spaces			11,777	-	23,455		28,146	
Assembly Space/Breakroom								
HQ Breakroom	421	1	421		838			same as existing, combines SF for 2 rooms
HQ Community Service	1,345	1	1,345		2,679			same as existing
VSU lobby	172	1	172		343			same as existing
HQ Briefing Room	695	1	695		1,384			same as existing
Conference Room	506	1	506		1,008			same as existing, combines SF for 2 rooms
Work Room	463	1	463		922			same as existing, combines SF for 2 rooms
Storage					-			
HQ general	489	1	489		974			50% added to existing
HQ server	327	1	327		651			50% added to existing
Lockers	1,918	1	1,918		3,820			adds 30%
Showers	15	6	90		179			add 3, roughly 1 per 8 field staff
Workstations					-			
HQ	340	1	340		677			converts IT to large admin, maintains chaplain
Gym	836	1	836		1,665			same as existing
Assigned Offices and Workstations								
Chief Private Office	236	1	236		470			same as existing
Private Office, Large	144	6	864		1,721			patrol sgt (3, shared), patrol lt, patrol cap + projected patrol sgt (1, accommodating 2 staff)
Private Office, Standard					-			
HQ	100	7	700		1,394			evidence, det sgt & cap, dispatch dir & sup, VSU (2), computer lab, patrol (2), IT (2), radio
Shared Office	64	29	1,856		3,696			64 SF/desk - code enf (2), SRO (2), IT (1), records (4), det (5), comm (6), + projected comm (1), patrol (8)
Interview/safe room	519	1	519		1,034			combines SF for existing lobby, safe, and
Operations			1,499		2,985		3,582	
Armory (HQ)	305	1	305		607			same as existing
Evidence processing/storage (HQ)	926	1	926		1,844			same as existing
Radio room (HQ)	268	1	268		534			same as existing
Animal Shelter			2,945		3,500		4,200	
Workstations	190	1	190		226			maintains SF but adds 1 per staff projection, copier moved to breakroom
Breakroom	83	1	83		99			same as existing
Animal shelter storage	49	1	49		58			same as existing
Kennels	2,623	1	2,623		3,117			same as existing, accounts for 35 kennels

POLICE

SPACE NEEDS PROJECTIONS

		Unit Area	Qty	NSF	USF	BGSF	Net Site Area	Gross Site Area	Notes
Warehouse/Storage									
				2,104		2,345		4,690	
	Vehicle Shop								
	private office, standard	108	1	108		120			same as existing
	evidence storage	1,552	1	1,552		1,730			same as existing
	oil storage	108	1	108		120			same as existing
	tire storage	336	1	336		374			same as existing
Fleet Shop									
	Fleet shop	1,485	1	1,485		1,655			maintain existing, convert wash bay to hoist
	Washbay								
Vehicle Shop (heated parking)									
	Office/storage	128	1			128			same as existing
	Fleet Parking - 30x12	2,272	9			2,272			3x12 (3), 20x9 (2), 9x9 (4) in existing storage building
Parking (covered)									
	Fleet Parking - 20x9	4,300	18			4,300			same as existing covered parking, roughly 18 spaces
Parking (surface)									
	Fleet Parking (secured) - 20x9	180	41	7,380			7,380		same as existing
	Staff Parking (secured) - 20x9	180	11	1,890			1,890		added 50% to existing
	Staff/Visitor Parking (unsecure) - 20x9	180	72	12,960			12,960		added 50% to existing

CITY HALL

SPACE NEEDS SUMMARY					
(all areas in square feet)		Gross Bldg Area (BGSF) ¹	GSF with 30% growth	Site Area	Total Site Area With 30% Growth (TSF) ²
Admin Building		35,121	45,657	n/a	54,788
Admin		737	959	n/a	1,150
Finance		1,368	1,778	n/a	2,133
Clerk		329	428	n/a	514
Media		516	670	n/a	804
HR		437	568	n/a	681
IT		480	624	n/a	748
Legal		1,575	2,048	n/a	2,457
Parks		1,998	2,597	n/a	3,116
Community Development		4,010			
Public Works		258	335	n/a	402
Shops		418	n/a	n/a	502
Parking (Surface)		n/a	n/a	46,305	60,197

Existing Built Area	41,900
Existing Parking (Covered)	-

Total Required Building Area (in square feet)	35,539
Total Required Covered Parking Area (in square feet)	-

Total Building Area with 30% growth (in square feet)	46,075
Total Covered Parking Area with 30% growth (in square feet)	-

Total Site Area with 30% growth (in square feet)	115,486
Total Site Area with 30% growth (in acres)	2.65

Total Site Area with 5% contingency (in square feet)	121,261
Total Site Area (in acres)	2.78

¹ Gross building area accounts for interior circulation, exterior walls, vertical penetrations, mechanical, and support spaces like restroom

² Total site area includes single-story building footprints and accounts for vehicular site circulation

CITY HALL

Personnel Counts	
Administrative Services	
City Administrator	1
Executive Assistant	1
City Clerk	1
Deputy City Clerk	0
IT Administrator	1
IT Technician	1.5
Software Support Specialist	1
Public Information Specialist	1
Media Specialist	1
Subtotal	8.5
5-Year Projection	9.5
Finance & Support Services	
Finance & Support Services Director	1
Payroll/Staff Accountant	1
Accounting Supervisor/Dep City Treasurer	1
Utility Billing Supervisor	1
Purchasing	1
AP/AR/CSR	3
Subtotal	8
5-Year Projection	8
Human Resources	
Human Resources Director	1
Compensation Analyst	1
Subtotal	2
5-Year Projection	2.5
Legal Services	
Legal Services Director	1
Assistant City Attorney	1
City Prosecutor	2
Office Manager/Legal Assistant	1
Legal Assistant	1
Subtotal	6
5-Year Projection	9
Parks & Recreation	
Parks & Recreation Director	1
Urban Forester	1
Parks Planner	1
Recreation Manager	1
Recreation Supervisor	2
Administrative Specialist	1
Recreation Coordinator	2
Recreation Program Assistant	1
Recreation Specialist	1
Subtotal	11
5-Year Projection	12
Community Development	
Community Development Director	1
Planning Division	4
Engineering Division	6
Building Division	9
GIS Coordinator & Tech	2
Subtotal	22
5-Year Projection	25
Public Works	
Public Works Director	1
Facilities Maintenance Supervisor	1
Asst Facilities Maintenance Supervisor	1
Custodian	3.5
Subtotal	6.5
5-Year Projection	8
Total	64
5-Year Staff Projection	74

Fleet Counts	
Fleet - 9x9	3
Fleet - 20x9	20
Fleet - 30x12	1
Total	24

CITY HALL

SPACE NEEDS PROJECTIONS

	Unit Area	Qty	NSF	USF	BGSF	Net Site Area	Gross Site Area	Notes
Admin/Crew/Support Spaces			19,787	-	35,121		42,145	
Breakroom	1,107	1	1,107		1,965			same as existing, combines SF of 4 rooms
Conference Room - small	120	8	960		1,704			+8 to provide private spaces due to conversion to open workstations
Conference Room - medium	240	4	960		1,704			same number of existing, converted to industry standard
Conference Room - large	416	2	832		1,477			adds two rooms requiring one with after-hour public access
Conference Room - X large	838	1	838		1,487			size based on existing room in basement
Training Room (40-60 ppl)	1,200	1	1,200		2,130			
Work Room	498	3	498		884			existing, minus underutilized 163/264
Office Support/Storage					-			
Server	206	1	206		366			same as existing
Bike storage	130	1	130		231			same as existing
General	3,004	1	3,004		5,332			same as existing
Rec storage	887	1			-			existing, may relocate to Tullamore or main M&O HQ
Service Counter	100	7	700		1,242			finance (2 + 1 unmanned), rec, legal, unmanned admin/comm dev counters
Council Chambers	1,905	1	1,905		3,381			same as existing
Mother's Room	118	1	118		209			same as existing
Lockers	425	1	425		754			same as existing, combines SF for both locker rooms
Health & Wellness	700	1	700		1,242			20' x 20' room with 300 SF for weights
Assigned Offices and Workstations								
Private Office, Large	144	9	1,296		2,300			Administrator, Finance Director, HR dir, Legal dir, Parks dir, Public Works dir, Comm dev dir, Media (2)
Private Office, Standard	100	18	1,800		3,195			Clerk, IT admin, finance (2), Compensation Analyst, legal (3+1), comm dev (4+1), Parks & Rec (3), Mayor
Shared Office Workstations					-			
Open Workstations	84	37	3,108		5,516			Admin (1+1), clerk (1), IT (2), finance (3), legal (1+2), rec (6+1), comm dev (15+4)
Shops					418		502	
Facilities Shop	418	1			418			same as existing
Parking (surface)						26,460	46,305	
Fleet Parking - 20x9	180	21	3,780	4,140		3,780		same as existing
Staff/Visitor Parking - 20x9	180	126	22,680	22,320		22,680		same as existing

Appendix 5-B

Detailed Cost Opinions

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City of Post Falls WRF Facility Plan
Facility Plan - WRF and Reuse Capital Improvements

No.	Description	Capital Cost (2023 Dollars)	Annual O&M Cost (2023 Dollars)
1.1	Headworks- Influent Mods	\$586,000	-
1.2	Headworks- 3rd Channel/Train	\$3,006,000	-
2.1	Equalization Modifications for OD 7 Feed Control	\$630,000	-
2.2	Equalization Tanks PS 2 and Tank 3	\$7,198,000	-
2.3	Equalization Tank 4 and Pumping	\$4,215,000	-
3	Biological Nutrient Removal (Train 7)	\$15,778,000	-
4	Biological Nutrient Removal (Train 8)	\$13,949,000	-
5	Biological Nutrient Removal (Train 9)	\$13,949,000	-
6	UB3, SC Splitter Box, and Scum Pumping	\$5,196,000	-
7	Secondary Clarifier No. 9	\$2,934,000	-
8	Secondary Clarifier No. 10	\$2,934,000	-
9	Secondary Clarifier No. 11	\$2,934,000	-
10.1	Intermediate Pumping 2 (IP2)	\$2,200,000	-
10.2	Tertiary Clarification 2 (TC2)	\$11,481,000	-
10.3	MF1 Module Capacity Expansion/Replacement	\$860,200	-
11	Chem Feed and Bulk Storage	\$2,243,000	-
12	Tertiary Membrane Filtration 2	\$36,250,000	-
13	UV Disinfection (Expansion of River Discharge)	\$510,000	-
14	Outfall Piping Improvements	\$1,239,000	-
15	Vactor Dump Station Improvements	\$604,000	-
16	Plant Drain Lift Station No. 1	\$1,793,000	-
17	Control Building Lift Station	\$450,000	-
18	Odor Control (Maintenance of Existing Facility)	\$654,000	-
19.1	Laboratory Facilities	\$2,180,000	-
19.2	Maintenance / Shop / Storage Facilities	\$3,410,000	-
19.3	Administration / Staff Building Improvements	\$3,027,000	-
20	Utility Water	\$411,000	-
21	Secondary Clarifier No. 1 and No. 2 Demo	\$333,000	-
22	Facility Plan Updates (~10yr interval)	\$600,000	-
23	Overall Process Evaluation Study - Technology Assessment (Liquid/Solids stream)	\$300,000	-
24.1	Solids Stream Improvements - BFP 2	\$4,277,000	-
24.2	Solids Stream Improvements - Thickening	\$8,507,000	-
24.3	Solids Stream Improvements - BFP 3	\$7,817,000	-
24.4	Solids Stream Improvements - BFP 4	\$3,671,000	-
25.1	Reuse Improvements- Phase 1	\$21,100,000	\$304,000
25.2	Reuse Improvements- Phase 2 (A)	\$2,168,000	
25.3	Reuse Improvements- Phase 2 (B)	\$25,549,000	\$521,000
25.4	Reuse Improvements- Phase 3	\$76,659,000	\$260,000
TOTAL (2023 Dollars)		\$291,602,200	

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Headworks- Influent Mods

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Headworks Exterior Channel and Influent Box Improvements				
3	Excavation and Backfill				
4	Mass Excavation	593	CY	\$15	\$8,889
5	Backfill CDF	148	CY	\$150	\$22,222
6	Concrete				\$0
7	Aluminum Cover System (new influent box)	400	SF	\$100	\$40,000
8	Gates	4	EA	\$15,000	\$60,000
9	Channel Tie-In	2	LS	\$10,000	\$20,000
10	Building Extension for Sampler relocation	320	SF	\$500	\$160,000
11	Foul Air Fan (new fan) for increased air volume from influent box	1	LS	\$50,000	\$50,000
12	Coatings	1,500	SF	\$50	\$75,000
13					-
14					-
15	Additional Elements (estimated % of above)				
16	Contractor mobilization and administration			10.0%	\$44,000
17	Yard Piping			10.0%	\$44,000
18	Site Civil			10.0%	\$44,000
19	Electrical and instrumentation			35.0%	\$153,000
20	Bonding			4.0%	\$17,000
21	Contractor overhead and profit			10.0%	\$44,000
SUBTOTAL				\$	346,000
Construction Contingency: 30%				\$	104,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	34,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	97,000
Legal and Administrative: 1%				\$	5,000
Escalation Allowance: %				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	586,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Headworks- 3rd Channel/Train

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2					
3	Channel Expansion (3rd Channel)				
4	Demo Slab, Walls, Excavation and Backfill				
5	Sawcut, Demo Slab	1	LS	\$10,000	\$10,000
6	Excavate Building Interior	259	CY	\$100	\$25,926
7	Building Modification at Channel Ends	2	LS	\$15,000	\$30,000
8	CDF Backfill	78	CY	\$150	\$11,667
9	New Channel Concrete Work				\$0
10	Floor	24	CY	\$600	\$14,222
11	Walls	47	CY	\$1,250	\$59,259
12	Grating	500	SF	\$60	\$30,000
13	Gates	3	EA	\$25,000	\$75,000
14	Coatings	1,500	SF	\$50	\$75,000
15	Channel Tie-In	2	LS	\$10,000	\$20,000
16	Screening equipment				-
17	(1) fine screens and (1) washer / compactor	1	LS	\$350,000	\$350,000
18	Add bagger	1	EA	\$5,000	\$5,000
19	Compactor Extension	1	EA	\$5,000	\$5,000
20	Installation and Mark-up (screens/compactors)			15.0%	\$54,000
21	Compactor Metal Fab/Supports	1	LS	\$10,000	\$10,000
22	Control integration with existing unit	1	LS	\$25,000	\$25,000
23	Grit System				
24	Concrete Channel Walls	50	CY	\$1,000	\$50,000
25	Concrete Basin Walls	50	CY	\$1,000	\$50,000
26	Concrete Slabs	25	CY	\$600	\$15,000
27	Slide Gates (outlet box)	1	EA	\$15,000	\$15,000
28	Grating (FRP)	390	SF	\$75	\$29,250
29	Vortex, Pump and Equipment	1	LS	\$200,000	\$200,000
30	Installation and Mark-up (grit eqpt)			15.0%	\$30,000
31					-
32					-
33					-
34	Additional Elements (estimated % of above)				
35	Contractor mobilization and administration			10.0%	\$119,000
36	Yard Piping			10.0%	\$119,000
37	Site Civil			10.0%	\$119,000
38	Electrical and instrumentation			35.0%	\$416,000
39	Bonding			4.0%	\$48,000
40	Contractor overhead and profit			10.0%	\$119,000
SUBTOTAL					\$ 1,778,000
Construction Contingency: 30%					\$ 533,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 173,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 497,000
Legal and Administrative: 1%					\$ 25,000
Escalation Allowance: %					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 3,006,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Equalization Modifications for OD 7 Feed Control

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Excavation				
3	Excavation (spoil material to be used elsewhere for berm)	1,000	CY	\$10	\$ 10,000
4	Backfill (spoil material to be used elsewhere for berm)	250	CY	\$15	\$ 3,750
5	Control Valve Vault				
6	Vaults (valve and flow meter)	2	LS	\$ 30,000	\$ 60,000
7	Control Valve (24" Plug Valve)	1	EA	\$ 20,000	\$ 20,000
8	Valves (Bypass for Control Valve Vault)	2	EA	\$ 20,000	\$ 40,000
9	Piping / Fittings	25	LF	\$ 500	\$ 12,500
10	Bypass Piping /Fittings	25	LF	\$ 500	\$ 12,500
11	20" Magnetic Flow Meter	1	LS	\$ 12,500	\$ 12,500
12	Installation and Markup	1	LS	25%	\$ 36,250
13					-
14					-
15					
16	Additional Elements (estimated % of above)				
17	Contractor mobilization and administration			10.0%	\$21,000
18	Yard Piping			10.0%	\$21,000
19	Site Civil			10.0%	\$21,000
20	Electrical and instrumentation			35.0%	\$73,000
21	Bonding			4.0%	\$8,000
22	Contractor overhead and profit			10.0%	\$21,000
SUBTOTAL					\$ 373,000
Construction Contingency: 30%					\$ 112,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 36,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 104,000
Legal and Administrative:1%					\$ 5,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 630,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital

PROJECT:	City of Post Falls WRF Facility Plan	DATE:	2/1/2024
PROJECT DESCRIPTION:	Equalization Tanks PS 2 and Tank 3		
CLIENT:	City of Post Falls		
P/N:	20-22-019		

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Excavation				
3	Excavation (spoil material to be used elsewhere for berm)	14,813	CY	\$10	\$ 148,133
4	Backfill (spoil material to be used elsewhere for berm)	3,703	CY	\$15	\$ 55,550
5	EQ Pump Station No. 2				
6	Pump Station Concrete				
7	Footings	94	CY	\$ 600	\$ 56,622
8	Walls	404	CY	\$ 1,250	\$ 505,556
9	Floor	31	CY	\$ 600	\$ 18,511
10	Top Slab	52	CY	\$ 2,000	\$ 104,430
11	Vestibule	240	SF	\$ 250	\$ 60,000
12	Staircase	1	LS	\$ 25,000	\$ 25,000
13					
14	Pumps (20 HP)	2	LS	\$ 25,000	\$ 50,000
15	Installation and Markup	1	LS	25%	\$ 12,500
16	check valves	2	EA	\$ 5,000	\$ 10,000
17	plug valves	4	EA	\$ 5,000	\$ 20,000
18	Pressure gage/switch assemblies	2	EA	\$ 3,000	\$ 6,000
19	Suction /Discharge piping	80	LF	\$ 300	\$ 24,000
20	Plug Valve - 14" with Actuators	2	EA	\$ 25,000	\$ 50,000
21	Plug Valve - 14"	2	EA	\$ 10,000	\$ 20,000
22	Plug Valve - 24"	5	EA	\$ 12,000	\$ 60,000
23	20" Magnetic Flow Meter	1	LS	\$ 12,500	\$ 12,500
24	24" EQ Tank Feed Piping	70	LF	\$ 350	\$ 24,500
25	20" EQ Tank Feed Piping	24	LF	\$ 300	\$ 7,200
26	14" EQ Tank Feed Piping	24	LF	\$ 240	\$ 5,760
27	24" Pump Suction Piping	50	LF	\$ 350	\$ 17,500
28	24" Pump Discharge Piping	30	LF	\$ 350	\$ 10,500
29	HVAC Equipment	1	LS	\$ 50,000	\$ 50,000
30					
31	Equalization Tank No. 3				
32	Concrete Tank - Floors	145	CY	\$ 600	\$ 87,266
33	Concrete Tank - Floors Base	47	CY	\$ 600	\$ 27,925
34	Concrete Tank-Walls	236	CY	\$ 1,250	\$ 294,859
35	Sidewalk	24	CY	\$ 600	\$ 14,661
36	Submersible Mixers	3	EA	\$ 25,000	\$ 75,000
37	Installation and Markup	1	LS	25%	\$ 18,750
38	Handrail	NA			
39	Aluminum Cover	1	EA	\$ 300,000	\$ 300,000
40	24" Feed/Suction Piping	120	LF	\$ 300	\$ 36,000
41	Odor Control (Foul Handling for Tank 3)				
42	Foul Air Blower	1	LS	\$ 25,000	\$ 25,000
43	Piping (Suction) - 30" DIA	30	LF	\$ 110	\$ 3,300
44	Piping (Discharge) - 36" DIA	125	LF	\$ 120	\$ 15,000
45	Air Inlet Goosenecks - 20" DIA	3	EA	\$ 1,500	\$ 4,500
46	Piping (Distribution) - 6" DIA	550	LF	\$ 50	\$ 27,500
47	Biofilter Structure - Earthwork	75	CY	\$ 25	\$ 1,875
48	Header piping - 24" DIA	80	LF	\$ 100	\$ 8,000
49	Retaining Wall (Redi-Rock)	110	LF	\$250	\$ 27,500
50	Drainage MH and Drain Pipe	1	LS	\$3,500	\$ 3,500
51	Poly Liner	5000	SF	\$ 4	\$ 20,000
52	Rock and Bark Media	331	CY	\$ 100	\$ 33,056
53					

#REF!					
#REF!					-
#REF!					-
#REF!	Additional Elements (estimated % of above)				
#REF!	Contractor mobilization and administration			10.0%	\$238,000
#REF!	Yard Piping			10.0%	\$238,000
#REF!	Site Civil			10.0%	\$238,000
#REF!	Electrical and instrumentation			35.0%	\$832,000
#REF!	Bonding			4.0%	\$95,000
#REF!	Contractor overhead and profit			10.0%	\$238,000
SUBTOTAL					\$ 4,257,000
Construction Contingency: 30%					\$ 1,277,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 415,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 1,190,000
Legal and Administrative:1%					\$ 59,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 7,198,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:	City of Post Falls WRF Facility Plan	DATE:	2/1/2024
PROJECT DESCRIPTION:	Equalization Tank 4 and Pumping		
CLIENT:	City of Post Falls		
P/N:	20-22-019		

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Excavation				
3	Excavation (spoil material to be used elsewhere for berm)	11,110	CY	\$10	\$ 111,100
4	Backfill (spoil material to be used elsewhere for berm)	2,778	CY	\$15	\$ 41,663
5					
6	Equalization Tank No. 4				
7	Concrete Tank - Floors	145	CY	\$ 600	\$ 87,266
8	Concrete Tank - Floors Base	47	CY	\$ 600	\$ 27,925
9	Concrete Tank-Walls	236	CY	\$ 1,250	\$ 294,859
10	Sidewalk	24	CY	\$ 600	\$ 14,661
11	Submersible Mixers (including 1 spare)	4	EA	\$ 25,000	\$ 100,000
12	Installation and Markup	1	LS	25%	\$ 25,000
13	Handrail	NA			
14	Aluminum Cover	1	EA	\$ 300,000	\$ 300,000
15	24" Feed/Suction Piping	120	LF	\$ 300	\$ 36,000
16	Odor Control (Foul Handling for Tank 4)				
17	Foul Air Blower	1	LS	\$ 25,000	\$ 25,000
18	Piping (Suction) - 30" DIA	30	LF	\$ 110	\$ 3,300
19	Piping (Discharge) - 36" DIA	125	LF	\$ 120	\$ 15,000
20	Air Inlet Goosenecks - 20" DIA	3	EA	\$ 1,500	\$ 4,500
21	Piping (Distribution) - 6" DIA	550	LF	\$ 50	\$ 27,500
22	Biofilter Structure - Earthwork	75	CY	\$ 25	\$ 1,875
23	Header piping - 24" DIA	80	LF	\$ 100	\$ 8,000
24	Retaining Wall (Redi-Rock)	110	LF	\$250	\$ 27,500
25	Drainage MH and Drain Pipe	1	LS	\$3,500	\$ 3,500
26	Poly Liner	5000	SF	\$ 4	\$ 20,000
27	Rock and Bark Media	331	CY	\$ 100	\$ 33,056
28					
29	Pump Station Mods for Use with Tank 4				
30	Pumps (50 HP)	2	LS	\$ 50,000	\$ 100,000
31					
32	Installation and Markup	1	LS	25%	\$ 25,000
33	check valves	2	EA	\$ 5,000	\$ 10,000
34	plug valves	4	EA	\$ 5,000	\$ 20,000
35	Pressure gage/switch assemblies	2	EA	\$ 3,000	\$ 6,000
36	Suction /Discharge piping	80	LF	\$ 300	\$ 24,000
37					
38					-
39					-
40	Additional Elements (estimated % of above)				
41	Contractor mobilization and administration			10.0%	\$139,000
42	Yard Piping			10.0%	\$139,000
43	Site Civil			10.0%	\$139,000
44	Electrical and instrumentation			35.0%	\$487,000
45	Bonding			4.0%	\$56,000
46	Contractor overhead and profit			10.0%	\$139,000

SUBTOTAL	\$ 2,492,000
Construction Contingency: 30%	\$ 748,000
Geotechnical/Site Stabilization: N/A	-
Prevailing Wages: 7.5%	\$ 243,000
State Sales Tax: N/A	-
Design / CMS: 20%	\$ 697,000
Legal and Administrative:1%	\$ 35,000

Escalation Allowance:%	\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)	\$	4,215,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:	City of Post Falls WRF Facility Plan	DATE:	2/1/2024
PROJECT DESCRIPTION:	Biological Treatment No. 7 and Initial Splitter Boxes		
CLIENT:	City of Post Falls		
P/N:	20-22-019		

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Splitter Box S-1 Flow Control Gate Modificatons				
3	Concrete Splitter Box Modifications	1	LS	\$75,000	\$75,000
4	Weir Gates	4	EA	\$20,000	\$80,000
5					
6	Excavation and Backfill				
7	Mass Excavation	15,000	CY	\$10	\$150,000
8	Materials Processing	4,995	CY	\$5	\$24,975
9	Backfill	4,995	CY	\$5	\$24,975
10	Export Excess Materials Offsite	10,005	CY	\$15	\$150,075
11					\$0
12	Flow Splitter Box for ODs (north side of WRF)				\$0
13	Floor	15	CY	\$600	\$8,889
14	Walls	81	CY	\$1,250	\$101,852
15	Grating	300	SF	\$60	\$18,000
16	Weir Gates	2	EA	\$25,000	\$50,000
17	Staircase	1	LS	\$20,000	\$20,000
18					
19	RAS Splitter Box (north side of WRF)				
20	Floor	15	CY	\$600	\$8,889
21	Walls	81	CY	\$1,250	\$101,852
22	Grating	200	SF	\$60	\$12,000
23	Weir Gates	2	EA	\$25,000	\$50,000
24	Staircase	1	LS	\$20,000	\$20,000
25					\$0
26	BNR 7 Selector Basin Concrete				\$0
27	Floor	290	CY	\$600	\$174,167
28	Grout Slope	87	CY	\$500	\$43,542
29	Walls	563	CY	\$1,250	\$703,704
30	T-Beam Walkways	31	CY	\$2,500	\$77,778
31	<i>Piping detailed below</i>				\$0
32	BNR 7 Oxidation Ditch Concrete				\$0
33	Floor	509	CY	\$600	\$305,556
34	Grout Slope	153	CY	\$500	\$76,389
35	Walls	956	CY	\$1,250	\$1,194,444
36	Elevated End Covers	185	CY	\$2,000	\$370,370
37	<i>Piping detailed below</i>				\$0
38					\$0
39	Inlet Piping				\$0
40	30" ML flg tee	4	EA	\$10,350	\$41,400
41	30"x1' ML flgxflg wall pipe	3	EA	\$4,090	\$12,270
42	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
43	30"x9-6" ML flgxflg spool	1	EA	\$8,289	\$8,289
44	30"x5-6" ML flgxflg spool	1	EA	\$6,313	\$6,313
45	30"x5-6" ML flgxflg spool	1	EA	\$6,313	\$6,313
46	30"x14' ML flgxflg spool	1	EA	\$10,512	\$10,512
47	30"x4' ML flgxflg spool	1	EA	\$5,572	\$5,572
48	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
49	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
50	30"x5' ML flgxpe wall pipe	1	EA	\$4,556	\$4,556
51	30" fpc	1	EA	\$4,248	\$4,248
52	30"x3' ML flgxpe spool	1	EA	\$3,318	\$3,318
53	30" flgxflg 45-bend	1	EA	\$6,393	\$6,393

54	30"x8' ML flgxfly wall pipe	1	EA	\$7,548	\$7,548
55	30" US Pipe flange tyte gasket	24	ea	\$239	\$5,736
56	Bolts, zinc plated for 30" flange (28 - 1/1/2 x 7 per flange)	672	EA	\$15	\$10,147
57	Nuts, zinc plated for 30" flange (28 - 1/1/2 per flange)	672	EA	\$3	\$1,828
58	Wall penetration pour back	5	EA	\$1,000	\$5,000
59					
60	AOR Piping				
61	24" DI AOR	140	If	\$151	\$21,199
62	trenching 2'x8'	140	If	\$20	\$2,814
63	pipe bedding	140	If	\$10	\$1,452
64	24" AOR flg tee	2	ea	\$5,919	\$11,838
65	24" x 10' flg x flg pipe spool	2	ea	\$8,402	\$16,804
66	24" AOR-45	4	ea	\$3,194	\$12,776
67	24" flg SBR gasket	17	ea	\$86	\$1,462
68	24" dia pipe: 1-1/4"x6" bolts, 20 per joint	340	ea	\$10	\$3,519
69	24" dia pip: 1-1/4" nuts, 20 per joint	340	ea	\$2	\$690
70					
71	RAS Piping				
72	14" RAS	50	ea	\$66	\$3,317
73	trenching 2'x8'	50	If	\$20	\$998
74	pipe bedding	50	If	\$4	\$191
75	14" RAS- 90	2	ea	\$2,044	\$4,087
76	14" fpc	2	ea	\$1,424	\$2,848
77	14" harness for 14" DI	2	ea	\$703	\$1,406
78	14" megalug	4	ea	\$225	\$900
79	14" MJ kit	4	ea	\$71	\$284
80					
81	8"PD	100	If	\$42	\$4,221
82	trenching 2'x8'	100	If	\$20	\$1,997
83	pipe bedding	100	If	\$4	\$382
84	8"PD-90 flg	10	ea	\$771	\$7,705
85	8x6 PD flg	5	ea	\$771	\$3,853
86	8"PD-PV flg	5	ea	\$1,314	\$6,570
87	heated enclosure 8'x12'	1	ea	\$5,000	\$5,000
88	heated enclosure 4'x4'	1	ea	\$1,000	\$1,000
89	6" cam-loc	4	ea	\$200	\$800
90	8'x12'x6" SOG	1	ls	\$1,000	\$1,000
91	4'x4'x6" SOG	1	ls	\$500	\$500
92					
93					
94	24" OD outlet piping	130	If	\$151	\$19,685
95	trenching 4'x8'	130	If	\$20	\$2,596
96	pipe bedding	130	If	\$10	\$1,348
97	24" OD outlet piping-90	2	ea	\$6,834	\$13,668
98	24" OD outlet piping-fpc	2	ea	\$3,916	\$7,832
99	24" DI harness restraint	2	ea	\$1,585	\$3,170
100	24" megalug	4	ea	\$780	\$3,120
101	24" MJ kit	4	ea	\$112	\$448
102					
103					
104	Equipment				
105	125 hp Vertical turbine aerator	2	LS	\$150,000	\$300,000
106	AN mixers	2	EA	\$40,250	\$80,500
107	AO vertical shaft turbine mixer	2	EA	\$57,500	\$115,000
108	AOR Pump	1	EA	\$62,100	\$62,100
109	Weir Gates	9	EA	\$25,000	\$225,000
110	Stop Gates	7	EA	\$15,000	\$105,000
111					
112	Misc. Metals				
113	AL handrailing	975	LF	\$50.00	\$48,750
114	AL grating	500	SF	\$23.00	\$11,500
115	Stair and platform to access AOR6 pump	1	LS	\$10,000	\$10,000
116	OD6 deck drain grates	8	EA	\$500	\$4,000
117	OD6 Scum baffle	1	LS	\$3,000	\$3,000
118	Steel stairs to OD and Selector deck	100	risers	\$650	\$64,990

119					-
120	Additional Elements (estimated % of above)				-
121	Contractor mobilization and administration			10.0%	\$521,000
122	Yard Piping			10.0%	\$521,000
123	Site Civil			10.0%	\$521,000
124	Electrical and instrumentation			35.0%	\$1,825,000
125	Bonding			4.0%	\$209,000
126	Contractor overhead and profit			10.0%	\$521,000
SUBTOTAL					\$ 9,331,000
Construction Contingency: 30%					\$ 2,799,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 910,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 2,608,000
Legal and Administrative:1%					\$ 130,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 15,778,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:	City of Post Falls WRF Facility Plan	DATE:	2/1/2024
PROJECT DESCRIPTION:	Biological Treatment No. 8 Expansion		
CLIENT:	City of Post Falls		
P/N:	20-22-019		

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Excavation and Backfill				
3	Mass Excavation	12,500	CY	\$10	\$125,000
4	Materials Processing	4,163	CY	\$5	\$20,813
5	Backfill	4,163	CY	\$5	\$20,813
6	Export Excess Materials Offsite	8,338	CY	\$15	\$125,063
7					
8					
9	Flow Splitter Box for ODs (north side of WRF)				
10	Floor	0	CY	\$600	\$0
11	Walls	0	CY	\$1,250	\$0
12	Grating	0	SF	\$60	\$0
13	Weir Gates	0	EA	\$25,000	\$0
14	Staircase	0	LS	\$20,000	\$0
15					
16	RAS Splitter Box (north side of WRF)				
17	Floor	0	CY	\$600	\$0
18	Walls	0	CY	\$1,250	\$0
19	Grating	0	SF	\$60	\$0
20	Weir Gates	0	EA	\$25,000	\$0
21	Staircase	0	LS	\$20,000	\$0
22					\$0
23	BNR 8 Selector Basin Concrete				\$0
24	Floor	290	CY	\$600	\$174,167
25	Grout Slope	87	CY	\$500	\$43,542
26	Walls	563	CY	\$1,250	\$703,704
27	T-Beam Walkways	31	CY	\$2,500	\$77,778
28	Piping detailed below				\$0
29	BNR 8 Oxidation Ditch Concrete				\$0
30	Floor	509	CY	\$600	\$305,556
31	Grout Slope	153	CY	\$500	\$76,389
32	Walls	956	CY	\$1,250	\$1,194,444
33	Elevated End Covers	185	CY	\$2,000	\$370,370
34	Piping detailed below				\$0
35					\$0
36	Inlet Piping				\$0
37	30" ML flg tee	4	EA	\$10,350	\$41,400
38	30"x1' ML flgxflg wall pipe	3	EA	\$4,090	\$12,270
39	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
40	30"x9-6" ML flgxflg spool	1	EA	\$8,289	\$8,289
41	30"x5-6" ML flgxflg spool	1	EA	\$6,313	\$6,313
42	30"x5-6" ML flgxflg spool	1	EA	\$6,313	\$6,313
43	30"x14' ML flgxflg spool	1	EA	\$10,512	\$10,512
44	30"x4' ML flgxflg spool	1	EA	\$5,572	\$5,572
45	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
46	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
47	30"x5' ML flgxpe wall pipe	1	EA	\$4,556	\$4,556
48	30" fpc	1	EA	\$4,248	\$4,248
49	30"x3' ML flgxpe spool	1	EA	\$3,318	\$3,318
50	30" flgxflg 45-bend	1	EA	\$6,393	\$6,393
51	30"x8' ML flgxflg wall pipe	1	EA	\$7,548	\$7,548
52	30" US Pipe flange tyte gasket	24	ea	\$239	\$5,736

53	Bolts, zinc plated for 30" flange (28 - 1/1/2 x 7 per flange)	672	EA	\$15	\$10,147
54	Nuts, zinc plated for 30" flange (28 - 1/1/2 per flange)	672	EA	\$3	\$1,828
55	Wall penetration pour back	5	EA	\$1,000	\$5,000
56					
57	AOR Piping				
58	24" DI AOR	140	lf	\$151	\$21,199
59	trenching 2'x8'	140	lf	\$20	\$2,814
60	pipe bedding	140	lf	\$10	\$1,452
61	24" AOR flg tee	2	ea	\$5,919	\$11,838
62	24" x 10' flg x flg pipe spool	2	ea	\$8,402	\$16,804
63	24" AOR-45	4	ea	\$3,194	\$12,776
64	24" flg SBR gasket	17	ea	\$86	\$1,462
65	24" dia pipe: 1-1/4"x6" bolts, 20 per joint	340	ea	\$10	\$3,519
66	24" dia pip: 1-1/4" nuts, 20 per joint	340	ea	\$2	\$690
67					
68	RAS Piping				
69	14" RAS	50	ea	\$66	\$3,317
70	trenching 2'x8'	50	lf	\$20	\$998
71	pipe bedding	50	lf	\$4	\$191
72	14" RAS- 90	2	ea	\$2,044	\$4,087
73	14" fpc	2	ea	\$1,424	\$2,848
74	14" harness for 14" DI	2	ea	\$703	\$1,406
75	14" megalug	4	ea	\$225	\$900
76	14" MJ kit	4	ea	\$71	\$284
77					
78	8"PD	100	lf	\$42	\$4,221
79	trenching 2'x8'	100	lf	\$20	\$1,997
80	pipe bedding	100	lf	\$4	\$382
81	8"PD-90 flg	10	ea	\$771	\$7,705
82	8x6 PD flg	5	ea	\$771	\$3,853
83	8"PD-PV flg	5	ea	\$1,314	\$6,570
84	heated enclosure 8'x12'	1	ea	\$5,000	\$5,000
85	heated enclosure 4'x4'	1	ea	\$1,000	\$1,000
86	6" cam-loc	4	ea	\$200	\$800
87	8'x12'x6" SOG	1	ls	\$1,000	\$1,000
88	4'x4'x6" SOG	1	ls	\$500	\$500
89					
90					
91	24" OD outlet piping	130	lf	\$151	\$19,685
92	trenching 4'x8'	130	lf	\$20	\$2,596
93	pipe bedding	130	lf	\$10	\$1,348
94	24" OD outlet piping-90	2	ea	\$6,834	\$13,668
95	24" OD outlet piping-fpc	2	ea	\$3,916	\$7,832
96	24" DI harness restraint	2	ea	\$1,585	\$3,170
97	24" megalug	4	ea	\$780	\$3,120
98	24" MJ kit	4	ea	\$112	\$448
99					
100					
101	Equipment				
102	125 hp Vertical turbine aerator	2	LS	\$150,000	\$300,000
103	AN mixers	2	EA	\$40,250	\$80,500
104	AO vertical shaft turbine mixer	2	EA	\$57,500	\$115,000
105	AOR Pump	1	EA	\$62,100	\$62,100
106	Weir Gates	9	EA	\$25,000	\$225,000
107	Stop Gates	7	EA	\$15,000	\$105,000
108					
109	Misc. Metals				
110	AL handrailing	975	LF	\$50.00	\$48,750
111	AL grating	500	SF	\$23.00	\$11,500
112	Stair and platform to access AOR6 pump	1	LS	\$10,000	\$10,000
113	OD6 deck drain grates	8	EA	\$500	\$4,000
114	OD6 Scum baffle	1	LS	\$3,000	\$3,000
115	Steel stairs to OD and Selector deck	100	risers	\$650	\$64,990
116					-
117	Additional Elements (estimated % of above)				-

118	Contractor mobilization and administration		10.0%	\$461,000
119	Yard Piping		10.0%	\$461,000
120	Site Civil		10.0%	\$461,000
121	Electrical and instrumentation		35.0%	\$1,613,000
122	Bonding		4.0%	\$184,000
123	Contractor overhead and profit		10.0%	\$461,000
SUBTOTAL				\$ 8,249,000
Construction Contingency: 30%				\$ 2,475,000
Geotechnical/Site Stabilization: N/A				-
Prevailing Wages: 7.5%				\$ 804,000
State Sales Tax: N/A				-
Design / CMS: 20%				\$ 2,306,000
Legal and Administrative:1%				\$ 115,000
Escalation Allowance:%				\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$ 13,949,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:	City of Post Falls WRF Facility Plan	DATE:	2/1/2024
PROJECT DESCRIPTION:	Biological Treatment No. 9 Expansion		
CLIENT:	City of Post Falls		
P/N:	20-22-019		

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Excavation and Backfill				
3	Mass Excavation	12,500	CY	\$10	\$125,000
4	Materials Processing	4,163	CY	\$5	\$20,813
5	Backfill	4,163	CY	\$5	\$20,813
6	Export Excess Materials Offsite	8,338	CY	\$15	\$125,063
7					
8					
9	Flow Splitter Box for ODs (north side of WRF)				
10	Floor	0	CY	\$600	\$0
11	Walls	0	CY	\$1,250	\$0
12	Grating	0	SF	\$60	\$0
13	Weir Gates	0	EA	\$25,000	\$0
14	Staircase	0	LS	\$20,000	\$0
15					
16	RAS Splitter Box (north side of WRF)				
17	Floor	0	CY	\$600	\$0
18	Walls	0	CY	\$1,250	\$0
19	Grating	0	SF	\$60	\$0
20	Weir Gates	0	EA	\$25,000	\$0
21	Staircase	0	LS	\$20,000	\$0
22					\$0
23	BNR 8 Selector Basin Concrete				\$0
24	Floor	290	CY	\$600	\$174,167
25	Grout Slope	87	CY	\$500	\$43,542
26	Walls	563	CY	\$1,250	\$703,704
27	T-Beam Walkways	31	CY	\$2,500	\$77,778
28	Piping detailed below				\$0
29	BNR 8 Oxidation Ditch Concrete				\$0
30	Floor	509	CY	\$600	\$305,556
31	Grout Slope	153	CY	\$500	\$76,389
32	Walls	956	CY	\$1,250	\$1,194,444
33	Elevated End Covers	185	CY	\$2,000	\$370,370
34	Piping detailed below				\$0
35					\$0
36	Inlet Piping				\$0
37	30" ML flg tee	4	EA	\$10,350	\$41,400
38	30"x1' ML flgxflg wall pipe	3	EA	\$4,090	\$12,270
39	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
40	30"x9-6" ML flgxflg spool	1	EA	\$8,289	\$8,289
41	30"x5-6" ML flgxflg spool	1	EA	\$6,313	\$6,313
42	30"x5-6" ML flgxflg spool	1	EA	\$6,313	\$6,313
43	30"x14' ML flgxflg spool	1	EA	\$10,512	\$10,512
44	30"x4' ML flgxflg spool	1	EA	\$5,572	\$5,572
45	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
46	30"x13' ML flgxflg spool	1	EA	\$10,018	\$10,018
47	30"x5' ML flgxpe wall pipe	1	EA	\$4,556	\$4,556
48	30" fpc	1	EA	\$4,248	\$4,248
49	30"x3' ML flgxpe spool	1	EA	\$3,318	\$3,318
50	30" flgxflg 45-bend	1	EA	\$6,393	\$6,393
51	30"x8' ML flgxflg wall pipe	1	EA	\$7,548	\$7,548
52	30" US Pipe flange tyte gasket	24	ea	\$239	\$5,736

53	Bolts, zinc plated for 30" flange (28 - 1/1/2 x 7 per flange)	672	EA	\$15	\$10,147
54	Nuts, zinc plated for 30" flange (28 - 1/1/2 per flange)	672	EA	\$3	\$1,828
55	Wall penetration pour back	5	EA	\$1,000	\$5,000
56					
57	AOR Piping				
58	24" DI AOR	140	lf	\$151	\$21,199
59	trenching 2'x8'	140	lf	\$20	\$2,814
60	pipe bedding	140	lf	\$10	\$1,452
61	24" AOR flg tee	2	ea	\$5,919	\$11,838
62	24" x 10' flg x flg pipe spool	2	ea	\$8,402	\$16,804
63	24" AOR-45	4	ea	\$3,194	\$12,776
64	24" flg SBR gasket	17	ea	\$86	\$1,462
65	24" dia pipe: 1-1/4"x6" bolts, 20 per joint	340	ea	\$10	\$3,519
66	24" dia pip: 1-1/4" nuts, 20 per joint	340	ea	\$2	\$690
67					
68	RAS Piping				
69	14" RAS	50	ea	\$66	\$3,317
70	trenching 2'x8'	50	lf	\$20	\$998
71	pipe bedding	50	lf	\$4	\$191
72	14" RAS- 90	2	ea	\$2,044	\$4,087
73	14" fpc	2	ea	\$1,424	\$2,848
74	14" harness for 14" DI	2	ea	\$703	\$1,406
75	14" megalug	4	ea	\$225	\$900
76	14" MJ kit	4	ea	\$71	\$284
77					
78	8"PD	100	lf	\$42	\$4,221
79	trenching 2'x8'	100	lf	\$20	\$1,997
80	pipe bedding	100	lf	\$4	\$382
81	8"PD-90 flg	10	ea	\$771	\$7,705
82	8x6 PD flg	5	ea	\$771	\$3,853
83	8"PD-PV flg	5	ea	\$1,314	\$6,570
84	heated enclosure 8'x12'	1	ea	\$5,000	\$5,000
85	heated enclosure 4'x4'	1	ea	\$1,000	\$1,000
86	6" cam-loc	4	ea	\$200	\$800
87	8'x12'x6" SOG	1	ls	\$1,000	\$1,000
88	4'x4'x6" SOG	1	ls	\$500	\$500
89					
90					
91	24" OD outlet piping	130	lf	\$151	\$19,685
92	trenching 4'x8'	130	lf	\$20	\$2,596
93	pipe bedding	130	lf	\$10	\$1,348
94	24" OD outlet piping-90	2	ea	\$6,834	\$13,668
95	24" OD outlet piping-fpc	2	ea	\$3,916	\$7,832
96	24" DI harness restraint	2	ea	\$1,585	\$3,170
97	24" megalug	4	ea	\$780	\$3,120
98	24" MJ kit	4	ea	\$112	\$448
99					
100					
101	Equipment				
102	125 hp Vertical turbine aerator	2	LS	\$150,000	\$300,000
103	AN mixers	2	EA	\$40,250	\$80,500
104	AO vertical shaft turbine mixer	2	EA	\$57,500	\$115,000
105	AOR Pump	1	EA	\$62,100	\$62,100
106	Weir Gates	9	EA	\$25,000	\$225,000
107	Stop Gates	7	EA	\$15,000	\$105,000
108					
109	Misc. Metals				
110	AL handrailing	975	LF	\$50.00	\$48,750
111	AL grating	500	SF	\$23.00	\$11,500
112	Stair and platform to access AOR6 pump	1	LS	\$10,000	\$10,000
113	OD6 deck drain grates	8	EA	\$500	\$4,000
114	OD6 Scum baffle	1	LS	\$3,000	\$3,000
115	Steel stairs to OD and Selector deck	100	risers	\$650	\$64,990
116					-
117	Additional Elements (estimated % of above)				-

118	Contractor mobilization and administration			10.0%	\$461,000
119	Yard Piping			10.0%	\$461,000
120	Site Civil			10.0%	\$461,000
121	Electrical and instrumentation			35.0%	\$1,613,000
122	Bonding			4.0%	\$184,000
123	Contractor overhead and profit			10.0%	\$461,000
SUBTOTAL					\$ 8,249,000
Construction Contingency: 30%					\$ 2,475,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 804,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 2,306,000
Legal and Administrative:1%					\$ 115,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 13,949,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:	DATE:
City of Post Falls WRF Facility Plan	2/1/2024
PROJECT DESCRIPTION:	
Utility Building 3, Scum Pumping For SC 9 to 12 and Clarifier Splitter Box	
CLIENT:	
City of Post Falls	
P/N:	
20-22-019	

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2					
3	Scum Pump Station No. 2				
4	Equipment	1	LS	\$60,000	\$60,000
5	Controls	1	LS	\$80,000	\$80,000
6	Structure, Excavation	0	LS	\$125,000	\$0
7					
8	Scum Pump Station 5				
9	Equipment	1	LS	\$80,000	\$80,000
10	Controls	1	LS	\$80,000	\$80,000
11	Structure, Excavation	1	LS	\$125,000	\$125,000
12					
13	Utility Building 3				
14	40 x 60 Building with Basement				
15	Floor	89	CY	\$600	\$53,333
16	Walls	104	CY	\$1,200	\$124,444
17	Elevated Slab	107	CY	\$2,000	\$213,333
18	Staircases (x2)	2	EA	\$15,000	\$30,000
19	Building (above grade)	2400	SF	\$225	\$540,000
20	Roll Up Doors	1	EA	\$15,000	\$15,000
21					
22	RAS and WAS Pumps/Piping Detailed with Clarifiers				
23					
24					
25	Clarifier Splitter Box				
26	Clarifier Splitter Box SOG	32	cy	\$1,250	\$40,000
27	Clarifier Splitter Box Wall	48	cy	\$1,750	\$84,000
28	Weir gate	4	ea	\$17,250	\$69,000
29	grating	1	ls	\$12,000	\$12,000
30	24" ML bell mouth wall pipe	4	ea	\$5,415	\$21,660
31	24" x 3' FLG x PE wall pipe	1	ea	\$2,352	\$2,352
32	24" ML	100	lf	\$151	\$15,142
33	trenching 4'x8'	100	lf	\$20	\$1,997
34	pipe bedding	100	lf	\$10	\$1,037
35	24" - 45	4	ea	\$5,494	\$21,976
36	24" - tee	1	ea	\$12,931	\$12,931
37	24" - 90	1	ea	\$6,834	\$6,834
38	24" - BF	1	ea	\$1,000	\$1,000
39	24" fpc	2	ea	\$3,931	\$7,862
40	24" DI harness restraint	2	ea	\$1,585	\$3,170
41	24" megalug	15	ea	\$780	\$11,700
42	24" MJ kit	15	ea	\$112	\$1,680
43					
44					
45					
46					
47	Contractor mobilization and administration			10.0%	\$172,000
48	Yard Piping			10.0%	\$172,000

49	Site Civil			10.0%	\$172,000
50	Electrical and instrumentation			35.0%	\$600,000
51	Bonding			4.0%	\$69,000
52	Contractor overhead and profit			10.0%	\$172,000
SUBTOTAL					\$ 3,072,000
Construction Contingency: 30%					\$ 922,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 300,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 859,000
Legal and Administrative: 1%					\$ 43,000
Escalation Allowance: %					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 5,196,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan	DATE: 2/1/2024
PROJECT DESCRIPTION: Secondary Clarifier No. 9	
CLIENT: City of Post Falls	
P/N: 20-22-019	

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Utility Building 3 - Detailed Elsewhere				
3					
4	Secondary Clarifier				
5	Clarifier (80 ft dia)				
6	Clarifier concrete	1	ls	\$419,750	\$419,750
7	Clarifier mechanism	1	ls	\$279,370	\$279,370
8	Clarifier FRP baffles and weir	1	ls	\$45,151	\$45,151
9	AL handrail	260	lf	\$50	\$13,000
10					
11	RAS Pumping				
12	RAS pump (per clarifier)	1	LS	\$35,000	\$35,000
13	Installation	1	LS	25%	\$8,750
	RAS Suction Piping and Valves	1	ls	\$50,000	\$50,000
14	RAS Discharge Piping, Valves	1	ls	\$50,000	\$50,000
15					
16	Buried Piping				
17	10" RAS	90	lf	\$95	\$8,550
18	trenching 4'x8'	90	lf	\$20	\$1,797
19	pipe bedding	90	lf	\$10	\$933
20	10" - 45	2	ea	\$2,747	\$5,494
21	10" fpc	2	ea	\$1,966	\$3,931
22	10" DI harness restraint	2	ea	\$793	\$1,585
23	10" megalug	4	ea	\$390	\$1,560
24	10" MJ kit	4	ea	\$56	\$224
25					
26	Feed Piping				
27	24" SE	40	lf	\$151	\$6,057
28	trenching 4'x8'	40	lf	\$20	\$799
29	pipe bedding	40	lf	\$10	\$415
30	24" - 45	2	ea	\$5,494	\$10,988
31	24" fpc	2	ea	\$3,931	\$7,862
32	24" DI harness restraint	2	ea	\$1,585	\$3,170
33	24" megalug	4	ea	\$780	\$3,120
34	24" MJ kit	4	ea	\$112	\$448
35					
36	6" Scum piping, GLDI	1	LS	\$20,000	\$20,000
37	Contractor mobilization and administration			10.0%	\$96,000
38	Yard Piping			10.0%	\$96,000
39	Site Civil			10.0%	\$96,000
40	Electrical and instrumentation			35.0%	\$335,000
41	Bonding			4.0%	\$38,000
42	Contractor overhead and profit			10.0%	\$96,000

SUBTOTAL \$ 1,735,000

Construction Contingency: 30% \$ 521,000

Geotechnical/Site Stabilization: N/A -

Prevailing Wages: 7.5% \$ 169,000

State Sales Tax: N/A -

Design / CMS: 20%	\$	485,000
Legal and Administrative: 1%	\$	24,000
Escalation Allowance: %	\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)		\$ 2,934,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital

PROJECT:	DATE:
City of Post Falls WRF Facility Plan	2/1/2024
PROJECT DESCRIPTION:	
Secondary Clarifier No. 10	
CLIENT:	
City of Post Falls	
P/N:	20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Utility Building 3 - Detailed Elsewhere				
3					
4	Secondary Clarifier				
5	Clarifier (80 ft dia)				
6	Clarifier concrete	1	ls	\$419,750	\$419,750
7	Clarifier mechanism	1	ls	\$279,370	\$279,370
8	Clarifier FRP baffles and weir	1	ls	\$45,151	\$45,151
9	AL handrail	260	lf	\$50	\$13,000
10					
11	RAS Pumping				
12	RAS pump (per clarifier)	1	LS	\$35,000	\$35,000
13	Installation	1	LS	25%	\$8,750
	RAS Suction Piping and Valves	1	ls	\$50,000	\$50,000
14	RAS Discharge Piping, Valves	1	ls	\$50,000	\$50,000
15					
16	Buried Piping				
17	10" RAS	90	lf	\$95	\$8,550
18	trenching 4'x8'	90	lf	\$20	\$1,797
19	pipe bedding	90	lf	\$10	\$933
20	10" - 45	2	ea	\$2,747	\$5,494
21	10" fpc	2	ea	\$1,966	\$3,931
22	10" DI harness restraint	2	ea	\$793	\$1,585
23	10" megalug	4	ea	\$390	\$1,560
24	10" MJ kit	4	ea	\$56	\$224
25					
26	Feed Piping				
27	24" SE	40	lf	\$151	\$6,057
28	trenching 4'x8'	40	lf	\$20	\$799
29	pipe bedding	40	lf	\$10	\$415
30	24" - 45	2	ea	\$5,494	\$10,988
31	24" fpc	2	ea	\$3,931	\$7,862
32	24" DI harness restraint	2	ea	\$1,585	\$3,170
33	24" megalug	4	ea	\$780	\$3,120
34	24" MJ kit	4	ea	\$112	\$448
35					
36	6" Scum piping, GLDI	1	LS	\$20,000	\$20,000
37	Contractor mobilization and administration			10.0%	\$96,000
38	Yard Piping			10.0%	\$96,000
39	Site Civil			10.0%	\$96,000
40	Electrical and instrumentation			35.0%	\$335,000
41	Bonding			4.0%	\$38,000
42	Contractor overhead and profit			10.0%	\$96,000

SUBTOTAL \$ 1,735,000

Construction Contingency: 30% \$ 521,000

Geotechnical/Site Stabilization: N/A -

Prevailing Wages: 7.5% \$ 169,000

State Sales Tax: N/A -

Design / CMS: 20%	\$	485,000
Legal and Administrative: 1%	\$	24,000
Escalation Allowance: %	\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)		\$ 2,934,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan	DATE: 2/1/2024
PROJECT DESCRIPTION: Secondary Clarifier No. 11	
CLIENT: City of Post Falls	
P/N: 20-22-019	

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Utility Building 3 - Detailed Elsewhere				
3					
4	Secondary Clarifier				
5	Clarifier (80 ft dia)				
6	Clarifier concrete	1	ls	\$419,750	\$419,750
7	Clarifier mechanism	1	ls	\$279,370	\$279,370
8	Clarifier FRP baffles and weir	1	ls	\$45,151	\$45,151
9	AL handrail	260	lf	\$50	\$13,000
10					
11	RAS Pumping				
12	RAS pump (per clarifier)	1	LS	\$35,000	\$35,000
13	Installation	1	LS	25%	\$8,750
	RAS Suction Piping and Valves	1	ls	\$50,000	\$50,000
14	RAS Discharge Piping, Valves	1	ls	\$50,000	\$50,000
15					
16	Buried Piping				
17	10" RAS	90	lf	\$95	\$8,550
18	trenching 4'x8'	90	lf	\$20	\$1,797
19	pipe bedding	90	lf	\$10	\$933
20	10" - 45	2	ea	\$2,747	\$5,494
21	10" fpc	2	ea	\$1,966	\$3,931
22	10" DI harness restraint	2	ea	\$793	\$1,585
23	10" megalug	4	ea	\$390	\$1,560
24	10" MJ kit	4	ea	\$56	\$224
25					
26	Feed Piping				
27	24" SE	40	lf	\$151	\$6,057
28	trenching 4'x8'	40	lf	\$20	\$799
29	pipe bedding	40	lf	\$10	\$415
30	24" - 45	2	ea	\$5,494	\$10,988
31	24" fpc	2	ea	\$3,931	\$7,862
32	24" DI harness restraint	2	ea	\$1,585	\$3,170
33	24" megalug	4	ea	\$780	\$3,120
34	24" MJ kit	4	ea	\$112	\$448
35					
36	6" Scum piping, GLDI	1	LS	\$20,000	\$20,000
37	Contractor mobilization and administration			10.0%	\$96,000
38	Yard Piping			10.0%	\$96,000
39	Site Civil			10.0%	\$96,000
40	Electrical and instrumentation			35.0%	\$335,000
41	Bonding			4.0%	\$38,000
42	Contractor overhead and profit			10.0%	\$96,000

SUBTOTAL \$ 1,735,000

Construction Contingency: 30% \$ 521,000

Geotechnical/Site Stabilization: N/A -

Prevailing Wages: 7.5% \$ 169,000

State Sales Tax: N/A -

	Design / CMS: 20%	\$	485,000
	Legal and Administrative: 1%	\$	24,000
	Escalation Allowance: %	\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)		\$	2,934,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Intermediate Pumping 2 (IP2)

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	IP2 Pump Station				
2	Site Excavation for Pump Station	579	CY	\$15	\$8,681
3	Concrete walls	100	CY	\$1,500	\$150,000
4	SOG	14	CY	\$750	\$10,500
5	Elev slab/beams, valve vault, flow meter	20	CY	\$2,000	\$40,000
6					
7	Staircase	1	LS	\$7,500	\$7,500
8	Grating	252	SF	\$50	\$12,600
9	Handrail	30	LF	\$50	\$1,500
10	Pumps (30 ft TDH, 4.5 mgd each, 20 HP)	4	EA	\$41,500	\$166,000
11	Installation and Markup	1	LS	15%	\$24,900
12	Mechanical Piping, per Pump (14" DI Piping)	80	LF	\$150	\$12,000
13	10x14 Reducer	4	EA	\$2,000	\$8,000
14	14" Elbow	8	EA	\$2,000	\$16,000
15	14" Wall Spool	4	EA	\$2,000	\$8,000
16	Check and Isolation Valves	8	EA	\$7,500	\$60,000
17	Flow Meter	1	EA	\$20,000	\$20,000
18					
19	Yard Piping				
20	20" Forcemain	500	LF	\$300	\$150,000
21	Valves for Temp Discharge to TC1	2	EA	\$10,000	\$20,000
22	Core Existing IP1 Structure	1	EA	\$10,000	\$10,000
23					
24	Additional Elements (estimated % of above)				
25	Contractor mobilization and administration			10.0%	\$73,000
26	Yard Piping			10.0%	\$73,000
27	Site Civil			10.0%	\$73,000
28	Electrical and instrumentation			35.0%	\$254,000
29	Bonding			4.0%	\$29,000
30	Contractor overhead and profit			10.0%	\$73,000
31					
SUBTOTAL				\$	1,301,000
Construction Contingency: 30%				\$	390,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	127,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	364,000
Legal and Administrative: 1%				\$	18,000
Escalation Allowance: %				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	2,200,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Tertiary Clarification 2 (TC2)

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2					
3	Rapid Mix				
4	Mixers	2	EA	\$26,200	\$ 52,400
5	Installation and markup	1	LS	10%	\$ 5,240
6	Sluice gates-36x36	5	EA	\$13,000	\$ 65,000
7	Installation and markup	1	LS	10%	\$ 6,500
8	Excavation and Backfill	145	CY	\$25	\$ 3,625
9	Concrete SOG	10	CY	\$600	\$ 6,000
10	Concrete elev slab	5	CY	\$1,500	\$ 7,500
11	Concrete Walls	28	CY	\$850	\$ 23,800
12	Coatings	850	SF	\$24.50	\$ 20,825
13	Handrail	20	LF	\$50	\$ 1,000
14	Chemical Piping	1	LS	\$5,000	\$ 5,000
15	Grating	63	SF	\$40	\$ 2,520
16					
17	Flocculation				
18	Mixers	9	EA	\$20,000	\$ 180,000
19	Installation and markup	1	LS	10%	\$ 18,000
20	Weir gates-48x24	3	EA	\$34,000	\$ 102,000
21	Installation and markup	1	LS	15%	\$ 15,300
22	Excavation and Backfill	896	CY	\$25	\$ 22,400
23	Concrete Slab on Grade	100	CY	\$600	\$ 60,000
24	Elevated Slabs	44	CY	1500	\$ 66,000
25	Concrete Walls	151	CY	\$850	\$ 128,350
26	Diffusion walls	72	CY	\$1,200	\$ 86,400
27	Coatings	8744	SF	\$24.50	\$ 214,228
28	Handrail	134	LF	\$50	\$ 6,700
29	Grating	1350	sf	\$40	\$ 54,000
30					
31	Plate Settlers				
32	Settlers	3	EA	\$134,000	\$ 402,000
33	Installation and markup	1	LS	10%	\$ 40,200
34	Sludge Withdrawal	3	EA	\$45,000	\$ 135,000
35	Installation and markup	1	LS	15%	\$ 20,250
36	Scum Trough	3	EA	\$24,300	\$ 72,900
37	Installation and markup	1	LS	10%	\$ 7,290
38	Sludge Pumps	3	EA	\$14,500	\$ 43,500
39	Installation and markup	1	LS	10%	\$ 4,350
40	Drain Pumps	2	EA	\$14,500	\$ 29,000
41	Installation and markup	1	LS	10%	\$ 2,900
42	Excavation	2085	CY	\$10	\$ 20,850
43	Backfill	1043	CY	\$15	\$ 15,638
44	Concrete Slab	179	CY	\$600	\$ 107,400
45	Concrete Walls	369	CY	\$850	\$ 313,650
46	Elevated Slabs	13	CY	\$1,500	\$ 19,500
47	Coatings	8856	SF	\$16.00	\$ 141,696
48	Handrail	188	LF	\$50	\$ 9,400
49	Grating	528	SF	\$40	\$ 21,120
50	4 inch Drain piping	104	LF	\$75	\$ 7,800
51	6 inch Sludge Piping	60	LF	\$100	\$ 6,000
52	4 inch Sludge Piping	37	LF	\$75	\$ 2,775

53	Flow Meter	1	EA	\$5,000	\$	5,000
54	Valves	10	EA	\$2,000	\$	20,000
55	Sump Pump Package and 3 in steel sump discharge	1	LS	\$2,500	\$	2,500
56						
57	Building for Pump Basement and Plate Settlers	4860	SF	\$ 160	\$	777,600
58	(Includes HVAC)					
59	Pump Basement					
60	Excavation	1333	CY	\$10	\$	13,333
61	Backfill	667	CY	\$15	\$	10,000
62	Concrete Slab	47	CY	\$600	\$	28,333
63	Concrete Walls	193	CY	\$850	\$	163,704
64	Staircase	25	Risers	\$650	\$	16,250
65						
66	Yard Piping					
67	2 inch Sump Pump / discharge	1	LS	\$3,500	\$	3,500
68	8 inch Scum Piping to Plant Drain LS 2	25	LF	\$125	\$	3,125
69	4 inch Drain Piping (internal to system)	145	LF	\$65	\$	9,425
70	6 inch Sludge Piping to Aerobic Holding Tanks	640	LF	\$115	\$	73,600
71	36 inch SE (internal to system)	184	LF	\$400	\$	73,600
72	36-inch BF Vavle	1	LS	\$10,000	\$	10,000
73	36" Wall Spools and Romacs	2	EA	\$3,500	\$	7,000
74						
75						
76	Additional Elements (estimated % of above)					
77	Contractor mobilization and administration			10.0%		\$379,000
78	Yard Piping			10.0%		\$379,000
79	Site Civil			10.0%		\$379,000
80	Electrical and instrumentation			35.0%		\$1,328,000
81	Bonding			4.0%		\$152,000
82	Contractor overhead and profit			10.0%		\$379,000
SUBTOTAL					\$	6,789,000
Construction Contingency: 30%					\$	2,037,000
Geotechnical/Site Stabilization: N/A						-
Prevailing Wages: 7.5%					\$	662,000
State Sales Tax: N/A						-
Design / CMS: 20%					\$	1,898,000
Legal and Administrative:1%					\$	95,000
Escalation Allowance:%					\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$	11,481,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Chemical Storage and Feed Pumping

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Outdoor Storage Area				
2	Roof Structure-none	0	SF	\$50	\$0
3	Elevated FRP Walkway and Stairs	1	LS	\$52,500	\$52,500
4	FRP Stairs into Sumps	16	VF	\$1,000	\$16,000
5	Perimeter Handrail - FRP	240	LF	\$200	\$48,000
6	FRP Grating Under Fill Connection/Sump	16	SF	\$20	\$320
7	Emergency Eyewash/Showers	6	EA	\$3,500	\$21,000
8	Concrete Stairs	4	VF	\$1,000	\$4,000
9	Containment Area Excavation	492	CY	\$10	\$4,917
10	Containment Area Backfill	246	Cy	\$15	\$3,688
11	Containment Area Concrete	-	-	-	-
12	Slab	6.0	CY	\$500	\$3,022
13	Walls	58.3	CY	\$800	\$46,671
14	Tank Pad Concrete	132.6	CY	\$500	\$66,306
15	Coatings for Containment Sump	4238	SF	\$16.00	\$67,806
16	Aluminum Sulfate Storage	-	-	-	-
17	Bulk Storage Tanks, Insulation, & Heating	2	EA	\$31,037	\$62,074
18	Installation and markup	10%	of Eqpt	\$62,074	\$6,207
19	Chemical and Chemical Drain Piping	-	-	-	-
20	3"-PVC fill line (single wall)	95	LF	\$25	\$2,375
21	3" PVC fittings	18	EA	\$150	\$2,700
22	3" PVC Valves	2	EA	\$500	\$1,000
23	1"-PVC fill drain	8	LF	\$6	\$48
24	1" PVC fittings	2	EA	\$15	\$30
25	1" PVC Valves	2	EA	\$500	\$1,000
26	2"-PVC tank discharge (single wall)	10	LF	\$15	\$150
27	2" PVC fittings	4	EA	\$30	\$120
28	2" PVC Valves	6	EA	\$500	\$3,000
29	1-1/2"-PVC tank discharge (single wall)	35	LF	\$15	\$525
30	1-1/2" PVC fittings	5	EA	\$30	\$150
31	3"-PVC drain (single wall)	10	LF	\$25	\$250
32	3" PVC fittings	4	EA	\$150	\$600
33	3" PVC Valves	2	EA	\$500	\$1,000
34	8"-PVC overflow (single wall)	30	LF	\$95	\$2,850
35	8" PVC fittings	6	EA	\$400	\$2,400
36	8"-PVC vent (single wall)	2	LF	\$95	\$190
37	8" PVC fittings	6	EA	\$400	\$2,400
38	4" HDPE Sleeve	15	LF	\$120	\$1,800
39	1-1/2" HDPE	15	LF	\$63	\$945
40	Labor and Install	1	LS	\$23,500	\$23,500
41	Sodium Hydroxide (Caustic Soda) Storage	-	-	-	-
42	Bulk Storage Tanks, Insulation, & Heating	2	EA	\$28,435	\$56,870
43	Installation and markup	10%	of Eqpt	\$56,870	\$5,687
44	Piping plus Labor and Install	1	LS	\$47,000	\$47,000
45	Sodium Hypochlorite Storage	-	-	-	-
46	Bulk Storage Tanks and Insulation	2	EA	\$22,510	\$45,020
47	Installation and markup	10%	of Eqpt	\$45,020	\$4,502
48	Chemical and Chemical Drain Piping	-	-	-	-
49	3"-PVC fill line (single wall)	75	LF	\$25	\$1,875
50	3" PVC fittings	20	EA	\$150	\$3,000
51	3" PVC Valves	2	EA	\$500	\$1,000
52	1"-PVC fill drain	8	LF	\$6	\$48

53	1" PVC fittings	2	EA	\$15	\$30
54	1" PVC Valves	2	EA	\$500	\$1,000
55	2"-PVC tank discharge (single wall)	6	LF	\$15	\$90
56	2" PVC fittings	4	EA	\$30	\$120
57	2" PVC Valves	6	EA	\$500	\$3,000
58	1-1/2"-PVC tank discharge (single wall)	35	LF	\$15	\$525
59	1-1/2" PVC fittings	5	EA	\$30	\$150
60	3"-PVC drain (single wall)	10	LF	\$25	\$250
61	3" PVC fittings	4	EA	\$150	\$600
62	3" PVC Valves	2	EA	\$500	\$1,000
63	8"-PVC overflow (single wall)	20	LF	\$95	\$1,900
64	8" PVC fittings	6	EA	\$400	\$2,400
65	8"-PVC vent (single wall)	2	LF	\$95	\$190
66	8" PVC fittings	6	EA	\$400	\$2,400
67	4" HDPE Sleeve	15	LF	\$120	\$1,800
68	1-1/2" HDPE	15	LF	\$63	\$945
69	Labor and Install	1	LS	\$22,300	\$22,300
70	Sodium Bisulfite Storage	-	-	-	-
71	Bulk Storage Tanks, Insulation, & Heating	2	EA	\$19,546	\$39,092
72	Installation and markup	10%	of Eqpt	\$39,092	\$3,909
73	Piping plus Labor and Install	1	LS	\$44,600	\$44,600
74					-
75	Additional Elements (estimated % of above)				
76	Contractor mobilization and administration			10.0%	\$74,000
77	Yard Piping			10.0%	\$74,000
78	Site Civil			10.0%	\$74,000
79	Electrical and instrumentation			35.0%	\$259,000
80	Bonding			4.0%	\$30,000
81	Contractor overhead and profit			10.0%	\$74,000
				SUBTOTAL	\$ 1,326,000
				Construction Contingency: 30%	\$ 398,000
				Geotechnical/Site Stabilization: N/A	-
				Prevailing Wages: 7.5%	\$ 129,000
				State Sales Tax: N/A	-
				Design / CMS: 20%	\$ 371,000
				Legal and Administrative:1%	\$ 19,000
				Escalation Allowance:%	-
				TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)	\$ 2,243,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Tertiary Membrane Filtration

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	<u>Distribution Box and Valve Vault</u>				
2	Excavation	560	CY	\$20	\$11,200
3	Concrete basin	-	-	-	-
4	Slab, below grade	53	CY	\$600	\$31,952
5	Walls	103	CY	\$850	\$87,719
6	Aluminum Cover	847	SF	\$55	\$46,585
7	Backfill	278	CY	\$10	\$2,778
8	Weir	1	LS	\$5,000	\$5,000
9	Pipe, Valves, Fittings				
10	18" Flow Meter	1	EA	\$20,000	\$20,000
11	18" Plug Valve	3	EA	\$15,000	\$45,000
12	18" Fittings	4	EA	\$3,250	\$13,000
13	18" DI Pipe	65	LF	\$214	\$13,910
14	18" Fittings	8	EA	\$3,250	\$26,000
15	18" DI Wall Spools	4	EA	\$1,500	\$6,000
16	24" DI Pipe	28	LF	\$267	\$7,476
17	24" DI Wall Spools	2	EA	\$5,000	\$10,000
18	24" Fittings	2	EA	\$5,000	\$10,000
19	36" DI Pipe	10	LF	\$400	\$4,000
20	36" Wall Spools	2	EA	\$6,000	\$12,000
21	4" DI Pipe	9	LF	\$100	\$900
22	4" Fittings	2	EA	\$500	\$1,000
23	4" Wall Spool	1	EA	\$500	\$500
24	Stand-On Pipe Supports	5	EA	\$500	\$2,500
25	Piping Labor and Install	1	LS	\$86,100	\$86,100
26	Ladder	1	LS	\$2,500	\$2,500
27	Western Access Stairs	3	VF	\$2,500	\$7,500
28	Handrail - see MF Wet Well/EQ	-	-	-	-
29		-	-	-	-
30	<u>MF Wet Well / EQ, Rapid Mix, & Energy Dis. Basin</u>				
31	Excavation	3920	CY	\$20	\$78,400
32	Concrete basin	-	-	-	-
33	Slab, below grade	239	CY	\$600	\$143,696
34	Walls	482	CY	\$850	\$410,010
35	Elevated Slab	54	CY	\$1,500	\$81,684
36	Grout	213	CY	\$250	\$53,201
37	Backfill	1959	CY	\$10	\$19,595
38	Rapid Mix and Energy Dis. Piping	-	-	-	-
39	4" DI Pipe	1	LF	\$114	\$114
40	4" Wall Spool	1	EA	\$500	\$500
41	24" DI Pipe	1	LF	\$267	\$267
42	24" DI Wall Spools	2	EA	\$5,000	\$10,000
43	1" HDPE Pipe - single wall	69	LF	\$65	\$4,485
44	1" HDPE Fittings	5	EA	\$750	\$3,750
45	1" HDPE Wall Spools	5	EA	\$250	\$1,250
46	3" Wall Spool	1	EA	\$500	\$500
47	3" PVC Stabilizer Sleeve	34	LF	\$84	\$2,856
48	Strut Pipe Supports	1	LS	\$500	\$500
49	Piping Labor and Install	1	LS	\$12,100	\$12,100
50	Wet Well Piping				
51	10" DI Pipe	87	LF	\$100	\$8,700
52	10" Wall Spool	6	EA	\$750	\$4,500

53	10" Fittings and Valves	24	EA	\$4,500	\$108,000
54	Insulation and Heat Tracing	87	LF	\$50	\$4,350
55	2" SST Pipe	20	LF	\$30	\$600
56	2" SST Fittings	12	EA	\$75	\$900
57	4" SST Pipe	40	LF	\$26	\$1,040
58	4" Wall Spool	6	EA	\$500	\$3,000
59	Stand-On Pipe Supports	12	EA	\$500	\$6,000
60	Strut Pipe Supports	1	LS	\$1,500	\$1,500
61	Piping Labor and Install	1	LS	\$69,300	\$69,300
62	Access hatches	5	EA	\$2,500	\$12,500
63	Handrail	227	LF	\$100	\$22,700
64	Rapid Mix Baffles	1	LS	\$1,250	\$1,250
65	Equipment	-	-	-	-
66	Rapid Mixer	1	EA	\$36,800	\$36,800
67	Submersible Mixers	2	EA	\$27,100	\$54,200
68	Feed pumps	6	EA	\$75,000	\$450,000
69	Wet Well Sample Pump	1	EA	\$1,000	\$1,000
70	Installation and markup	10%	of Eqpt	\$541,000	\$54,100
71		-	-	-	-
72	<u>Backwash Waste Equalization Basin</u>	-	-	-	-
73	Excavation	20	CY	\$20	\$400
74	Concrete basin	-	-	-	-
75	Slab, below grade	10	CY	\$500	\$5,000
76	Walls	19	CY	\$850	\$16,195
77	Grout	6	CY	\$400	\$2,200
78	Aluminum Cover	120	SF	\$55	\$6,600
79	Backfill	25	CY	\$10	\$251
80	BW Piping				
81	20" Wall Spool	1	EA	\$4,000	\$4,000
82	8" Wall Spool	1	EA	\$500	\$500
83	14" Wall Spool	1	EA	\$1,000	\$1,000
84	14" DI Pipe	17	LF	\$125	\$2,063
85	14" DI Fittings	4	EA	\$3,000	\$12,000
86	Piping Labor and Install	1	LS	\$9,800	\$9,800
87	Weir	1	LS	\$6,500	\$6,500
88	SST Slide Gate	1	LS	\$15,000	\$15,000
89	Eastern Access Stairs	7	VF	\$2,500	\$17,500
90	Handrail - see MF Wet Well/EQ	-	-	-	-
91		-	-	-	-
92	<u>MF Building</u>	-	-	-	-
93	Foundation prep (excavation and backfill)	3576	CY	\$20	\$71,523
94	Concrete	-	-	-	-
95	Foundation	108	CY	\$850	\$91,568
96	Slab, on grade	370	CY	\$475	\$175,761
97	Above ground building - ft x ft	16560	SF	\$160	\$2,649,600
98	HVAC & Plumbing Systems	<i>included in building cost</i>			
99	Roll-Up Doors	5	EA	\$12,500	\$62,500
100	MF Room Emergency Eyewash/Showers	2	EA	\$3,500	\$7,000
101	MF Room Hose Bibbs	3	EA	250	\$750
102		-	-	-	-
103	<u>MF Equipment</u>	-	-	-	-
104	TMF equipment (via pre-procurement)	-	-	-	-
105	Special Eng'g Services During Design - PAID	1	LS	\$155,770	\$155,770
106	Goods	1	LS	\$3,129,650	\$3,129,650
107	Special Services During Construction	1	LS	\$76,500	\$76,500
108	Installation of TMF packaged equipment	15.0%	of Eqpt	\$3,129,650	\$469,448
109	Piping Support Frame System	1	LS	\$237,120	\$237,120
110	Mechanical Piping (including installation)	1	LS	\$982,000	\$982,000
111		-	-	-	-
112	<u>Neutralization Basins - 2 Total</u>	-	-	-	-
113	Piping, Valves & Fittings - included with MF Equipment	-	-	-	-
114	Slab, below grade	37	CY	\$600	\$22,293
115	Walls	69	CY	\$850	\$58,870
116	Elevated Slab	26	CY	\$2,500	\$64,778
117	Access hatches	2	EA	\$2,500	\$5,000

118	Neutralization Pumps	4	EA	\$45,885	\$183,540
119	Installation	10%	of Eqpt	\$183,540	\$18,354
120	Coatings for Neut Tanks Interiors	3009	SF	\$33	\$99,286
121					
122	Chemical Systems	-	-	-	-
123	Excavation and Backfill - included in MF Building	-	-	-	-
124	Concrete	-	-	-	-
125	Slab- included in MF Building Slab	-	-	-	-
126	Walls	32	CY	\$850	\$27,022
127	Coatings for Interior Chem Areas	3810	SF	\$33.00	\$125,730
128	Sprinkler System- N/A	0	LS	\$0	-
129	Water Heaters	2	EA	\$2,500	\$5,000
130	Emergency Eyewash/Shower	5	EA	\$3,500	\$17,500
131	Chemical Pumps (Skid Mounted)	10	EA	\$30,000	\$300,000
132	Installation	10%	of Eqpt	\$300,000	\$30,000
133	Chemical Pumps (Shelf Spare)	7	EA	\$25,000	\$175,000
134	Aluminum Sulfate System	-	-	-	-
135	Chemical Piping	-	-	-	-
136	1/2" PVC Pipe (20ft sticks)	30	LF	\$7	\$213
137	1/2" PVC Fittings	8	EA	\$50	\$400
138	1-1/2" HDPE Pipe	45	LF	\$63	\$2,835
139	1-1/2" HDPE Fittings	8	EA	\$820	\$6,560
140	1-1/2" HDPE Valves	3	EA	\$1,000	\$3,000
141	1" HDPE Pipe	90	LF	\$63	\$5,670
142	1" HDPE Fittings	20	EA	\$820	\$16,400
143	1" HDPE Valves	9	EA	\$1,000	\$9,000
144	8" Wall Spool	1	EA	\$500	\$500
145	8" PVC Sleeve	5	LF	\$95	\$475
146	4" Wall Spool	1	EA	\$125	\$125
147	4" HDPE Sleeve	5	LF	\$120	\$600
148	2" PVC Pipe	75	LF	\$10	\$750
149	2" PVC Fittings	6	EA	\$85	\$510
150	Carrier Water Piping (single wall) - in MF Piping	-	-	-	-
151	1" Rotameter	2	EA	\$820	\$1,640
152	Piping Labor and Install	1	LS	\$48,700	\$48,700
153	Sodium Hydroxide (Caustic Soda) System	-	-	-	-
154	Chemical Piping	-	-	-	-
155	1-1/2" HDPE Pipe	40	LF	\$63	\$2,520
156	1-1/2" HDPE Fittings	2	EA	\$820	\$1,640
157	1-1/2" HDPE Valves	6	EA	\$1,000	\$6,000
158	1" PVC Pipe (20ft sticks)	15	LF	\$7	\$107
159	1" PVC Fittings	3	EA	\$50	\$150
160	3/4" PVC Pipe (20ft sticks)	15	LF	\$7	\$107
161	3/4" PVC Fittings	3	EA	\$50	\$150
162	1" HDPE Pipe	325	LF	\$63	\$20,475
163	1" HDPE Fittings	37	EA	\$820	\$30,340
164	1" HDPE Valves	22	EA	\$1,000	\$22,000
165	2" HDPE Pipe	35	LF	\$67	\$2,345
166	2" HDPE Fittings	4	EA	\$820	\$3,280
167	2" HDPE Valves	2	EA	\$1,000	\$2,000
168	8" Wall Spool	1	EA	\$500	\$500
169	8" PVC Sleeve	5	LF	\$95	\$475
170	4" Wall Spool	1	EA	\$125	\$125
171	4" HDPE Sleeve	5	LF	\$120	\$600
172	2" PVC Pipe	75	LF	\$10	\$750
173	2" PVC Fittings	6	EA	\$85	\$510
174	Piping Labor and Install	1	LS	\$94,100	\$94,100
175	Sodium Hypochlorite System	-	-	-	-
176	Chemical Piping	-	-	-	-
177	1/2" PVC Pipe (20ft sticks)	10	LF	\$7	\$71
178	1/2" PVC Fittings	2	EA	\$50	\$100
179	1-1/2" HDPE Pipe	10	LF	\$63	\$630
180	1-1/2" HDPE Fittings	3	EA	\$820	\$2,460
181	1" HDPE Pipe	125	LF	\$63	\$7,875
182	1" HDPE Fittings	12	EA	\$820	\$9,840

183	1" HDPE Valves	7	EA	\$1,000	\$7,000
184	4" Wall Spool	1	EA	\$125	\$125
185	4" HDPE Sleeve	5	LF	\$120	\$600
186	Piping Labor and Install	1	LS	\$28,700	\$28,700
187	Sodium Bisulfite System	-	-	-	-
188	Chemical Piping	-	-	-	-
189	1/2" PVC Pipe (20ft sticks)	10	LF	\$7	\$71
190	1/2" PVC Fittings	2	EA	\$50	\$100
191	1-1/2" HDPE Pipe	10	LF	\$63	\$630
192	1-1/2" HDPE Fittings	3	EA	\$820	\$2,460
193	1" HDPE Pipe	100	LF	\$63	\$6,300
194	1" HDPE Fittings	8	EA	\$820	\$6,560
195	1" HDPE Valves	6	EA	\$1,000	\$6,000
196	4" Wall Spool	1	EA	\$125	\$125
197	4" HDPE Sleeve	5	LF	\$120	\$600
198	2" PVC Pipe	35	LF	\$10	\$350
199	2" PVC Fittings	3	EA	\$85	\$255
200	Piping Labor and Install	1	LS	\$23,500	\$23,500
201	Citric Acid System	-	-	-	-
202	Totes	2	EA	\$1,000	\$2,000
203	Chemical Piping	-	-	-	-
204	3/4" PVC Pipe (20ft sticks)	15	LF	\$7	\$142
205	3/4" PVC Fittings	3	EA	\$50	\$150
206	1-1/2" Tubing	10	LF	\$10	\$200
207	1-1/2" HDPE Pipe	30	LF	\$63	\$1,890
208	1-1/2" HDPE Fittings	6	EA	\$820	\$4,920
209	1-1/2" HDPE Valves	9	EA	\$1,000	\$9,000
210	1" HDPE Pipe	220	LF	\$63	\$13,860
211	1" HDPE Fittings	12	EA	\$820	\$9,840
212	1" HDPE Valves	10	EA	\$1,000	\$10,000
213	2" PVC Pipe	35	LF	\$10	\$350
214	2" PVC Fittings	3	EA	\$85	\$255
215	Piping Labor and Install	1	LS	\$50,600	\$50,600
216	Misc. Chemical Instrumentation	5.0%	of Eqpt	\$493,110	\$24,656
217					-
218	Additional Elements (estimated % of above)				
219	Contractor mobilization and administration			10.0%	\$1,198,000
220	Yard Piping			10.0%	\$1,198,000
221	Site Civil			10.0%	\$1,198,000
222	Electrical and instrumentation			35.0%	\$4,191,000
223	Bonding			4.0%	\$479,000
224	Contractor overhead and profit			10.0%	\$1,198,000
SUBTOTAL				\$	21,437,000
Construction Contingency: 30%				\$	6,431,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	2,090,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	5,992,000
Legal and Administrative: 1%				\$	300,000
Escalation Allowance: %				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	36,250,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
UV Disinfection to ~9 mgd ADF to River Discharge + 1mgd UV

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2					
3	Expand Additiona 1 bank in each channel	2	EA	\$68,700	\$137,400
4	Installation and Markup on Goods	1	LS	15%	\$20,610
5					
6	Weir Modificatoins	2	EA	\$5,000	\$10,000
7					
8					
9					
10	Additional Elements (estimated % of above)				
11	Contractor mobilization and administration			10.0%	\$17,000
12	Yard Piping			10.0%	\$17,000
13	Site Civil			10.0%	\$17,000
14	Electrical and instrumentation			35.0%	\$59,000
15	Bonding			4.0%	\$7,000
16	Contractor overhead and profit			10.0%	\$17,000
SUBTOTAL					\$ 302,000
Construction Contingency: 30%					\$ 91,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 29,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 84,000
Legal and Administrative:1%					\$ 4,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 510,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:			DATE: 2/1/2024		
City of Post Falls WRF Facility Plan					
PROJECT DESCRIPTION:					
Outfall Capacity Expansion					
CLIENT:					
City of Post Falls					
P/N: 20-22-019					
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					-
2					-
3	Lundy Blvd to South Side I-90				-
4	30" Pipe	625	LF	\$300	\$187,500
5	Manholes 60"	4	EA	\$20,000	\$80,000
6					-
7	I-90 Crossing				-
8	Launch Pit Excavation	2	EA	\$10,000	\$20,000
9	30" Pipe in Existing 48" Steel Case	275	LF	\$500	\$137,500
10	Manholes 60"	2	EA	\$20,000	\$40,000
11					-
12	North Side I-90				-
13	75LF 30" Pipe	150	LF	\$275	\$41,250
14	Manholes 60"	2	EA	\$20,000	\$40,000
15					
16					
17	Additional Elements (estimated % of above)				
18	Contractor mobilization and administration			10.0%	\$55,000
19	Yard Piping			0.0%	\$0
20	Site Civil			10.0%	\$55,000
21	Electrical and instrumentation			0.0%	\$0
22	Bonding			4.0%	\$22,000
23	Contractor overhead and profit			10.0%	\$55,000
SUBTOTAL				\$	733,000
Construction Contingency: 30%				\$	220,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	71,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	205,000
Legal and Administrative: 1%				\$	10,000
Escalation Allowance: %				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	1,239,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 3/2/2023

PROJECT DESCRIPTION:
Vactor pad retrofit

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Vactor Pad Modification				-
2	Pad slope to Weir (Grout)	1	LS	\$5,000	\$5,000
3	Selective Vactor Pad Demo/Sawcutting	1	LS	\$10,000	\$10,000
4	Shoring	1	LS	\$5,000	\$5,000
5	New Channel				-
6	-Excavation	25	CY	\$25	\$625
7	-New Channel Floor	4	CY	\$650	\$2,600
8	-New Concrete Walls	25	CY	\$1,000	\$25,000
9	-Grout Floor	3	CY	\$1,000	\$3,000
10	Equipment				-
11	-Weir Gate	1	LS	\$16,000	\$16,000
12	-Manually Cleaned Bar Screen (Fabrication)	1	LS	\$10,000	\$10,000
13	-New Pump	2	LS	\$20,000	\$40,000
14	-Installation and Markup			15%	\$9,900
15					
16	FM to Headworks	800	LF	\$80	\$64,000
17					-
18					-
19					-
20					-
21					-
22					-
23					-
24	Additional Elements (estimated % of above)				
25	Contractor mobilization and administration			10.0%	\$19,000
26	Yard Piping			10.0%	\$19,000
27	Site Civil			10.0%	\$19,000
28	Electrical and instrumentation			35.0%	\$67,000
29	Bonding			4.0%	\$8,000
30	Contractor overhead and profit			10.0%	\$19,000
SUBTOTAL					\$ 342,000
Construction Contingency: 30%					\$ 103,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 33,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 96,000
Legal and Administrative:1%					\$ 5,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 579,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 3/2/2023

PROJECT DESCRIPTION:
New vactor pad with mechanically cleaned bar screen

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Vactor Pour				-
2	-Excavation	180	CY	\$25	\$4,500
3	-Concrete Floor	27	CY	\$650	\$17,550
4	-Concrete Walls	65	CY	\$1,000	\$65,000
5	-Grout Floor/Channels	5	CY	\$1,000	\$5,000
6	Equipment				-
7	-Weir Gate	1	LS	\$16,000	\$16,000
8	-Manually cleaned bar screen (Fabrication)	1	LS	\$10,000	\$10,000
9	-Grit Pump	2	LS	\$20,000	\$40,000
10	-Installation and Markup			15%	\$9,900
11					
12	FM to Headworks	250	LF	\$125	\$31,250
13					-
14					-
15					-
16					-
17					-
18					-
19					-
20					-
21					-
22					-
23					-
24	Additional Elements (estimated % of above)				
25	Contractor mobilization and administration			10.0%	\$20,000
26	Yard Piping			10.0%	\$20,000
27	Site Civil			10.0%	\$20,000
28	Electrical and instrumentation			35.0%	\$70,000
29	Bonding			4.0%	\$8,000
30	Contractor overhead and profit			10.0%	\$20,000
SUBTOTAL				\$	357,000
Construction Contingency: 30%				\$	107,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	35,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	100,000
Legal and Administrative: 1%				\$	5,000
Escalation Allowance: %				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	604,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 3/2/2023

PROJECT DESCRIPTION:
New vactor pad with mechanical fine screen

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Vactor Pour				-
2	-Excavation	180	CY	\$25	\$4,500
3	-Concrete Floor	27	CY	\$650	\$17,550
4	-Concrete Walls	65	CY	\$1,000	\$65,000
5	-Grout Floor	5	CY	\$1,000	\$5,000
6	Equipment				-
7	-Weir Gate	1	LS	\$16,000	\$16,000
8	-Mechanical Screen with heat trace	1	LS	\$150,000	\$150,000
9	-Grit Pump	2	LS	\$20,000	\$40,000
10	-Installation and Markup			15%	\$30,900
11					-
12	FM to Headworks	250	LF	\$125	\$31,250
13					-
14					-
15					-
16					-
17					-
18					-
19					-
20					-
21					-
22					-
23					-
24	Additional Elements (estimated % of above)				
25	Contractor mobilization and administration			10.0%	\$36,000
26	Yard Piping			10.0%	\$36,000
27	Site Civil			10.0%	\$36,000
28	Electrical and instrumentation			35.0%	\$126,000
29	Bonding			4.0%	\$14,000
30	Contractor overhead and profit			10.0%	\$36,000
SUBTOTAL					\$ 644,000
Construction Contingency: 30%					\$ 193,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 63,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 180,000
Legal and Administrative:1%					\$ 9,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 1,089,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Plant Drain Lift Station Improvements

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Plant Drain Pump Station 1				
3	Excavation and Backfill	1	LS	\$5,000	\$5,000
4	Packaged Triplex Pump Station	1	LS	\$492,000	\$492,000
5	WetWell	included			
6	Triplex Submersible Pumps	included			
7	Interior mech piping	included			
8	Valve Vault	included			
9	Interior mech piping and meter	included			
10	Flow Meter Vault	included			
11	Interior mech piping and meter	included			
12	Electrical Control Panel, Instrumentation	included			
13	Installation (crane, set wetwell and vaults)	1	LS	5%	\$24,600
14	Concrete Base Slab for PS and Vaults	14.8	CY	\$600	\$8,889
15	Top Housekeeping Slab	7.4	CY	\$600	\$4,444
16	12" Forcemain to Headworks	860	LF	\$150	\$129,000
17	Tie-in to Headworks	1	LS	\$3,500	\$3,500
18					
19					
20					-
21					-
22					
23	Additional Elements (estimated % of above)				
24	Contractor mobilization and administration			10.0%	\$67,000
25	Yard Piping			5.0%	\$33,000
26	Site Civil			10.0%	\$67,000
27	Electrical and instrumentation			20.0%	\$133,000
28	Bonding			4.0%	\$27,000
29	Contractor overhead and profit			10.0%	\$67,000
SUBTOTAL				\$	1,061,000
Construction Contingency: 30%				\$	318,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	103,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	296,000
Legal and Administrative:1%				\$	15,000
Escalation Allowance:%				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	1,793,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Plant Drain Lift Station Improvements

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2					
3	Control Building (Laboratory) Lift Station				
4	Excavation and Backfill	1	LS	\$5,000	\$5,000
5	Packaged Duplex Pump Station				\$150,000
6	WetWell	<i>included</i>			
7	Submersible Pumps	<i>included</i>			
8	Interior mech piping	<i>included</i>			
9	Valve Vault	<i>included</i>			
10	Interior mech piping and meter	<i>included</i>			
11	Flow Meter Vault	NA			
12	Interior mech piping and meter	NA			
13	Electrical Control Panel, Instrumentation	<i>included</i>			
14	Installation (crane, set wetwell and vaults)	1	LS	5%	\$7,500
15	Concrete Base Slab for PS and Vaults	3.7	CY	\$600	\$2,222
16	Top Housekeeping Slab	3.7	CY	\$600	\$2,222
17					
18					-
19					-
20					-
21					-
22					-
23					-
24					-
25					-
26					-
27					-
28					-
29					-
30					-
31					-
32					-
33					-
34					-
35					-
36					-
37	Additional Elements (estimated % of above)				
38	Contractor mobilization and administration			10.0%	\$17,000
39	Yard Piping			5.0%	\$8,000
40	Site Civil			10.0%	\$17,000
41	Electrical and instrumentation			20.0%	\$33,000
42	Bonding			4.0%	\$7,000
43	Contractor overhead and profit			10.0%	\$17,000
SUBTOTAL				\$	266,000
Construction Contingency: 30%				\$	80,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	26,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	74,000
Legal and Administrative:1%				\$	4,000
Escalation Allowance:%				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	450,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan DATE: 2/1/2024

PROJECT DESCRIPTION:
Odor Control Improvements

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Foul Air Speciation Concentration Study	1	LS	\$50,000	\$ 50,000
3	(Headworks, EQ and Biosolids)				
4					
5	Odor Control (Repairs to EQ Tank 1 and 2 and Headworks Biofilter)				
6	Section 1 - Headworks				
7	Foul Air Blower (Add Dampers to Fans)	3	LS	\$ 5,000	\$ 15,000
8	Foul Air Blower (New Unit for Headworks Channels)	1	LS	\$ 35,000	\$ 35,000
9	Install short-circuit baffle on vertical face	55	LF	\$ 100	\$ 5,500
10	6" Perf. Distribution Pipe Replacement	330	LF	\$ 40	\$ 13,200
11	Rock and Bark Media (Remove and Replace)	214	CY	\$ 125	\$ 26,736
12					
13	Section 2 - EQ Tank 1				
14	Install short-circuit baffle on vertical face	85	LF	\$ 100	\$ 8,500
15	6" Perf. Distribution Pipe Replacement	550	LF	\$ 40	\$ 22,000
16	Rock and Bark Media	331	CY	\$ 125	\$ 41,319
17					-
18	Section 3 - EQ Tank 2				
19	Install short-circuit baffle on vertical face	85	LF	\$ 100	\$ 8,500
20	6" Perf. Distribution Pipe Replacement	550	LF	\$ 40	\$ 22,000
21	Rock and Bark Media	331	CY	\$ 125	\$ 41,319
22					-
23					-
24					-
25					
26	Additional Elements (estimated % of above)				
27	Contractor mobilization and administration			10.0%	\$29,000
28	Yard Piping			5.0%	\$14,000
29	Site Civil			5.0%	\$14,000
30	Electrical and instrumentation			0.0%	\$0
31	Bonding			4.0%	\$12,000
32	Contractor overhead and profit			10.0%	\$29,000
SUBTOTAL				\$	387,000
Construction Contingency: 30%				\$	116,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	38,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	108,000
Legal and Administrative: 1%				\$	5,000
Escalation Allowance: %				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	654,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:		DATE: 2/1/2024			
City of Post Falls WRF Facility Plan					
PROJECT DESCRIPTION:					
Laboratory Facilities					
CLIENT:					
City of Post Falls					
P/N: 20-22-019					
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					-
2	Laboratory Facilities				-
3	40 x 60	2,400	SF	\$300	\$720,000
4					
5					
6					
7					-
8					-
9					
10	Additional Elements (estimated % of above)				
11	Contractor mobilization and administration			10.0%	\$72,000
12	Yard Piping			10.0%	\$72,000
13	Site Civil			10.0%	\$72,000
14	Electrical and instrumentation			35.0%	\$252,000
15	Bonding			4.0%	\$29,000
16	Contractor overhead and profit			10.0%	\$72,000
SUBTOTAL					\$ 1,289,000
Construction Contingency: 30%					\$ 387,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 126,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 360,000
Legal and Administrative: 1%					\$ 18,000
Escalation Allowance: %					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 2,180,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:			DATE: 2/1/2024		
City of Post Falls WRF Facility Plan					
PROJECT DESCRIPTION:					
Maintenance / Shop / Storage Facilities					
CLIENT:					
City of Post Falls					
P/N: 20-22-019					
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					-
2	Maintenance Shop/Storage Facilities				-
3	50 x 20 Shop Space	1,000	SF	\$225	\$225,000
4	50 x 60 Parking (3, 20' wide bays)	3,000	SF	\$225	\$675,000
5	50 x 20 Storage Space	1,000	SF	\$225	\$225,000
6					-
7					-
8					
9	Additional Elements (estimated % of above)				
10	Contractor mobilization and administration			10.0%	\$113,000
11	Yard Piping			10.0%	\$113,000
12	Site Civil			10.0%	\$113,000
13	Electrical and instrumentation			35.0%	\$394,000
14	Bonding			4.0%	\$45,000
15	Contractor overhead and profit			10.0%	\$113,000
SUBTOTAL				\$	2,016,000
Construction Contingency: 30%				\$	605,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	197,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	564,000
Legal and Administrative:1%				\$	28,000
Escalation Allowance:%				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	3,410,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:		DATE: 2/1/2024				
City of Post Falls WRF Facility Plan						
PROJECT DESCRIPTION:						
Administration / Staff Building Improvements						
CLIENT:						
City of Post Falls						
P/N: 20-22-019						
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES				
		QNTY	UNIT	UNIT PRICE	TOTAL COST	
1	Admininstration Staff Facilities 40 x 50	2,000	SF	\$250	-	
-						
-						
-						
5	Operations/Crew Facilities 40 x 50	2,000	SF	\$250	-	
-						
-						
-						
18	Additional Elements (estimated % of above) Contractor mobilization and administration Yard Piping Site Civil Electrical and instrumentation Bonding Contractor overhead and profit				-	
19					10.0%	\$100,000
20					10.0%	\$100,000
21					10.0%	\$100,000
22					35.0%	\$350,000
23					4.0%	\$40,000
24					10.0%	\$100,000
SUBTOTAL					\$ 1,790,000	
Construction Contingency: 30%				\$ 537,000		
Geotechnical/Site Stabilization: N/A				-		
Prevailing Wages: 7.5%				\$ 175,000		
State Sales Tax: N/A				-		
Design / CMS: 20%				\$ 500,000		
Legal and Administrative: 1%				\$ 25,000		
Escalation Allowance: %				-		
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$ 3,027,000		

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT: City of Post Falls WRF Facility Plan	DATE: 2/1/2024
PROJECT DESCRIPTION: Utility Water	
CLIENT: City of Post Falls	
P/N: 20-22-019	

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					-
2	Pumping Capacity Improvements				-
3	UW Pump (Change Out Existing)	2	EA	\$50,000	\$100,000
4	Installation and Markup	2	EA	25%	\$25,000
5	Mechanical Piping Changes	2	LS	\$5,000	\$10,000
6					-
7					-
8					-
9					-
10					-
11					-
12					-
13					-
14					-
15					-
16					-
17					-
18					-
19					-
20					-
21					-
22	Additional Elements (estimated % of above)				-
23	Contractor mobilization and administration			10.0%	\$14,000
24	Yard Piping			10.0%	\$14,000
25	Site Civil			10.0%	\$14,000
26	Electrical and instrumentation			35.0%	\$47,000
27	Bonding			4.0%	\$5,000
28	Contractor overhead and profit			10.0%	\$14,000
SUBTOTAL					\$ 243,000
Construction Contingency: 30%					\$ 73,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 24,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 68,000
Legal and Administrative: 1%					\$ 3,000
Escalation Allowance: %					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 411,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - WRF and Reuse Capital Improvements

PROJECT:			DATE: 2/1/2024		
City of Post Falls WRF Facility Plan					
PROJECT DESCRIPTION:					
Demo SC 1 and SC 2					
CLIENT:					
City of Post Falls					
P/N: 20-22-019					
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					-
2	Demolotion Costs SC 1				-
3	Excavation for Access	1	LS	\$10,000	\$10,000
4	Shoring of adjacent utilities	1	LS	\$5,000	\$5,000
5	Equipment Removal, Abandon Piping, Utility Reroute	1	LS	\$7,500	\$7,500
6	Concrete Removal	1	LS	\$5,000	\$5,000
7	Backfill and Compact	1,100	CY	\$25	\$27,500
8					-
9	Demolotion Costs SC 2				-
10	Excavation for Access	1	LS	\$10,000	\$10,000
11	Shoring of adjacent utilities	1	LS	\$5,000	\$5,000
12	Equipment Removal, Abandon Piping, Utility Reroute	1	LS	\$7,500	\$7,500
13	Concrete Removal	1	LS	\$5,000	\$5,000
14	Backfill and Compact	1,100	CY	\$25	\$27,500
15					-
16					-
17					-
18					-
19					-
20					-
21					-
22	Additional Elements (estimated % of above)				
23	Contractor mobilization and administration			10.0%	\$11,000
24	Yard Piping			10.0%	\$11,000
25	Site Civil			10.0%	\$11,000
26	Electrical and instrumentation			35.0%	\$39,000
27	Bonding			4.0%	\$4,000
28	Contractor overhead and profit			10.0%	\$11,000
SUBTOTAL				\$	197,000
Construction Contingency: 30%				\$	59,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	19,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	55,000
Legal and Administrative:1%				\$	3,000
Escalation Allowance:%				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	333,000

PROJECT: City of Post Falls WRF Facility Plan
CLIENT: City of Post Falls
DATE: February 1, 2024
STATUS: Facility Plan - Reuse Alternatives
P/N: 20-22-019

City of Post Falls WRF Facility Plan
Facility Plan - Reuse Alternatives

4/27/2023

Alternative No.	Description	Present Worth Capital Cost (2023 Dollars)	Present Worth 20-YR O&M Cost (2023 Dollars)	Total Present Worth Cost (2023 Dollars)	Annual O&M Cost (2023 Dollars)
Phase 1	Reuse to 1.0 mgd on Community Forest	\$21,102,000	\$4,860,000	\$25,962,000	\$304,000
Phase 2	Reuse on City Public Reserve Prairie Property (allocated as of 2023)	\$27,717,000	\$8,331,000	\$36,048,000	\$521,000
Phase 3	Expanded Reuse Including Additional Property (2042)	\$76,659,000	\$4,184,000	\$80,843,000	\$262,000
TOTAL (2023 Dollars)		\$125,478,000	\$17,375,000	\$142,853,000	\$1,087,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Reuse Alternatives

PROJECT:	City of Post Falls WRF Facility Plan	DATE:	2/1/2024
PROJECT DESCRIPTION:	Phase 1 - Reuse to 1.0 mgd on Community Forest Property		
CLIENT:	City of Post Falls		
P/N:	20-22-019		

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	UV Equipment	<i>existing with tertiary improvements</i>			
3	WRF Pumping Station Building	<i>existing with tertiary improvements</i>			
4					
5	Centrifugal Pumps (20 HP each)	40	HP	\$1,500	\$60,000
6	Installation and Mark-up	1	LS	25%	\$15,000
7	Piping and Valves	2	EA	\$25,000	\$50,000
8	Pipe coating	1	LS	\$10,000	\$10,000
9					\$0
10	Transmission Piping to Site				\$0
11	14" Open Trench Installation (Misc. Surface Repair) North of River to I-90 and to WRF	400	LF	\$250	\$100,000
12	14" Open Trench Installation (Misc. Surface Repair) South of River	150	LF	\$250	\$37,500
13	Installation in Existing Bore Under I-90	300	LF	\$450	\$135,000
14	Directional Drilling Under Spokane River	1	LS	\$1,100,000	\$1,100,000
15	Valves	4	EA	\$5,000	\$20,000
16					\$0
17	Storage Pond at Site				\$0
18	1 MG (Lined)	1	MG	\$200,000	\$200,000
19					\$0
20	Irrigation Pump Station A				\$0
21	Pump Building	400	SF	\$250	\$100,000
22	Excavation	1	LS	\$15,000	\$15,000
23	CIP concrete wet well (Pulls from 1MG Pond)				\$0
24	Floor		CY	\$500	\$0
25	Walls		CY	\$1,000	\$0
26	Top Elevated Slab		CY	\$2,000	\$0
27	Vertical Turbine Pumps (130HP Each)	130	HP	\$1,250	\$162,500
28	Installation and Mark-up	1	LS	25%	\$0
29	Piping and Valves	2	EA	\$25,000	\$50,000
30	Pipe coating	1	LS	\$10,000	\$10,000
31	Irrigation Pump Station B				\$0
32	Pump Building	300	SF	\$250	\$75,000
33	Excavation	1	LS	\$15,000	\$15,000
34	CIP concrete wet well				\$0
35	Floor	15	CY	\$500	\$7,407
36	Walls	59	CY	\$1,000	\$59,259
37	Top Elevated Slab	18	CY	\$2,000	\$35,556
38	Vertical Turbine Pumps (115HP Each)	115	HP	\$1,250	\$143,750
39	Installation and Mark-up	1	LS	25%	\$0
40	Piping and Valves	2	EA	\$20,000	\$40,000
41	Pipe coating	1	LS	\$10,000	\$10,000
42	Irrigation Pump Station C				\$0
43	Pump Building	200	SF	\$250	\$50,000
44	Excavation	1	LS	\$15,000	\$15,000
45	CIP concrete wet well				\$0
46	Floor	15	CY	\$500	\$7,407
47	Walls	59	CY	\$1,000	\$59,259
48	Top Elevated Slab	18	CY	\$2,000	\$35,556
49	Vertical Turbine Pumps (115HP Each)	115	HP	\$1,250	\$143,750
50	Installation and Mark-up	1	LS	25%	\$0

51	Piping and Valves	1	EA	\$15,000	\$15,000
52	Pipe coating	1	LS	\$7,500	\$7,500
53	Irrigation Zone Transmission Mains				
54	PS A to PS B WetWell (14")	3700	LF	\$175	\$647,500
55	PS B to PS C WetWell (12")	700	LF	\$165	\$115,500
56	PS C to Distribution (8")	1000	LF	\$150	\$150,000
57					
58	Irrigation HMUs (Drip Irrigation Assumed based on T-O Engineers Technical Report)				
59	Area 1 Upper Bench	36	Acre	\$18,000	\$648,000
60	Area 2 Mid Slope Mosaic	93	Acre	\$18,000	\$1,674,000
61	Area 3 Lower Bench	44	Acre	\$18,000	\$792,000
62	Area 4 Old Field	33	Acre	\$9,000	\$297,000
63	GW Monitoring Wells	9	EA	\$25,000	\$225,000
64					
65	Permitting (Additional)	206	Acre	\$250	\$51,500
66					
67					
68					-
69	Additional Elements (estimated % of above)				
70	Contractor mobilization and administration			10.0%	\$738,000
71	Yard Piping			5.0%	\$369,000
72	Site Civil			5.0%	\$369,000
73	Electrical and instrumentation			35.0%	\$2,585,000
74	Bonding			4.0%	\$295,000
75	Contractor overhead and profit			10.0%	\$738,000
SUBTOTAL				\$	12,479,000
Construction Contingency: 30%				\$	3,744,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	1,217,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	3,488,000
Legal and Administrative: 1%				\$	174,000
Escalation Allowance: %				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	21,102,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Reuse Alternatives

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Phase 2 - Reuse on Currently Owned City Public Reserve Property for 4.5 mgd

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	UV Disinfection				-
2	Excavation	1	LS	\$25,000	\$25,000
3	Building Expansion	1,600	SF	\$300	\$480,000
4	Piping	150	LF	\$250	\$37,500
5	Valves	8	EA	\$5,000	\$40,000
6	UV Equipment	4.5	MGD	330,000	\$1,485,000
7	Installation	1	LS	25%	\$371,250
8					
9	WRF Pumping Station				
10	Pump Building	1,200	SF	\$300	\$360,000
11	Excavation	1	LS	\$15,000	\$15,000
12	Concrete Basement				
13	Floor	44	CY	\$500	\$22,222
14	Walls	73	CY	\$1,000	\$72,593
15	Top Elevated Slab	53	CY	\$2,000	\$106,667
16					
17	Pumps	450	HP	\$1,500	\$675,000
18	Installation and Mark-up	1	LS	25%	\$169,000
19	Piping and Valves	2	EA	\$50,000	\$100,000
20	Pipe coating	1	LS	\$10,000	\$10,000
21					
22	Transmission Piping to Site				
23	Transmission Piping to Site (20")	25,000	LF	\$300	\$7,500,000
24	Directional Drilling Under Seltice, and Prairie Ave, and Railroad x 2	600	LF	\$1,000	\$600,000
25	Valves	17	EA	\$5,000	\$83,333
26					
27	Storage Pond at Site				
28	(double-liner with leak detection)	29	MG	\$150,000	\$4,350,000
29					
30	Irrigation Pump Station				
31	Pump Building	400	SF	\$300	\$120,000
32	Excavation	1	LS	\$15,000	\$15,000
33	CIP concrete wet well				
34	Floor	15	CY	\$500	\$7,407
35	Walls	59	CY	\$1,000	\$59,259
36	Top Elevated Slab	18	CY	\$2,000	\$35,556
37					
38	Vertical Turbine Pumps (200 each, 1 duty/1 standby)	400	HP	\$1,500	\$600,000
39	Installation and Mark-up	1	LS	25%	\$150,000
40	Piping and Valves	2	EA	\$25,000	\$50,000
41	Pipe coating	1	LS	\$20,000	\$20,000
42					\$0
43	Irrigation				
44	Distribution Piping	23400	LF	\$175	\$4,095,000
45	Irrigation Distribution (Wheel Lines)	193	Acre	\$3,000	\$579,000
46	Irrigation Distribution (Hand Lines)	30	Acre	\$3,500	\$105,000
47	Irrigation (Pivots)	160	Acre	\$2,000	\$320,000
48	Monitoring Wells	20	EA	\$25,000	\$490,000
49	Soil Moisture Monitoring	20	EA	\$15,000	\$294,000
50	Decommission Existing Groundwater Wells	3	EA	\$50,000	\$150,000
51	Supplemental Irrigation to Pond (Piping/Valves)	2500	LF	\$175	\$437,500

52					
53	Permitting (excluded from contractor markups below)	980	Acre	\$250	\$245,000
54					
55					
56					-
57	Additional Elements (estimated % of above)				
58	Contractor mobilization and administration			10.0%	\$2,403,000
59	Yard Piping			5.0%	\$1,202,000
60	Site Civil			5.0%	\$1,202,000
61	Electrical and instrumentation			35.0%	\$8,411,000
62	Bonding			4.0%	\$961,000
63	Contractor overhead and profit			10.0%	\$2,403,000
SUBTOTAL					\$ 16,582,000
Construction Contingency: 30%					\$ 4,975,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages:7.5%					\$ 1,617,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 4,311,000
Legal and Administrative:1%					\$ 232,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 27,717,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Reuse Alternatives

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION: Phase 3 - Reuse on Additional Property for 2.4 mgd (Average Daily Flow, no river discharge during growing season)

CLIENT: City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	UV Disinfection				-
2	Excavation	1	LS	\$25,000	\$25,000
3	Building Expansion	1,600	SF	\$300	\$480,000
4	Piping	150	LF	\$250	\$37,500
5	Valves	4	EA	\$5,000	\$20,000
6	UV Equipment	2.4	MGD	\$330,000	\$792,000
7	Installation	1	LS	25%	\$198,000
8					
9	WRF Pumping Station	Assumed Expansion in Existing Building from Phase 2			
10	Pump Building		SF	\$300	\$0
11	Excavation		LS	\$15,000	\$0
12	Concrete Basement				
13	Floor		CY	\$500	\$0
14	Walls		CY	\$1,000	\$0
15	Top Elevated Slab		CY	\$2,000	\$0
16					
17	Pumps	100	HP	\$1,500	\$150,000
18	Installation and Mark-up	1	LS	25%	\$37,500
19	Piping and Valves	1	EA	\$50,000	\$50,000
20	Pipe coating	1	LS	\$10,000	\$10,000
21					
22	Transmission Piping to Site				
23	Transmission Piping to Site	5,000	LF	\$250	\$1,250,000
24	Directional Drilling Under Primary Road or Railroad	150	LF	\$1,000	\$150,000
25	Valves	3	EA	\$5,000	\$16,667
26					
27	Storage Pond at Site				
28	(double-liner with leak detection)	10	MG	\$175,000	\$1,750,000
29					
30	Irrigation Pump Station				
31	Pump Building	400	SF	\$300	\$120,000
32	Excavation	1	LS	\$15,000	\$15,000
33	CIP concrete wet well				
34	Floor	15	CY	\$500	\$7,407
35	Walls	59	CY	\$1,000	\$59,259
36	Top Elevated Slab	18	CY	\$2,000	\$35,556
37					
38	Vertical Turbine Pumps	200	HP	\$1,500	\$300,000
39	Installation and Mark-up	1	LS	25%	\$75,000
40	Piping and Valves	3	EA	\$25,000	\$75,000
41	Pipe coating	1	LS	\$10,000	\$10,000
42					\$0
43	Irrigation				
44	Distribution Piping	16325	LF	\$175	\$2,856,875
45	Irrigation Distribution (Wheel Lines)	20	Acre	\$2,500	\$50,000
46	Irrigation (Pivots per 160 acres parcel)	4.353333	EA	\$150,000	\$653,000
47	Monitoring Wells	12.16	EA	\$25,000	\$304,000
48	Soil Moisture Monitoring	12.16	EA	\$15,000	\$182,400
49					
50					
51	Permitting (excluded from contractor markups below)	608	Acre	\$250	\$152,000
52					

53					
54					-
55	Additional Elements (estimated % of above)				
56	Contractor mobilization and administration			10.0%	\$971,000
57	Yard Piping			5.0%	\$486,000
58	Site Civil			5.0%	\$486,000
59	Electrical and instrumentation			35.0%	\$3,399,000
60	Bonding			4.0%	\$388,000
61	Contractor overhead and profit			10.0%	\$971,000
SUBTOTAL					\$ 16,563,000
Construction Contingency: 30%					\$ 4,969,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages:7.5%					\$ 1,615,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 4,306,000
Legal and Administrative:1%					\$ 231,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 27,684,000
1	Land Acquisition <i>(excluded from all markups)</i>	653	Acre	\$75,000	\$48,975,000
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 76,659,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

PROJECT: City of Post Falls WRF Facility Plan										DATE: 2/1/2024		
PROJECT DESCRIPTION: Phase 1 - Reuse to 1.0 mgd on Community Forest Property												
CLIENT: City of Post Falls												
P/N: 20-22-019												
	Equipment Maintenance		Labor		NOT USED		Electrical Use - Pumping		Class A UV		Present Worth	
	Capital Cost	\$1,450,700	Hours per day	2	Year 1 Kw-hr demand		Year 1 HP demand 360		Year 1 Cost \$5,500			
	Maintenance / yr	2.0%	Cost per hour	\$50	Cost per kW-hr \$0.07		Cost per kW-hr \$0.07					
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr 4.56%		Increased use / yr 4.56%		Increased use / yr 1.50%		Discount Rate	
					Inflation / yr 5.0%		Inflation / yr 5.0%		Inflation / yr 5.0%		2.5%	
							months of use 6					
Year	Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Total by Year	Present Worth
1		\$29,014		\$26,000		\$0		\$82,307		\$5,500	\$142,821	\$142,821
2		\$30,465		\$26,780		\$0		\$90,364		\$5,862	\$153,470	\$149,727
3		\$31,988		\$27,583		\$0		\$99,208		\$6,247	\$165,027	\$157,075
4		\$33,587		\$28,411		\$0		\$108,919		\$6,658	\$177,575	\$164,896
5		\$35,267		\$29,263		\$0		\$119,580		\$7,096	\$191,205	\$173,223
6		\$37,030		\$30,141		\$0		\$131,284		\$7,562	\$206,018	\$182,090
7		\$38,882		\$31,045		\$0		\$144,135		\$8,059	\$222,121	\$191,534
8		\$40,826		\$31,977		\$0		\$158,242		\$8,589	\$239,634	\$201,596
9		\$42,867		\$32,936		\$0		\$173,731		\$9,154	\$258,688	\$212,317
10		\$45,010		\$33,924		\$0		\$190,736		\$9,756	\$279,426	\$223,744
11		\$47,261		\$34,942		\$0		\$209,405		\$10,397	\$302,005	\$235,926
12		\$49,624		\$35,990		\$0		\$229,902		\$11,081	\$326,596	\$248,914
13		\$52,105		\$37,070		\$0		\$252,405		\$11,809	\$353,389	\$262,764
14		\$54,710		\$38,182		\$0		\$277,110		\$12,586	\$382,588	\$277,537
15		\$57,446		\$39,327		\$0		\$304,233		\$13,413	\$414,420	\$293,296
16		\$60,318		\$40,507		\$0		\$334,012		\$14,295	\$449,132	\$310,110
17		\$63,334		\$41,722		\$0		\$366,705		\$15,235	\$486,996	\$328,053
18		\$66,501		\$42,974		\$0		\$402,598		\$16,237	\$528,310	\$347,202
19		\$69,826		\$44,263		\$0		\$442,004		\$17,304	\$573,398	\$367,643
20		\$73,317		\$45,591		\$0		\$485,268		\$18,442	\$622,618	\$389,465
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)											\$	4,860,000

equivalent yearly cost = \$304,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

PROJECT: City of Post Falls WRF Facility Plan										DATE: 2/1/2024		
PROJECT DESCRIPTION: #REF!												
CLIENT: City of Post Falls												
P/N: 20-22-019												
	Equipment Maintenance		Labor		NOT USED		Electrical Use - Pumping		Class A UV		Present Worth	
	Capital Cost	\$4,605,100	Hours per day	4.5	Year 1 Kw-hr demand		Year 1 HP demand 425		Year 1 Cost \$24,750			
	Maintenance / yr	2.0%	Cost per hour	\$50	Cost per kW-hr \$0.07		Cost per kW-hr \$0.07					
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr 4.56%		Increased use / yr 4.56%		Increased use / yr 1.50%		Discount Rate	
					Inflation / yr 5.0%		Inflation / yr 5.0%		Inflation / yr 5.0%		2.5%	
							months of use 6					
Year	Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Total by Year	Present Worth
1	\$92,102		\$58,500		\$0		\$97,168		\$24,750		\$272,520	\$272,520
2	\$96,707		\$60,255		\$0		\$106,679		\$26,377		\$290,019	\$282,945
3	\$101,542		\$62,063		\$0		\$117,121		\$28,112		\$308,838	\$293,956
4	\$106,620		\$63,925		\$0		\$128,585		\$29,960		\$329,089	\$305,592
5	\$111,951		\$65,842		\$0		\$141,171		\$31,930		\$350,893	\$317,892
6	\$117,548		\$67,818		\$0		\$154,989		\$34,029		\$374,383	\$330,900
7	\$123,425		\$69,852		\$0		\$170,159		\$36,267		\$399,703	\$344,663
8	\$129,597		\$71,948		\$0		\$186,814		\$38,651		\$427,010	\$359,228
9	\$136,077		\$74,106		\$0		\$205,099		\$41,192		\$456,474	\$374,650
10	\$142,880		\$76,329		\$0		\$225,174		\$43,901		\$488,285	\$390,984
11	\$150,024		\$78,619		\$0		\$247,215		\$46,787		\$522,645	\$408,290
12	\$157,526		\$80,978		\$0		\$271,412		\$49,864		\$559,779	\$426,633
13	\$165,402		\$83,407		\$0		\$297,978		\$53,142		\$599,929	\$446,081
14	\$173,672		\$85,909		\$0		\$327,144		\$56,636		\$643,361	\$466,707
15	\$182,356		\$88,486		\$0		\$359,165		\$60,360		\$690,367	\$488,591
16	\$191,473		\$91,141		\$0		\$394,320		\$64,329		\$741,263	\$511,816
17	\$201,047		\$93,875		\$0		\$432,916		\$68,558		\$796,396	\$536,472
18	\$211,099		\$96,692		\$0		\$475,289		\$73,066		\$856,147	\$562,655
19	\$221,654		\$99,592		\$0		\$521,811		\$77,870		\$920,928	\$590,467
20	\$232,737		\$102,580		\$0		\$572,885		\$82,990		\$991,193	\$620,019
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)											\$	8,331,000

equivalent yearly cost = \$521,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

PROJECT: City of Post Falls WRF Facility Plan										DATE: 2/1/2024		
PROJECT DESCRIPTION: Phase 3 - Reuse on Additional Property for 2.4 mgd (Average Daily Flow, no river discharge during growing season)												
CLIENT: City of Post Falls												
P/N: 20-22-019												
	Equipment Maintenance		Labor		NOT USED		Electrical Use - Pumping		Class A UV		Present Worth	
	Capital Cost	\$2,284,900	Hours per day	2	Year 1 Kw-hr demand		Year 1 HP demand 220		Year 1 Cost	\$13,200		
	Maintenance / yr	2.0%	Cost per hour	\$50	Cost per kW-hr \$0.07		Cost per kW-hr \$0.07				Discount Rate	
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr 4.56%		Increased use / yr 4.56%		Increased use / yr	1.50%		
					Inflation / yr 5.0%		Inflation / yr 5.0%		Inflation / yr	5.0%	2.5%	
							months of use 6					
Year	Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Total by Year	Present Worth
1		\$45,698		\$26,000		\$0		\$50,299		\$13,200	\$135,197	\$135,197
2		\$47,983		\$26,780		\$0		\$55,222		\$14,068	\$144,053	\$140,540
3		\$50,382		\$27,583		\$0		\$60,627		\$14,993	\$153,586	\$146,185
4		\$52,901		\$28,411		\$0		\$66,562		\$15,979	\$163,852	\$152,153
5		\$55,546		\$29,263		\$0		\$73,077		\$17,029	\$174,915	\$158,465
6		\$58,324		\$30,141		\$0		\$80,229		\$18,149	\$186,843	\$165,142
7		\$61,240		\$31,045		\$0		\$88,082		\$19,342	\$199,709	\$172,209
8		\$64,302		\$31,977		\$0		\$96,704		\$20,614	\$213,596	\$179,691
9		\$67,517		\$32,936		\$0		\$106,169		\$228,591	\$228,591	\$187,615
10		\$70,893		\$33,924		\$0		\$116,561		\$23,414	\$244,791	\$196,011
11		\$74,437		\$34,942		\$0		\$127,970		\$24,953	\$262,302	\$204,910
12		\$78,159		\$35,990		\$0		\$140,496		\$26,594	\$281,239	\$214,345
13		\$82,067		\$37,070		\$0		\$154,247		\$28,342	\$301,727	\$224,351
14		\$86,170		\$38,182		\$0		\$169,345		\$30,206	\$323,903	\$234,966
15		\$90,479		\$39,327		\$0		\$185,920		\$32,192	\$347,919	\$246,232
16		\$95,003		\$40,507		\$0		\$204,118		\$34,309	\$373,937	\$258,191
17		\$99,753		\$41,722		\$0		\$224,097		\$36,564	\$402,137	\$270,890
18		\$104,741		\$42,974		\$0		\$246,032		\$38,969	\$432,715	\$284,378
19		\$109,978		\$44,263		\$0		\$270,114		\$41,531	\$465,885	\$298,710
20		\$115,477		\$45,591		\$0		\$296,552		\$44,261	\$501,882	\$313,941
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)												\$ 4,184,000

equivalent yearly cost = \$262,000

Historic Irrigation Comparison Data

Lagoon Costs

	Size	Cost	Year				Adjusted to \$/MG 2023 at 5% Interest Per Year 2023	
								Use this value ~150k per MG at 30 MG and prorate up to 200k per MG for 1MG pond
Hagerman	16.9 MG	1850000	2017	\$	109,467	\$ per MG	\$ 146,697	
Franklin	26.9 MG	1093000	2016	\$	40,632	\$ per MG	\$ 57,173	

Irrigation Costs- Hanlines

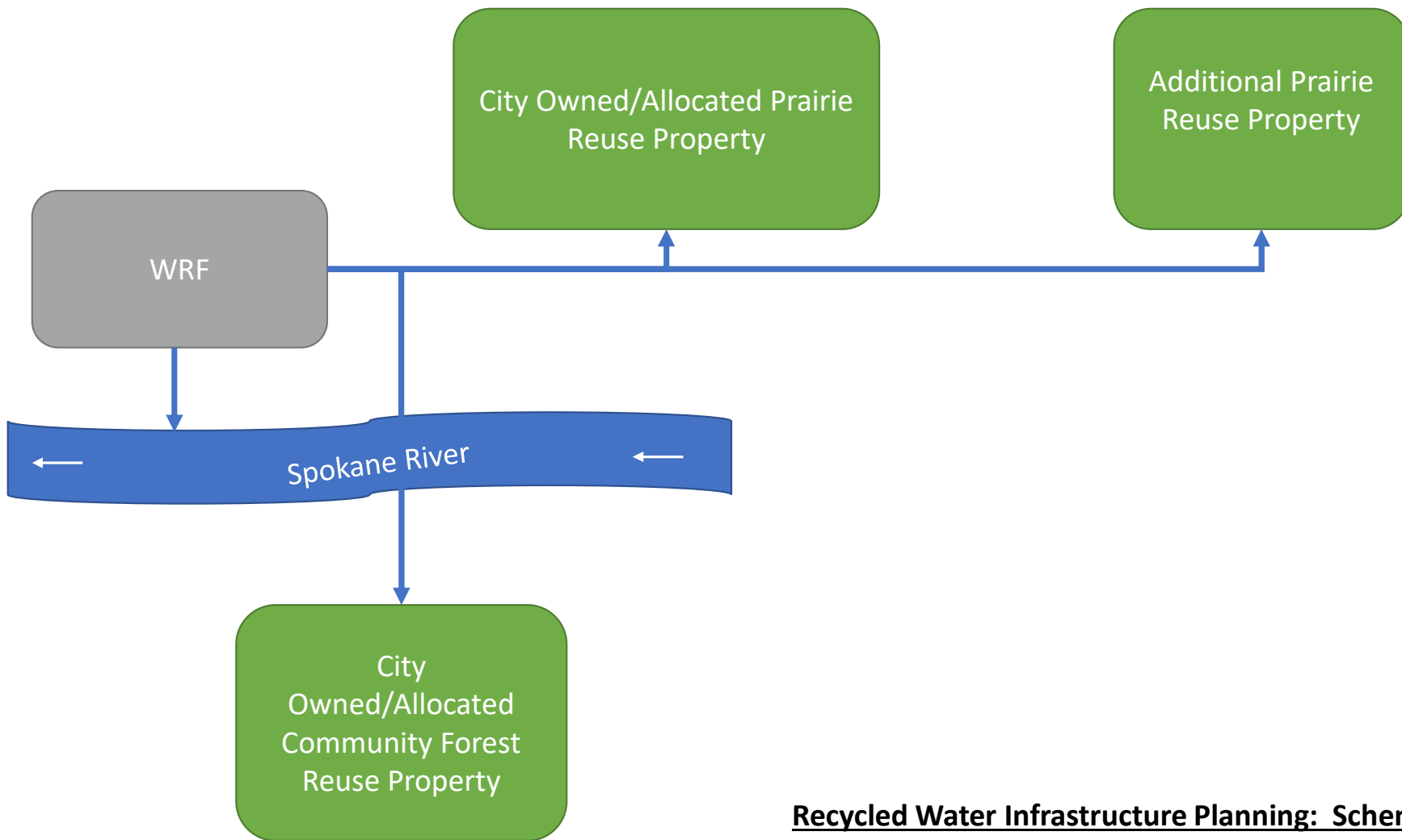
	Size	Cost	Year					
Franklin	2.42 \$/LF		2016					
	25.6 runs per 1/4 mile x 1/4 mile							
Quote from Valley Irrigation (\$3200 for 1/4 mile) = \$100/ stick								
40 acres								
	81920 \$ for 40 acres						\$ 2,882	\$ per acre
	2048 \$ per acre						\$ 3,000	Hand Lines assumed at 3000\$ per acre
							\$ 2,500	Wheel lines assumed at 2500\$ per acre

Traditional Park Irrigation

	Size	Cost	Year				Adjusted to \$/MG 2023 at 5% Interest Per Year 2023	
Past Project								
Payson Hillman Fields	10 AC	370,000	2020	\$	37,000	\$ per ACRE	\$ 42,832	\$ 42,832
Payson Hillman Fields-Add Alt	11 AC	340525	2020	\$	30,957	\$ per ACRE	\$ 35,836	\$ 35,836
Wildcat Park	1 AC	36275	2020	\$	36,275	\$ per ACRE	\$ 41,993	\$ 41,993
Neptune Park	17 AC	195000	2011	\$	11,471	\$ per ACRE	\$ 20,600	
Lewiston Comm Park - Spray/Drip	20.35 AC	76230	2022	\$	76,230	\$ per ACRE	\$ 80,042	
Lewiston Comm Park - Large Rotor	8.57 AC	54450	2022	\$	54,450	\$ per ACRE	\$ 57,173	\$ 57,173
							\$ 80,042	\$ 57,173 Max
							\$ 20,600	\$ 35,836 Min
							\$ 46,412	\$ 44,458 Average

Appendix 5-C

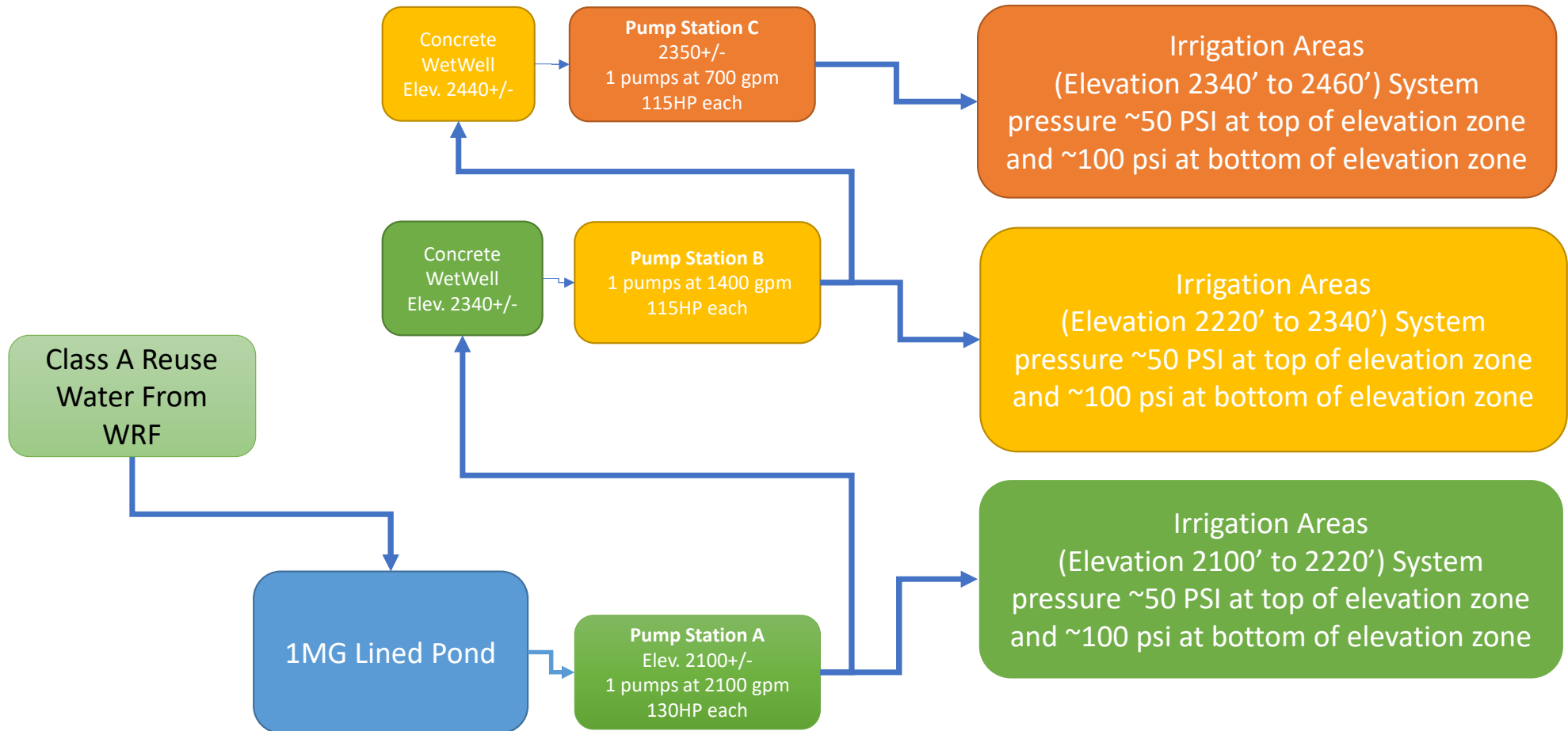
Reuse System Calculations



Recycled Water Infrastructure Planning: Schematic Overview

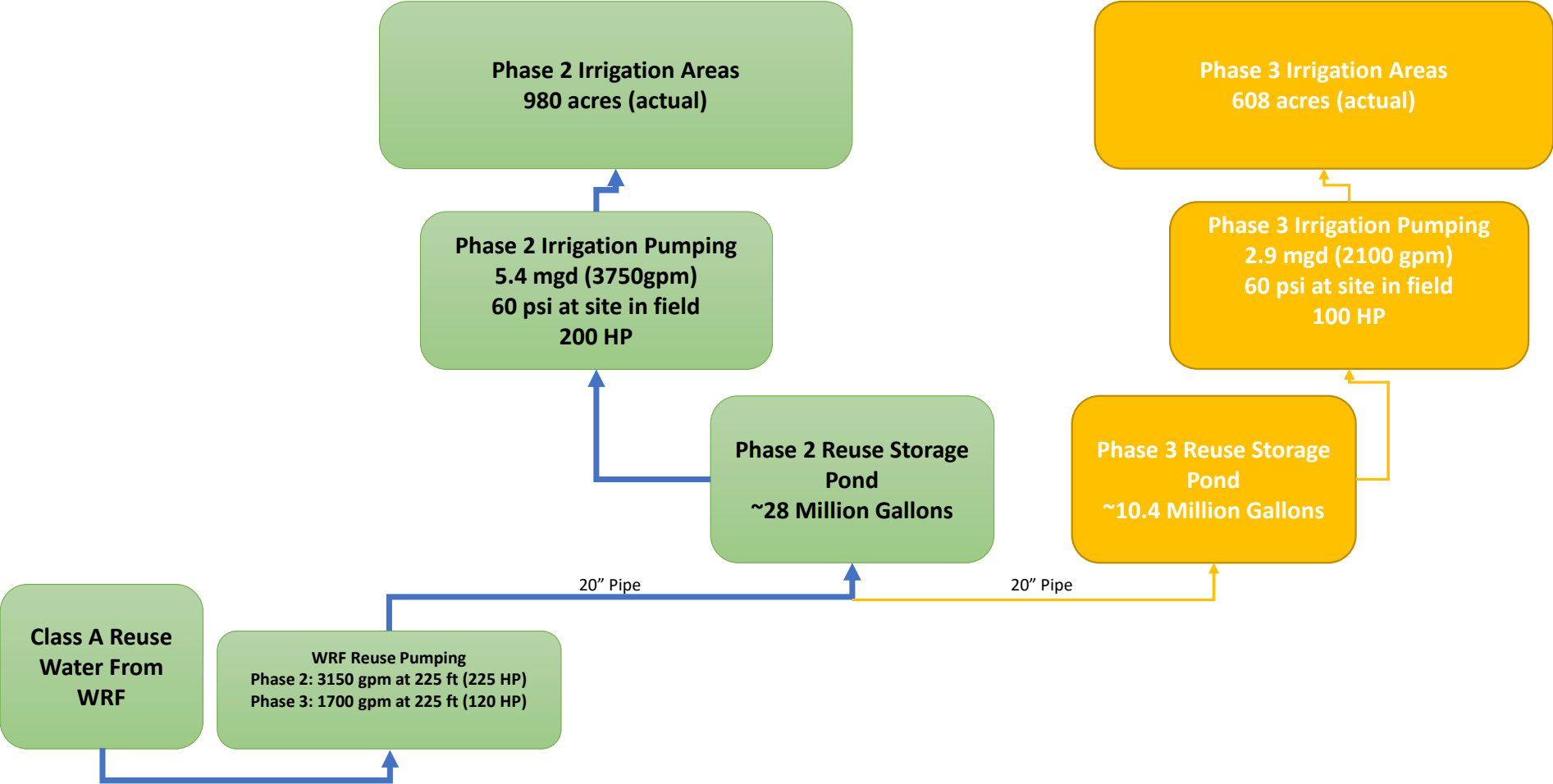
Phase 1 - Community Forest Reuse Infrastructure Schematic

Assumptions for Capital Cost Development (based on Technical Report for WW Reuse Permit, Figure 5-2)



Phase 2 and 3 – Prairie Reuse Infrastructure Schematic

Assumptions for Capital Cost Development



Post Falls WRF

Facility Planning

Reuse Acreage Requirement Calculations and Notes for Cost Opinions

Spring 2023

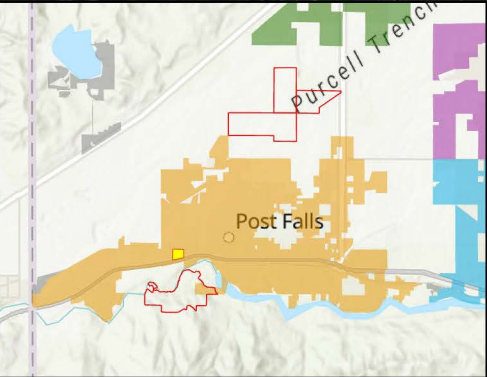
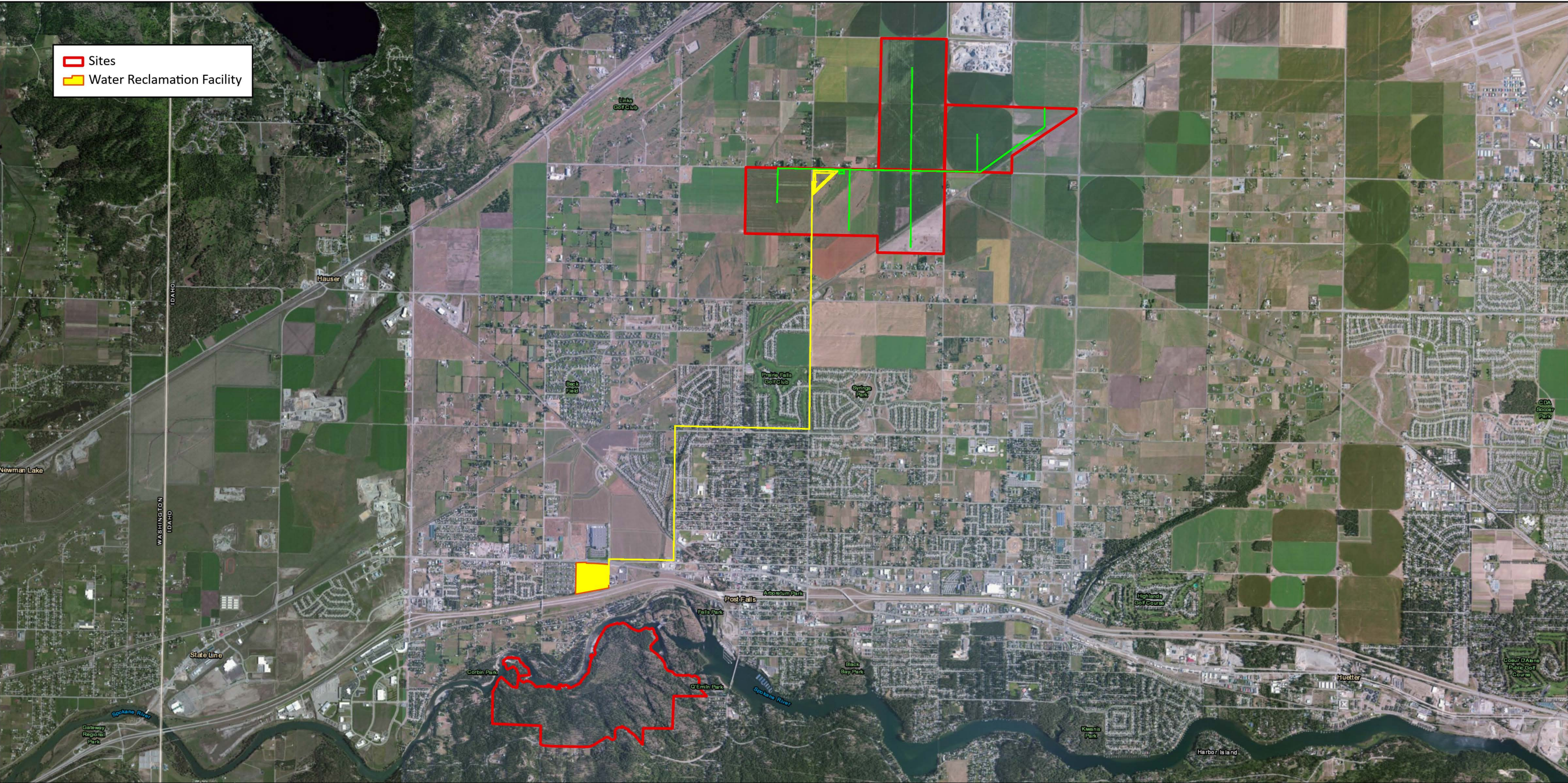
Gross Acreage Summaries				Parcel (for Identification)	Comments on Parcels regarding topography, existing irr equipment/use	Estimated Reduction from Gross Acreage	Notes on reductions, buffers	Actual Acreage Available for Irrigation based on Site Constraints as currently irrigated.	Estimated Gross Reduction Based on Use of Class A from Potable Water Wells (50 Ft), Neighboring Facilities	Notes for Cost Opinion	Crop Assumption	Available for Reuse		
												Phase 1	Phase 2	Phase 3
Community Forest	370	acres			200 irrigable acres			NA				200		
Rathdrum	314	acres		10	Existing Pivots (2 parcels) 160+/- each	14		300	0.06	abandon potable well	Alfalfa or Hay		299.94	
City Public Reserve (Prairie)	738	acres								OK			0.00	
North Crown Point (Trade -)		-80 acres		None	flat					NA			0.00	
North Thompson (Trade +)		64.49 acres		1	No existing irrigation eqpt		2 Edges	62.49		63 acres New Wheel lines	Alfalfa or Hay		62.49	
		160 acres		2	Pivot (nearly full), will require corners with wheel lines.		will require corners to be 5 wheel lines	155		5 Acres Wheel Lines, or Hand Line Corner Eqpt	Alfalfa or Hay		155.00	
		160 acres		3	Terraced (no existin irr eqpt)		Parcel near house 5 acres, plus rock terraces 5 acres; assume 20 acres lost for storage.	130		130 Acres, New Wheel Lines (terraced ground, odd shapes)	Hay		130.00	
		80 acres		4	Pivot (nearly full), or some wheel lines? will require corners with wheel lines.		will require corners to be 5 wheel lines	75		5 Acres Wheel Lines, or Hand Line Corner Eqpt	Alfalfa or Hay		75.00	
North Satchwell (Trade +)		51.7 acres		5	Partial existing pivot or wheel lines?		will require corners to be 5 wheel lines	46.7		20 Acres, New Hand Lines (odd shape)	Alfalfa or Hay		46.70	
South Satchwell (Trade +)		62.03 acres		6	Existing Wheel Lines		2 Edges	60.03	0.06	OK	Alfalfa or Hay		59.97	
		155 acres		7	Pivot (nearly full)		4 corners	151	0.11	abandon potable well x 2	Alfalfa or Hay		150.89	
		5 acres		8	corner south of RR (across tracks)		5 Not cost effective	0		OK			0.00	
		73 acres			Potential site, not currently in acreage analysis		1000 ft from EGID WELLS and School Site	33		OK	Turf Grass			
Total (acres)	1422	currently reserved as of 2023										200	980	
												Future Land Needed For Application-->		
														608
												Likely Gross Land for Purchase Needed (Based on anticipated reductions, consistent with Phase 2) -->		
														653
												MGD Applied (max)-->		
												1.0	4.35	2.55

Footnotes on Acreage for Reuse

Phase 1 capacity determined to be approximately 1.0 mgd based on preliminary site analysis and reuse permit application.

Phase 2 capacity based on crop irrigation water requirement and water balance with targeted storage volume.

Phase 3 capacity estimated based on IRW and gross acreage assumptions for Phase 2 and targeted storage volume. Assumes similar IRW for future phases.



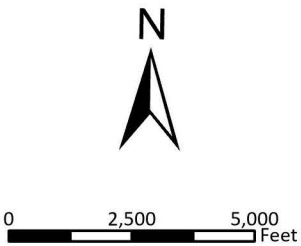
Water Reclamation Sites

Esri, HERE, Garmin, Esri, NASA, NGA, USGS, Esri, HERE, Source: Esri, Maxar, Earthstar Geographics, IGN, and the GIS User Community, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS

Coordinate System: NAD 1983 StatePlane Idaho West FIPS 1103 Feet

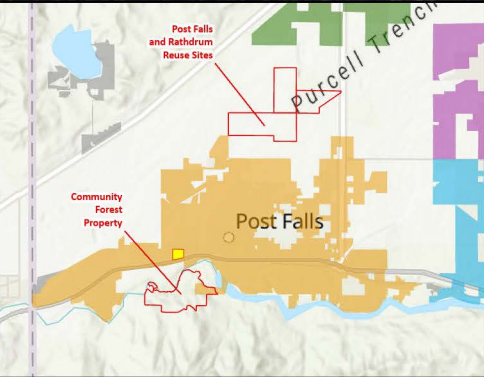
File: \\cdfiles\Public\Projects\GMI CDA\1_CLIENTS\ID\City of Post Falls\20-22-019 WRF Facility Plan Study\PRO\Reuse_mapbook.aprx

2024





- Community Forest Property
- Wells (Source: IDWR)
- Water Reclamation Facility

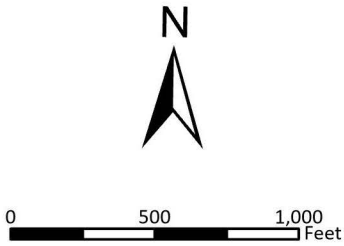


Community Forest Property

Esri, NASA, NGA, USGS, Source: Esri, Maxar, Earthstar Geographics, IGN, and the GIS User Community, Esri, HERE, iPC, Esri, HERE, Garmin, iPC, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS

Coordinate System: NAD 1983 StatePlane Idaho West FIPS 1103 Feet

2024



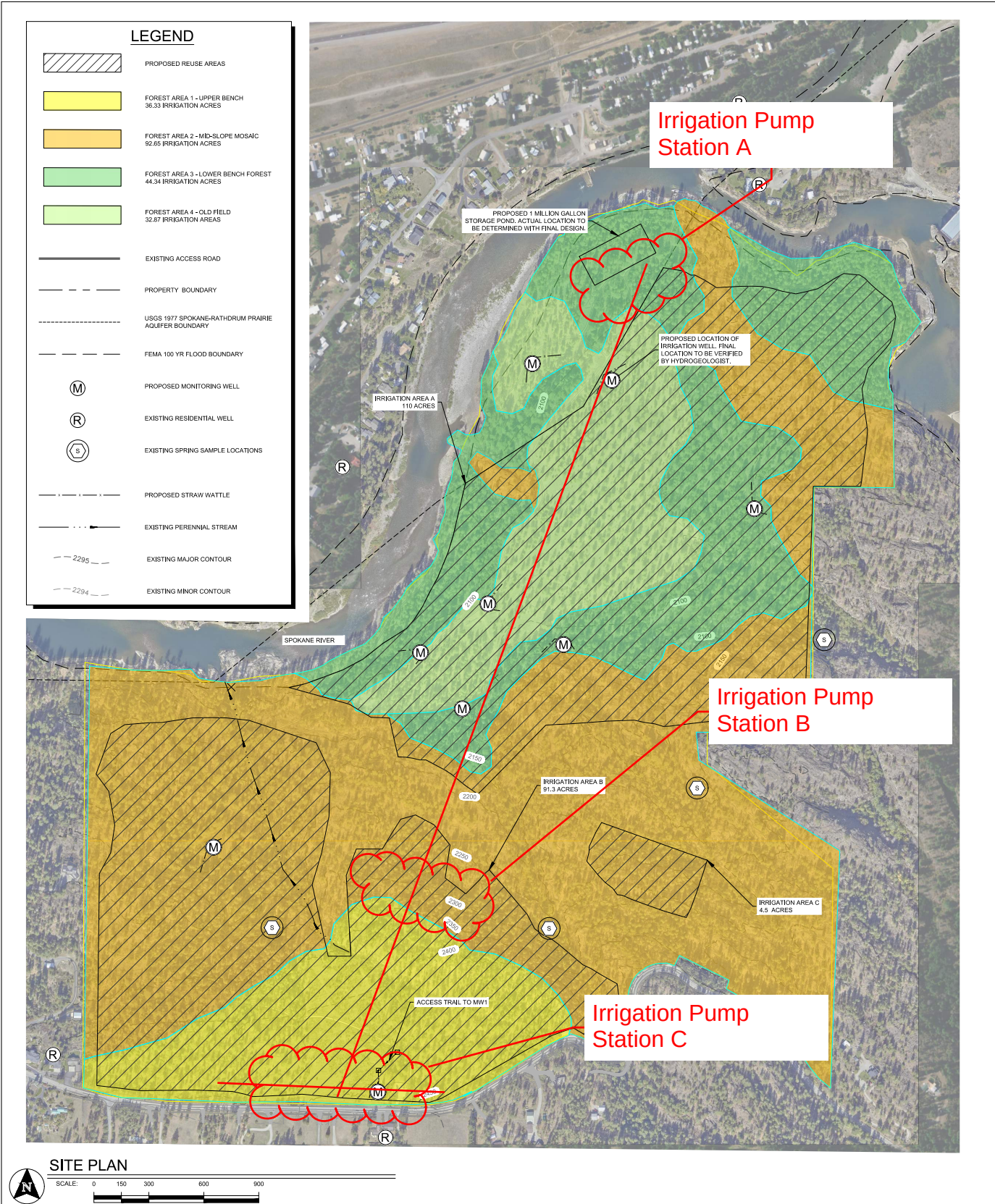


Figure 2 - Site Plan

J-U-B ENGINEERS, Inc.

a 7825 Meadowlark Way, Coeur d'Alene, ID 83815
p 208 762 8787 f 208 762 9797 w www.jub.com

Item **WRF Reuse Pump Phase 1**
Project **City of Post Falls WRF**
Designed **M Conn**

Project No.
Checked/ Date

22-20-019

Data Legend

Input

Result

NEED TO UPDATE THESE
FOR FINAL DESIGN

Find

Flow Range, gpm	Flow Range, mgd	Flow, cfs
1	0.0	0.00223
200	0.3	0.446
300	0.4	0.669
400	0.6	0.892
500	0.7	1.115
600	0.9	1.338
700	1.0	1.561
800	1.2	1.784
900	1.3	2.007
1000	1.4	2.23
1100	1.6	2.453

Elevation Data

Pump Elevation	2125.00	ft
Discharge Elevation (High Water)	2150.00	ft
Discharge Elevation (Low Water)	2150.00	ft
Suction Elevation (High Water)	2120.00	ft
Suction Elevation (Low Water)	2120.00	ft

Static Head

Consider two conditions:

1) High Static Head Condition

High Static Head

30 ft

High Static Head = Discharge Elevation (High Water) - Suction Elevation (Low Water,

2) Low Static Head Condition

Low Static Head

30 ft

Low Static Head = Discharge Elevation (Low Water) - Suction Elevation (High Water,

Headloss Summary

Reference subsequent worksheets for pipe characteristic input parameters and headloss calculations.

Flow, gpm	Suction Piping Headloss, ft			Discharge Piping Headloss, ft		
	Pipe Friction	Local (minor) Friction	Combined Headloss	Pipe Friction	Local (minor) Friction	Combined Headloss
1	0.0	0.0	0.0	0.0	0.0	0.0
200	0.0	0.1	0.1	0.1	0.1	0.2
300	0.0	0.3	0.3	0.2	0.2	0.5
400	0.1	0.4	0.5	0.4	0.4	0.8
500	0.1	0.7	0.8	0.6	0.7	1.3
600	0.2	1.0	1.2	0.8	1.0	1.8
700	0.2	1.4	1.6	1.1	1.3	2.4
800	0.3	1.8	2.1	1.5	1.7	3.1
900	0.4	2.3	2.6	1.8	2.1	4.0
1000	0.5	2.8	3.2	2.2	2.7	4.9
1100	0.5	3.4	3.9	2.7	3.2	5.9

Total Dynamic Head (TDH)

Consider two conditions:

1) High Static Head TDH

2) Low Static Head TDH

TDH = Static Head + Disch hL + Suct hL

TDH (High Static Head) = High Static Head + Disch hL + Suct hL

TDH (Low Static Head) = Low Static Head + Disch hL + Suct hL

Flow, gpm	TDH (High Static Head)	TDH (Low Static Head)
1	30.0	30.0
200	30.4	30.4
300	30.8	30.8
400	31.4	31.4
500	32.1	32.1
600	33.0	33.0
700	34.0	34.0
800	35.2	35.2
900	36.6	36.6
1000	38.1	38.1
1100	39.8	39.8

Net Positive Suction Head

$$NPSH\ (available) = Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Consider two conditions:

1) High Static Suction Head NPSH

$$NPSH = High\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

2) Low Static Suction Head NPSH

$$NPSH = Low\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Flow, gpm	AVAILABLE	
	NPSH (High Static Head)	NPSH (Low Static Head)
1	26.1	26.1
200	25.9	25.9
300	25.8	25.8
400	25.5	25.5
500	25.2	25.2
600	24.9	24.9
700	24.5	24.5
800	24.0	24.0
900	23.4	23.4
1000	22.8	22.8
1100	22.1	22.1

Head	Flow

PUMP CURVE SELECTIONS

TBD

HP Calculation

62.4 lbf

65.52 ASSUME FOS 1.05

1.561 Flow, CFS

34.0 H

0.6 pump efficiency

700 gpm

10.04 HP

J-U-B ENGINEERS, Inc.

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Item **WRF Reuse Pump Phase 2**
Project **City of Post Falls WRF**
Designed **M Conn**

Project No.
Checked/ Date

22-20-019

Data Legend Input

Result

**NEED TO UPDATE THESE
FOR FINAL DESIGN**

Find

Flow Range, gpm	Flow Range, mgd	Flow, cfs
1	0.0	0.00223
400	0.6	0.892
800	1.2	1.784
1200	1.7	2.676
1600	2.3	3.568
2000	2.9	4.46
2400	3.5	5.352
2800	4.0	6.244
3150	4.5	7.0245
3600	5.2	8.028
4850	7.0	10.8155

Elevation Data	
Pump Elevation	0.00 ft
Discharge Elevation (High Water)	110.00 ft
Discharge Elevation (Low Water)	110.00 ft
Suction Elevation (High Water)	10.00 ft
Suction Elevation (Low Water)	10.00 ft

Static Head

Static Head = Discharge Elevation - Suction Elevation

Consider two conditions:

1) High Static Head Condition

High Static Head

100 ft

High Static Head = Discharge Elevation (High Water) - Suction Elevation (Low Water,

2) Low Static Head Condition

Low Static Head

100 ft

Low Static Head = Discharge Elevation (Low Water) - Suction Elevation (High Water,

Headloss Summary

Reference subsequent worksheets for pipe characteristic input parameters and headloss calculations.

Flow, gpm	Suction Piping Headloss, ft			Discharge Piping Headloss, ft		
	Pipe Friction	Local (minor) Friction	Combined Headloss	Pipe Friction	Local (minor) Friction	Combined Headloss
1	0.0	0.0	0.0	0.0	0.0	0.0
400	0.0	0.1	0.1	0.8	0.2	1.0
800	0.0	0.4	0.4	2.9	0.7	3.6
1200	0.1	0.8	0.9	6.1	1.6	7.6
1600	0.1	1.4	1.6	10.4	2.8	13.2
2000	0.2	2.2	2.4	15.9	4.4	20.2
2400	0.3	3.2	3.5	22.5	6.3	28.7
2800	0.4	4.3	4.7	30.1	8.5	38.7
3150	0.5	5.5	6.0	37.8	10.8	48.6
3600	0.7	7.1	7.8	48.8	14.1	62.9
4850	1.2	12.9	14.2	86.8	25.6	112.4

Total Dynamic Head (TDH)

TDH = Static Head + Disch hL + Suct hL

Consider two conditions:

1) High Static Head TDH

TDH (High Static Head) = High Static Head + Disch hL + Suct hL

2) Low Static Head TDH

TDH (Low Static Head) = Low Static Head + Disch hL + Suct hL

Flow, gpm	TDH (High Static Head)	TDH (Low Static Head)
1	100.0	100.0
400	101.1	101.1
800	103.9	103.9
1200	108.5	108.5
1600	114.8	114.8
2000	122.7	122.7
2400	132.2	132.2
2800	143.4	143.4
3150	154.6	154.6
3600	170.7	170.7
4850	226.5	226.5

Net Positive Suction Head

$$NPSH\ (available) = Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Consider two conditions:

- 1) High Static Suction Head NPSH
- 2) Low Static Suction Head NPSH

$$NPSH = High\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

$$NPSH = Low\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Flow, gpm	AVAILABLE	
	NPSH (High Static Head)	NPSH (Low Static Head)
1	41.1	41.1
400	41.0	41.0
800	40.7	40.7
1200	40.2	40.2
1600	39.5	39.5
2000	38.6	38.6
2400	37.6	37.6
2800	36.3	36.3
3150	35.1	35.1
3600	33.2	33.2
4850	26.9	26.9

Head	Flow

PUMP CURVE SELECTIONS

TBD

HP Calculation

62.4 lbf

65.52 ASSUME FOS 1.05

7.0 Flow, CFS

225.0 H

0.8 pump efficiency

3150 gpm

224.1 HP

J-U-B ENGINEERS, Inc.

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Item **WRF Reuse Pump Phase 3**
Project **City of Post Falls WRF**
Designed **M Conn**

Project No.
Checked/ Date

22-20-019

Data Legend

Input

Result

NEED TO UPDATE THESE
FOR FINAL DESIGN

Find

Flow Range, gpm	Flow Range, mgd	Flow, cfs
1	0.0	0.00223
300	0.4	0.669
600	0.9	1.338
900	1.3	2.007
1200	1.7	2.676
1700	2.4	3.791
1800	2.6	4.014
2100	3.0	4.683
2400	3.5	5.352
2700	3.9	6.021
3000	4.3	6.69

Elevation Data

Pump Elevation	0.00	ft
Discharge Elevation (High Water)	110.00	ft
Discharge Elevation (Low Water)	110.00	ft
Suction Elevation (High Water)	10.00	ft
Suction Elevation (Low Water)	10.00	ft

Static Head

Static Head = Discharge Elevation - Suction Elevation

Consider two conditions:

1) High Static Head Condition

High Static Head

100 ft

High Static Head = Discharge Elevation (High Water) - Suction Elevation (Low Water,

2) Low Static Head Condition

Low Static Head

100 ft

Low Static Head = Discharge Elevation (Low Water) - Suction Elevation (High Water,

Headloss Summary

Reference subsequent worksheets for pipe characteristic input parameters and headloss calculations.

Flow, gpm	Suction Piping Headloss, ft			Discharge Piping Headloss, ft		
	Pipe Friction	Local (minor) Friction	Combined Headloss	Pipe Friction	Local (minor) Friction	Combined Headloss
1	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.0	0.1	0.5	0.1	0.6
600	0.0	0.2	0.2	1.7	0.4	2.1
900	0.1	0.4	0.5	3.6	0.9	4.4
1200	0.1	0.8	0.9	6.1	1.6	7.6
1700	0.2	1.6	1.8	11.7	3.1	14.8
1800	0.2	1.8	2.0	13.0	3.5	16.5
2100	0.2	2.4	2.7	17.4	4.8	22.2
2400	0.3	3.2	3.5	22.5	6.3	28.7
2700	0.4	4.0	4.4	28.1	7.9	36.1
3000	0.5	5.0	5.4	34.4	9.8	44.2

Total Dynamic Head (TDH)

TDH = Static Head + Disch hL + Suct hL

Consider two conditions:

1) High Static Head TDH

TDH (High Static Head) = High Static Head + Disch hL + Suct hL

2) Low Static Head TDH

TDH (Low Static Head) = Low Static Head + Disch hL + Suct hL

Flow, gpm	TDH (High Static Head)	TDH (Low Static Head)
1	100.0	100.0
300	100.6	100.6
600	102.3	102.3
900	104.9	104.9
1200	108.5	108.5
1700	116.6	116.6
1800	118.5	118.5
2100	124.9	124.9
2400	132.2	132.2
2700	140.5	140.5
3000	149.6	149.6

Net Positive Suction Head

$$NPSH\ (available) = Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Consider two conditions:

- 1) High Static Suction Head NPSH
- 2) Low Static Suction Head NPSH

$$NPSH = High\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

$$NPSH = Low\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Flow, gpm	AVAILABLE	
	NPSH (High Static Head)	NPSH (Low Static Head)
1	41.1	41.1
300	41.0	41.0
600	40.8	40.8
900	40.6	40.6
1200	40.2	40.2
1700	39.3	39.3
1800	39.1	39.1
2100	38.4	38.4
2400	37.6	37.6
2700	36.7	36.7
3000	35.6	35.6

Head	Flow

PUMP CURVE SELECTIONS

TBD

HP Calculation

62.4 lbf

65.52 ASSUME FOS 1.05

3.791 Flow, CFS

225.0 H

0.8 pump efficiency

1700 gpm

121 HP

J-U-B ENGINEERS, Inc.

a 7825 Meadowlark Way, Coeur d'Alene, ID 83815
p 208 762 8787 f 208 762 9797 w www.jub.com

Item **Reuse Irrigation Pump Phase 1-PSA**
Project **City of Post Falls WRF**
Designed **M Conn**

Project No.
Checked/ Date

22-20-019

Data Legend

Input

Result

IRRIGATION
PUMP STATION A

Find

Flow Range, gpm	Flow Range, mgd	Flow, cfs
1	0.0	0.00223
300	0.4	0.669
700	1.0	1.561
1100	1.6	2.453
1500	2.2	3.345
1900	2.7	4.237
2100	3.0	4.683
2500	3.6	5.575
3100	4.5	6.913
3500	5.0	7.805
3900	5.6	8.697

Elevation Data

Pump Elevation	2100.00	ft
Discharge Elevation (High Water)	2340.00	ft
Discharge Elevation (Low Water)	2340.00	ft
Suction Elevation (High Water)	2110.00	ft
Suction Elevation (Low Water)	2110.00	ft

Static Head

Static Head = Discharge Elevation - Suction Elevation

Consider two conditions:

1) High Static Head Condition

High Static Head

230 ft

High Static Head = Discharge Elevation (High Water) - Suction Elevation (Low Water,

2) Low Static Head Condition

Low Static Head

230 ft

Low Static Head = Discharge Elevation (Low Water) - Suction Elevation (High Water,

Headloss Summary

Reference subsequent worksheets for pipe characteristic input parameters and headloss calculations.

Flow, gpm	Suction Piping Headloss, ft			Discharge Piping Headloss, ft		
	Pipe Friction	Local (minor) Friction	Combined Headloss	Pipe Friction	Local (minor) Friction	Combined Headloss
1	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.3	0.3	0.1	0.1	0.2
700	0.2	1.4	1.6	0.6	0.7	1.2
1100	0.5	3.4	3.9	1.3	1.6	3.0
1500	1.0	6.3	7.3	2.4	3.1	5.5
1900	1.5	10.1	11.6	3.8	4.9	8.7
2100	1.9	12.3	14.2	4.6	6.0	10.6
2500	2.6	17.4	20.0	6.4	8.5	14.9
3100	4.0	26.8	30.8	9.8	13.1	22.8
3500	5.1	34.1	39.2	12.3	16.7	29.0
3900	6.2	42.4	48.6	15.2	20.7	35.9

Total Dynamic Head (TDH)

TDH = Static Head + Disch hL + Suct hL

Consider two conditions:

1) High Static Head TDH

TDH (High Static Head) = High Static Head + Disch hL + Suct hL

2) Low Static Head TDH

TDH (Low Static Head) = Low Static Head + Disch hL + Suct hL

Flow, gpm	TDH (High Static Head)	TDH (Low Static Head)
1	230.0	230.0
300	230.5	230.5
700	232.8	232.8
1100	236.9	236.9
1500	242.7	242.7
1900	250.3	250.3
2100	254.8	254.8
2500	265.0	265.0
3100	283.6	283.6
3500	298.2	298.2
3900	314.5	314.5

Net Positive Suction Head

$$NPSH\ (available) = Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Consider two conditions:

1) High Static Suction Head NPSH

$$NPSH = High\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

2) Low Static Suction Head NPSH

$$NPSH = Low\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Flow, gpm	AVAILABLE	
	NPSH (High Static Head)	NPSH (Low Static Head)
1	41.1	41.1
300	40.8	40.8
700	39.5	39.5
1100	37.1	37.1
1500	33.8	33.8
1900	29.5	29.5
2100	26.9	26.9
2500	21.0	21.0
3100	10.3	10.3
3500	1.9	1.9
3900	-7.5	-7.5

Head	Flow

PUMP CURVE SELECTIONS

TBD

HP Calculation

62.4 lbf

65.52 ASSUME FOS 1.05

3.345 Flow, CFS

254.8 H

0.75 pump efficiency

2100 gpm

128.91 HP

J-U-B ENGINEERS, Inc.

a 7825 Meadowlark Way, Coeur d'Alene, ID 83815
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Item **Reuse Irrigation Pump Phase 1-PSB**
Project **City of Post Falls WRF**
Designed **M Conn**

Project No.
Checked/ Date

22-20-019

Data Legend

Input

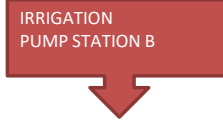
Result

Find

Flow Range, gpm	Flow Range, mgd	Flow, cfs
1	0.0	0.00223
300	0.4	0.669
700	1.0	1.561
1100	1.6	2.453
1400	2.0	3.122
1900	2.7	4.237
2100	3.0	4.683
2500	3.6	5.575
3100	4.5	6.913
3500	5.0	7.805
3900	5.6	8.697

Elevation Data

Pump Elevation	2220.00	ft
Discharge Elevation (High Water)	2440.00	ft
Discharge Elevation (Low Water)	2440.00	ft
Suction Elevation (High Water)	2230.00	ft
Suction Elevation (Low Water)	2230.00	ft



Static Head

Consider two conditions:

1) High Static Head Condition

High Static Head

210 ft

High Static Head = Discharge Elevation (High Water) - Suction Elevation (Low Water,

2) Low Static Head Condition

Low Static Head

210 ft

Low Static Head = Discharge Elevation (Low Water) - Suction Elevation (High Water,

Headloss Summary

Reference subsequent worksheets for pipe characteristic input parameters and headloss calculations.

Flow, gpm	Suction Piping Headloss, ft			Discharge Piping Headloss, ft		
	Pipe Friction	Local (minor) Friction	Combined Headloss	Pipe Friction	Local (minor) Friction	Combined Headloss
1	0.0	0.0	0.0	0.0	0.0	0.0
300	0.0	0.3	0.3	0.5	0.5	1.1
700	0.2	1.4	1.6	2.5	2.9	5.4
1100	0.5	3.4	3.9	5.9	7.3	13.2
1400	0.9	5.5	6.3	9.4	11.8	21.2
1900	1.5	10.1	11.6	16.9	21.7	38.6
2100	1.9	12.3	14.2	20.6	26.5	47.1
2500	2.6	17.4	20.0	28.9	37.6	66.4
3100	4.0	26.8	30.8	44.0	57.7	101.7
3500	5.1	34.1	39.2	55.8	73.6	129.4
3900	6.2	42.4	48.6	69.0	91.4	160.4

Total Dynamic Head (TDH)

Consider two conditions:

1) High Static Head TDH

2) Low Static Head TDH

TDH = Static Head + Disch hL + Suct hL

TDH (High Static Head) = High Static Head + Disch hL + Suct hL

TDH (Low Static Head) = Low Static Head + Disch hL + Suct hL

Flow, gpm	TDH (High Static Head)	TDH (Low Static Head)
1	210.0	210.0
300	211.4	211.4
700	217.0	217.0
1100	227.1	227.1
1400	237.5	237.5
1900	260.2	260.2
2100	271.2	271.2
2500	296.5	296.5
3100	342.5	342.5
3500	378.6	378.6
3900	419.0	419.0

Net Positive Suction Head

$$NPSH\ (available) = Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Consider two conditions:

- 1) High Static Suction Head NPSH
- 2) Low Static Suction Head NPSH

$$NPSH = High\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

$$NPSH = Low\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Flow, gpm	AVAILABLE	
	NPSH (High Static Head)	NPSH (Low Static Head)
1	41.1	41.1
300	40.8	40.8
700	39.5	39.5
1100	37.1	37.1
1400	34.7	34.7
1900	29.5	29.5
2100	26.9	26.9
2500	21.0	21.0
3100	10.3	10.3
3500	1.9	1.9
3900	-7.5	-7.5

Head	Flow

PUMP CURVE SELECTIONS

TBD

HP Calculation

62.4 lbf

65.52 ASSUME FOS 1.05

3.122 Flow, CFS

237.5 H

0.75 pump efficiency

1400 gpm

112.15 HP

J-U-B ENGINEERS, Inc.

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Item **Reuse Irrigation Pump Phase 1-PSC**
Project **City of Post Falls WRF**
Designed **M Conn**

Project No.
Checked/ Date

22-20-019

Data Legend

Input

Result

IRRIGATION
PUMP STATION C

Find

Flow Range, gpm	Flow Range, mgd	Flow, cfs
1	0.0	0.00223
300	0.4	0.669
700	1.0	1.561
1100	1.6	2.453
1400	2.0	3.122
1900	2.7	4.237
2100	3.0	4.683
2500	3.6	5.575
3100	4.5	6.913
3500	5.0	7.805
3900	5.6	8.697

Elevation Data

Pump Elevation	2350.00	ft
Discharge Elevation (High Water)	2575.50	ft
Discharge Elevation (Low Water)	2575.50	ft
Suction Elevation (High Water)	2360.00	ft
Suction Elevation (Low Water)	2360.00	ft

Static Head

Static Head = Discharge Elevation - Suction Elevation

Consider two conditions:

1) High Static Head Condition

High Static Head

215.5 ft

High Static Head = Discharge Elevation (High Water) - Suction Elevation (Low Water),

2) Low Static Head Condition

Low Static Head

215.5 ft

Low Static Head = Discharge Elevation (Low Water) - Suction Elevation (High Water),

Headloss Summary

Reference subsequent worksheets for pipe characteristic input parameters and headloss calculations.

Flow, gpm	Suction Piping Headloss, ft			Discharge Piping Headloss, ft		
	Pipe Friction	Local (minor) Friction	Combined Headloss	Pipe Friction	Local (minor) Friction	Combined Headloss
1	0.0	0.0	0.0	0.0	0.0	0.0
300	0.2	0.8	1.0	3.7	2.0	5.7
700	1.0	4.3	5.3	18.7	10.7	29.4
1100	2.3	10.7	13.0	45.0	26.3	71.3
1400	3.7	17.3	20.9	72.1	42.6	114.7
1900	6.7	31.8	38.5	131.2	78.5	209.7
2100	8.1	38.8	46.9	159.7	95.9	255.6
2500	11.4	55.0	66.4	225.2	135.9	361.1
3100	17.4	84.6	102.0	344.3	209.0	553.4
3500	22.0	107.9	129.9	437.8	266.5	704.2
3900	27.3	133.9	161.2	542.4	330.8	873.2

Total Dynamic Head (TDH)

TDH = Static Head + Disch hL + Suct hL

Consider two conditions:

1) High Static Head TDH

TDH (High Static Head) = High Static Head + Disch hL + Suct hL

2) Low Static Head TDH

TDH (Low Static Head) = Low Static Head + Disch hL + Suct hL

Flow, gpm	TDH (High Static Head)	TDH (Low Static Head)
1	215.5	215.5
300	222.2	222.2
700	250.2	250.2
1100	299.8	299.8
1400	351.1	351.1
1900	463.6	463.6
2100	518.1	518.1
2500	643.0	643.0
3100	870.8	870.8
3500	1049.6	1049.6
3900	1249.9	1249.9

Net Positive Suction Head

$$NPSH\ (available) = Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Consider two conditions:

- 1) High Static Suction Head NPSH
- 2) Low Static Suction Head NPSH

$$NPSH = High\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

$$NPSH = Low\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Flow, gpm	AVAILABLE	
	NPSH (High Static Head)	NPSH (Low Static Head)
1	41.1	41.1
300	40.1	40.1
700	35.8	35.8
1100	28.1	28.1
1400	20.1	20.1
1900	2.6	2.6
2100	-5.9	-5.9
2500	-25.4	-25.4
3100	-60.9	-60.9
3500	-88.8	-88.8
3900	-120.1	-120.1

Head	Flow

PUMP CURVE SELECTIONS

TBD

HP Calculation

62.4 lbf

65.52 ASSUME FOS 1.05

1.561 Flow, CFS

250.2 H

0.75 pump efficiency

700 gpm

59.07 HP

J-U-B ENGINEERS, Inc.

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Item **Reuse Irrigation Pump Phase 2**
Project **City of Post Falls WRF**
Designed **M Conn**

Project No.
Checked/ Date

22-20-019

Data Legend

Input

Result

NEED TO UPDATE THESE
FOR FINAL DESIGN

Find

Flow Range, gpm	Flow Range, mgd	Flow, cfs
1	0.0	0.00223
600	0.9	1.338
1200	1.7	2.676
1800	2.6	4.014
2400	3.5	5.352
3000	4.3	6.69
3600	5.2	8.028
3850	5.5	8.5855
4800	6.9	10.704
5400	7.8	12.042
6000	8.6	13.38

Elevation Data

Pump Elevation	10.00	ft
Discharge Elevation (High Water)	150.80	ft
Discharge Elevation (Low Water)	150.80	ft
Suction Elevation (High Water)	5.00	ft
Suction Elevation (Low Water)	5.00	ft

Static Head

Static Head = Discharge Elevation - Suction Elevation

Consider two conditions:

1) High Static Head Condition

High Static Head

145.8 ft

High Static Head = Discharge Elevation (High Water) - Suction Elevation (Low Water),

2) Low Static Head Condition

Low Static Head

145.8 ft

Low Static Head = Discharge Elevation (Low Water) - Suction Elevation (High Water),

Headloss Summary

Reference subsequent worksheets for pipe characteristic input parameters and headloss calculations.

Flow, gpm	Suction Piping Headloss, ft			Discharge Piping Headloss, ft		
	Pipe Friction	Local (minor) Friction	Combined Headloss	Pipe Friction	Local (minor) Friction	Combined Headloss
1	0.0	0.0	0.0	0.0	0.0	0.0
600	0.0	0.0	0.0	0.1	0.1	0.2
1200	0.0	0.0	0.0	0.5	0.3	0.9
1800	0.0	0.0	0.0	1.1	0.8	1.9
2400	0.0	0.0	0.0	1.9	1.4	3.3
3000	0.0	0.0	0.0	2.9	2.2	5.0
3600	0.0	0.0	0.0	4.1	3.1	7.2
3850	0.0	0.0	0.0	4.6	3.6	8.2
4800	0.0	0.0	0.0	7.1	5.6	12.6
5400	0.0	0.0	0.0	8.9	7.1	15.9
6000	0.0	0.0	0.0	10.9	8.7	19.6

Total Dynamic Head (TDH)

TDH = Static Head + Disch hL + Suct hL

Consider two conditions:

1) High Static Head TDH

TDH (High Static Head) = High Static Head + Disch hL + Suct hL

2) Low Static Head TDH

TDH (Low Static Head) = Low Static Head + Disch hL + Suct hL

Flow, gpm	TDH (High Static Head)	TDH (Low Static Head)
1	145.8	145.8
600	146.0	146.0
1200	146.7	146.7
1800	147.7	147.7
2400	149.1	149.1
3000	150.8	150.8
3600	153.0	153.0
3850	154.0	154.0
4800	158.4	158.4
5400	161.7	161.7
6000	165.4	165.4

Net Positive Suction Head

$$NPSH\ (available) = Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Consider two conditions:

1) High Static Suction Head NPSH

$$NPSH = High\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

2) Low Static Suction Head NPSH

$$NPSH = Low\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Flow, gpm	AVAILABLE	
	NPSH (High Static Head)	NPSH (Low Static Head)
1	26.1	26.1
600	26.1	26.1
1200	26.1	26.1
1800	26.1	26.1
2400	26.1	26.1
3000	26.1	26.1
3600	26.1	26.1
3850	26.1	26.1
4800	26.1	26.1
5400	26.1	26.1
6000	26.1	26.1

Head	Flow

PUMP CURVE SELECTIONS

TBD

HP Calculation

62.4 lbf

65.52 ASSUME FOS 1.05

8.5855 Flow, CFS

154.0 H

0.8 pump efficiency

3850 gpm

188 HP

J-U-B ENGINEERS, Inc.

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Item **Reuse Irrigation Pump Phase 3**
Project **City of Post Falls WRF**
Designed **M Conn**

Project No.
Checked/ Date

22-20-019

Data Legend

Input

Result

NEED TO UPDATE THESE
FOR FINAL DESIGN

Find

Flow Range, gpm	Flow Range, mgd	Flow, cfs
1	0.0	0.00223
250	0.4	0.5575
500	0.7	1.115
750	1.1	1.6725
1000	1.4	2.23
1250	1.8	2.7875
1500	2.2	3.345
1750	2.5	3.9025
2000	2.9	4.46
2250	3.2	5.0175
2500	3.6	5.575

Elevation Data

Pump Elevation	10.00	ft
Discharge Elevation (High Water)	150.80	ft
Discharge Elevation (Low Water)	150.80	ft
Suction Elevation (High Water)	5.00	ft
Suction Elevation (Low Water)	5.00	ft

Static Head

Consider two conditions:

1) High Static Head Condition

High Static Head

145.8 ft

High Static Head = Discharge Elevation (High Water) - Suction Elevation (Low Water,

2) Low Static Head Condition

Low Static Head

145.8 ft

Low Static Head = Discharge Elevation (Low Water) - Suction Elevation (High Water,

Headloss Summary

Reference subsequent worksheets for pipe characteristic input parameters and headloss calculations.

Flow, gpm	Suction Piping Headloss, ft			Discharge Piping Headloss, ft		
	Pipe Friction	Local (minor) Friction	Combined Headloss	Pipe Friction	Local (minor) Friction	Combined Headloss
1	0.0	0.0	0.0	0.0	0.0	0.0
250	0.0	0.0	0.0	0.2	0.1	0.3
500	0.0	0.0	0.0	0.6	0.5	1.1
750	0.0	0.0	0.0	1.3	1.1	2.4
1000	0.0	0.0	0.0	2.2	1.9	4.1
1250	0.0	0.0	0.0	3.4	3.0	6.4
1500	0.0	0.0	0.0	4.8	4.3	9.1
1750	0.0	0.0	0.0	6.4	5.9	12.3
2000	0.0	0.0	0.0	8.3	7.7	15.9
2250	0.0	0.0	0.0	10.4	9.7	20.1
2500	0.0	0.0	0.0	12.7	12.0	24.7

Total Dynamic Head (TDH)

Consider two conditions:

1) High Static Head TDH

2) Low Static Head TDH

TDH = Static Head + Disch hL + Suct hL

TDH (High Static Head) = High Static Head + Disch hL + Suct hL

TDH (Low Static Head) = Low Static Head + Disch hL + Suct hL

Flow, gpm	TDH (High Static Head)	TDH (Low Static Head)
1	145.8	145.8
250	146.1	146.1
500	146.9	146.9
750	148.2	148.2
1000	149.9	149.9
1250	152.2	152.2
1500	154.9	154.9
1750	158.1	158.1
2000	161.7	161.7
2250	165.9	165.9
2500	170.5	170.5

Net Positive Suction Head

$$NPSH\ (available) = Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Consider two conditions:

1) High Static Suction Head NPSH

$$NPSH = High\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

2) Low Static Suction Head NPSH

$$NPSH = Low\ Static\ Suct\ Head + Atmosph\ Press \div Density\ of\ Water - Water\ Vapor\ Press \div Density\ of\ Water - Suct\ h_L$$

Flow, gpm	AVAILABLE	
	NPSH (High Static Head)	NPSH (Low Static Head)
1	26.1	26.1
250	26.1	26.1
500	26.1	26.1
750	26.1	26.1
1000	26.1	26.1
1250	26.1	26.1
1500	26.1	26.1
1750	26.1	26.1
2000	26.1	26.1
2250	26.1	26.1
2500	26.1	26.1

Head	Flow

PUMP CURVE SELECTIONS

TBD

HP Calculation

62.4 lbf

65.52 ASSUME FOS 1.05

4.46 Flow, CFS

150.0 H

0.8 pump efficiency

2000 gpm

94.88 HP

CITY OF POST FALLS
WRF FACILITY PLAN
PHASE 2 IWR CALCS
WATER BALANCE - ALFALFA 100%

Effluent Flows & Waste Loads

Annual Effluent Volume Applied to Land App Site =				704.57	mgal/yr
	mg/L	lbs/yr	lbs/ac	Avg CBOD from effluent sampling data (CBOD) = 4.687 mg/L; assume a CBOD:COD ratio of 0.2 (Metcalf & Eddy, 4th ed., page 97) Estimated Assume Worst Case at 1.0 during growing season	
COD	23	135,151	138		
Total-N	20	117,522	120		
Total-P	1.0	5,876	6		

Irrigation Water Requirement

SELECT CROP TYPES

				Total IWR						
	Crop	Units	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
1	Alfalfa	inches	1.60	4.96	4.00	7.03	6.20	4.80	0.00	28.59

Estimated Allowable Loadings

Parameter	Units	Crop 1 Alfalfa	
Crop Dry Weight Yield	tons/acre	3.6	
Crop Dry Weight Yield	lbs/acre	7,200	
Nitrogen			
% Dry Mass Basis	%	2.60	
Crop Uptake	lbs/acre-yr	187	
Allowable Application Rate ¹	lbs/acre-yr	281	
Phosphorus			
% Dry Mass Basis ¹	%	0.24	1 Per IDEQ Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater - 150% of crop uptake
Crop Uptake	lbs/acre-yr	17	
Allowable Application Rate ¹	lbs/acre-yr	26	
Organic (COD)			
Allowable Application Rate ²	lbs/acre-d	50	2 Per IDEQ Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater

CITY OF POST FALLS
WRF FACILITY PLAN
PHASE 2 IWR CALCS
WATER BALANCE - ALFALFA 100%

Storage and Land Area Requirements

A) Make an initial estimate at the irrigated land area requirements based on one of the following limiting factors:

% of Crop 1 Irrigated Acreage 100%

Hydraulic

		Crop 1 Alfalfa	Crop 2 0	Total
Annual Effluent Volume	Mgal	704.57	0.00	704.57
Allowable Hydraulic Loading	inches	28.59	0.00	
Acreage Required	acres	907.6	0.0	907.6

Nutrients

		Crop 1 Alfalfa	Total-N Crop 2 0	Total	Crop 1 Alfalfa	Total-P Crop 2 0	Total
Average Annual Effluent Load	lbs/yr	117,522	0	117,522	5,876	0	5,876
Allowable Loading	lbs/acre-yr	281	0	281	26.0	0	26.0
Acreage Required	acres	418.3	0.0	418.3	226	0	226.0

Organic

		Crop 1 Alfalfa	
Average Annual Effluent Load	lbs/yr	135,151	
Allowable Loading	lbs/acre-d	50	
Acreage Required	acres	20.1	assumes 135 day application period

B) Calculate the lagoon storage volume and surface area requirements.

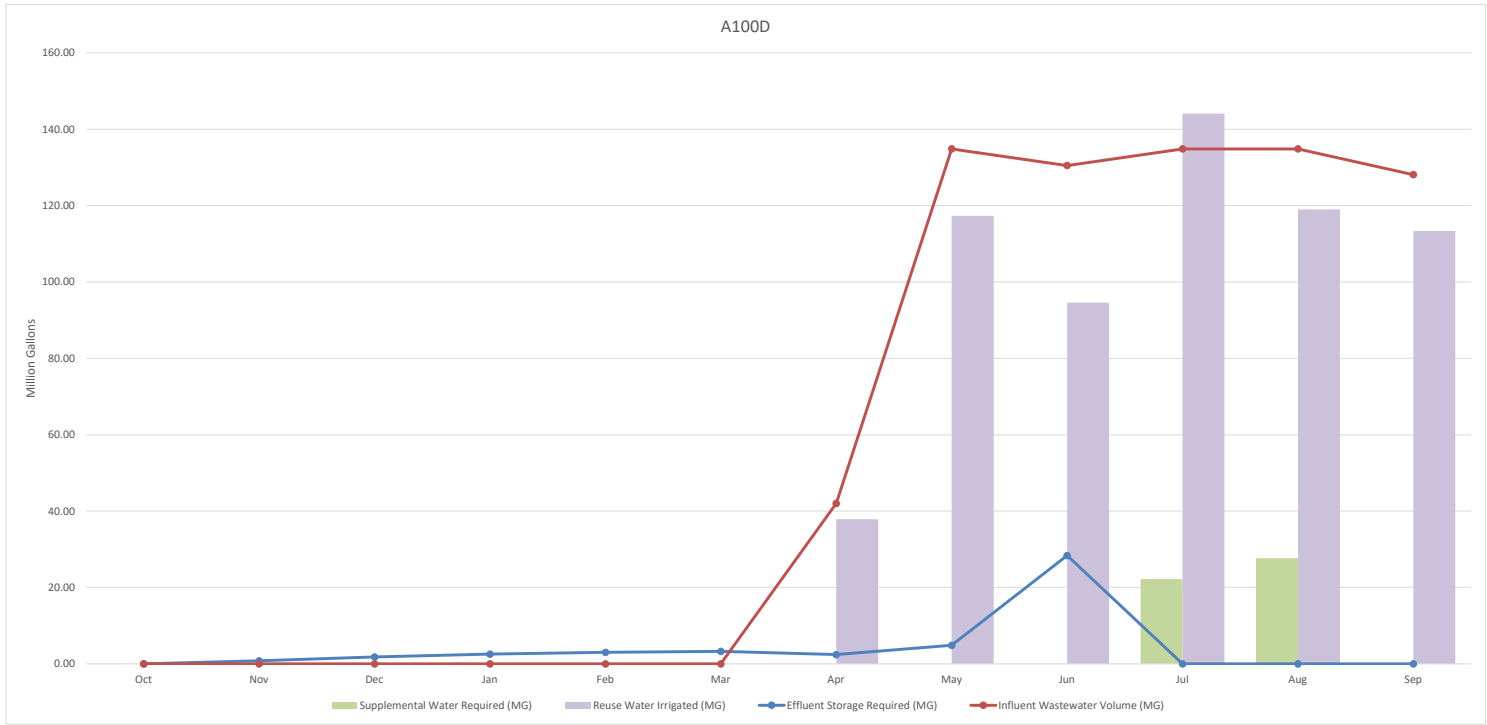
Water Balance Calculations

Avg Day Influent Flow =	4,350,000	gpd	4.35	MGD	Maximum Available Class A Water Produced from WRF
Avg Lagoon Depth =	7.00	ft			
Total Irrigated Acreage =	980.0	acres			
Crop 1 Irrigated Acreage =	980.0	acres			
Crop 2 Irrigated Acreage =	0.0	acres			
Weighted Seepage Rate =	0.000	in/d			I to be no liner seepage

Storage Lagoon Surface Area =	10.09	acres	Storage Lagoon Volume =	28.61	Mgal
			Max Lagoon Volume Required =	28.36	Mgal
Total Lagoon Surface Area =	10.09	acres	Total Lagoon Volume =	28.61	Mgal

											Crop IWR			WW		Change in	Net	Supplemental	
		Flow to Pond	Inflow	Precipitation	Evaporation	Seepage	Net	Crop 1	Crop 2	0%	Total	Applied to Crop	Discharge to River	Storage	Accum. Storage	Irrigation	Water		
Month	Days	MGD	Mgal	Inches	Mgal	Inches	Mgal	Inches	Mgal	Inches	Mgal	Mgal	Mgal	Mgal	Mgal	Mgal	Mgal	Mgal	MGD
Oct	31	0	0.00	1.75	0.48	1.88	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov	30	0	0.00	3.45	0.95	0.59	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.79	0.00	0.00
Dec	31	0	0.00	3.85	1.05	0.21	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	1.78	0.00	0.00
Jan	31	0	0.00	3.04	0.83	0.27	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	2.54	0.00	0.00
Feb	28	0	0.00	2.37	0.65	0.64	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	3.01	0.00	0.00
Mar	31	0	0.00	2.48	0.68	1.59	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	3.25	0.00	0.00
P-Season	Apr	30	1.4	42.00	1.88	0.52	2.74	0.75	0.00	0.00	41.77	1.60	42.58	0.00	0.00	42.58	42.58	0.00	2.44
P-Season	May	31	4.35	134.85	2.14	0.59	3.71	1.02	0.00	0.00	134.42	4.96	131.99	0.00	0.00	131.99	131.99	2.43	4.87
P-Season	Jun	30	4.35	130.50	2.02	0.55	4.07	1.12	0.00	0.00	129.93	4.00	106.44	0.00	0.00	106.44	106.44	23.49	28.36
P-Season	Jul	31	4.35	134.85	0.83	0.23	4.85	1.33	0.00	0.00	133.75	7.03	187.08	0.00	0.00	187.08	162.11	0.00	0.00
P-Season	Aug	31	4.35	134.85	0.92	0.25	4.37	1.20	0.00	0.00	133.90	6.20	164.99	0.00	0.00	164.99	133.90	0.00	0.00
P-Season	Sep	30	4.27	128.10	1.09	0.30	3.12	0.85	0.00	0.00	127.55	4.80	127.73	0.00	0.00	127.73	127.55	0.00	0.00
Total				705.15	25.82	7.08	28.04	7.70	0.00	0.00	704.57	28.59	760.81	0.00	0.00	760.81	704.57	0.00	
																	760.81		56.24

Peak IRR Pumping 5.40 mgd
Peak IRR Pumping 3753 gpm



CITY OF POST FALLS
WRF FACILITY PLAN
PHASE 3 IWR CALCS
WATER BALANCE - ALFALFA 100%

Effluent Flows & Waste Loads

Annual Effluent Volume Applied to Land App Site =		413.89	mgal/yr	
	mg/L	lbs/yr	lbs/ac	
COD	23	79,392	131	Avg CBOD from effluent sampling data (CBOD) = 4,687 mg/L; assume a CBOD:COD ratio of 0.2 (Metcalf & Eddy, 4th ed., page 97) Estimated Assume Worst Case at 1.0 during growing season
Total-N	20	69,037	114	
Total-P	1.0	3,452	6	

Irrigation Water Requirement

SELECT CROP TYPES

		Total IWR								
Crop	Units	Apr	May	Jun	Jul	Aug	Sep	Oct	Total	
1 Alfalfa	inches	1.60	4.96	4.00	7.03	6.20	4.80	0.00	28.59	

Estimated Allowable Loadings

Parameter		Units	Crop 1 Alfalfa	
Crop Dry Weight Yield		tons/acre	3.6	
Crop Dry Weight Yield		lbs/acre	7,200	
Nitrogen				
% Dry Mass Basis		%	2.60	
Crop Uptake		lbs/acre-yr	187	
Allowable Application Rate ¹		lbs/acre-yr	281	
Phosphorus				
% Dry Mass Basis ¹		%	0.24	¹ Per IDEQ Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater - 150% of crop uptake
Crop Uptake		lbs/acre-yr	17	
Allowable Application Rate ¹		lbs/acre-yr	26	
Organic (COD)				
Allowable Application Rate ²		lbs/acre-d	50	² Per IDEQ Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater

CITY OF POST FALLS
WRF FACILITY PLAN
PHASE 3 IWR CALCS
WATER BALANCE - ALFALFA 100%

Storage and Land Area Requirements

A) Make an initial estimate at the irrigated land area requirements based on one of the following limiting factors:

% of Crop 1 Irrigated Acreage 100%

Hydraulic

		Crop 1 Alfalfa	Crop 2 0	Total
Annual Effluent Volume	Mgal	413.89	0.00	413.89
Allowable Hydraulic Loading	inches	28.59	0.00	
Acreage Required	acres	533.2	0.0	533.2

Nutrients

		Crop 1 Alfalfa	Total-N Crop 2 0	Total	Crop 1 Alfalfa	Total-P Crop 2 0	Total
Average Annual Effluent Load	lbs/yr	69,037	0	69,037	3,452	0	3,452
Allowable Loading	lbs/acre-yr	281	0	281	26.0	0	26.0
Acreage Required	acres	245.7	0.0	245.7	132.8	0	132.8

Organic

		Crop 1 Alfalfa	
Average Annual Effluent Load	lbs/yr	79,392	
Allowable Loading	lbs/acre-d	50	
Acreage Required	acres	11.8	assumes 135 day application period

B) Calculate the lagoon storage volume and surface area requirements.

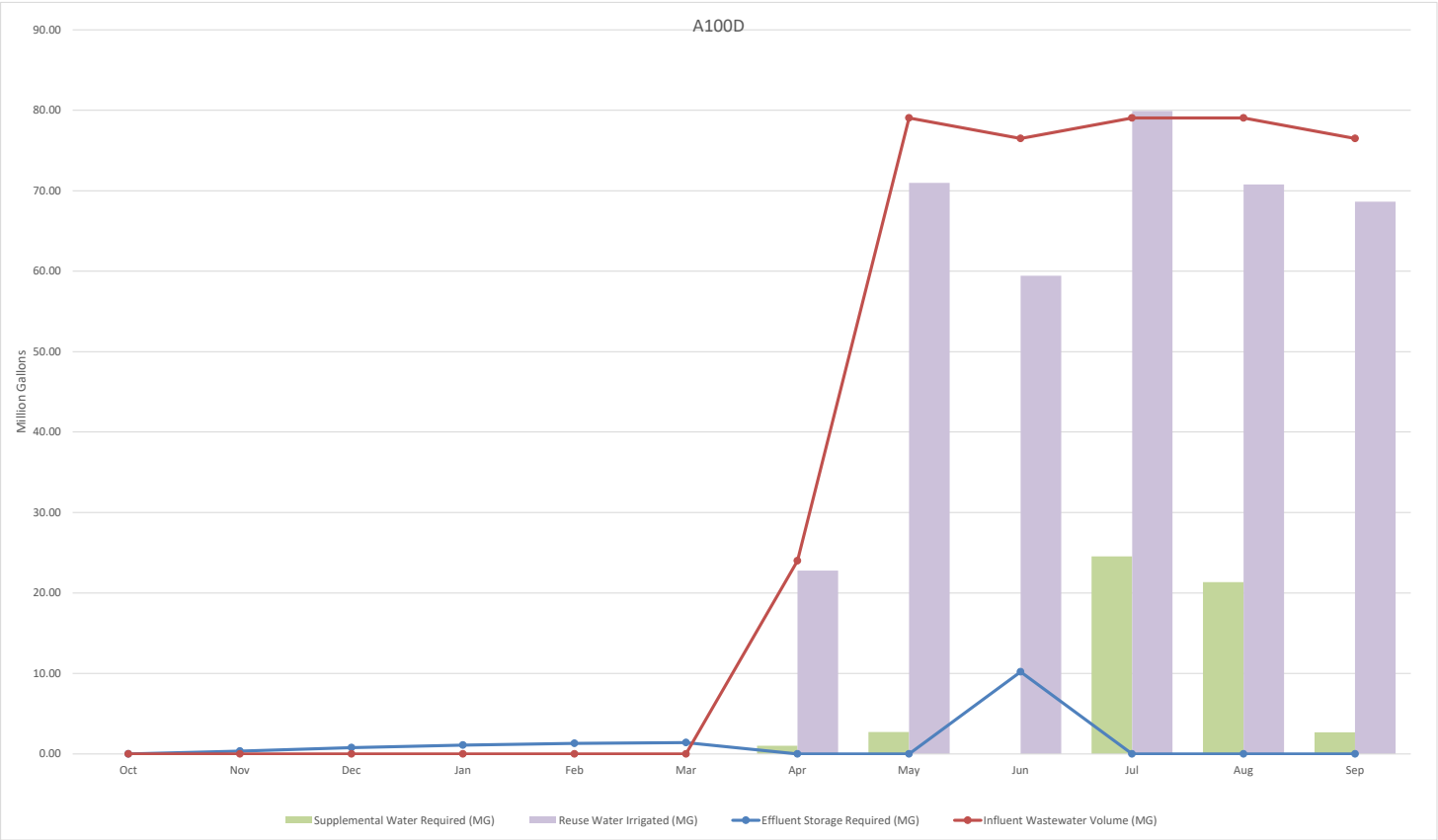
Water Balance Calculations

Avg Day Influent Flow =	2,550,000	gpd	2.55	MGD	Maximum Available Class A Water Produced from WRF
Avg Lagoon Depth =	7.00	ft			
Total Irrigated Acreage =	608.0	acres			
Crop 1 Irrigated Acreage =	608.0	acres			
Crop 2 Irrigated Acreage =	0.0	acres			
Weighted Seepage Rate =	0.000	in/d			to be no liner seepage

Storage Lagoon Surface Area =	4.40	acres	Storage Lagoon Volume =	10.38	Mgal
			Max Lagoon Volume Required =	10.21	Mgal
Total Lagoon Surface Area =	4.40	acres	Total Lagoon Volume =	10.38	Mgal

Month	Days	Flow to Pond MGD	Inflow Mgal	Precipitation Inches Mgal	Evaporation Inches Mgal	Seepage Inches Mgal	Net Inflow Mgal	Crop 1 Alfalfa Inches Mgal	Crop IWR Crop 2 0% Mgal	0% Mgal	Total Mgal	WW Applied to Crop Mgal	Discharge to River Mgal	Change in Storage Mgal	Net Accum. Storage Mgal	Supplemental Irrigation Water Mgal MGD
Oct	31	0	0.00	1.75 0.21	1.88 0.22	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00	0.00		0.00	0.00	0.00 0.00
Nov	30	0	0.00	3.45 0.41	0.59 0.07	0.00 0.00	0.34	0.00 0.00	0.00 0.00	0.00 0.00	0.00	0.00		0.34	0.34	0.00 0.00
Dec	31	0	0.00	3.85 0.46	0.21 0.03	0.00 0.00	0.43	0.00 0.00	0.00 0.00	0.00 0.00	0.00	0.00		0.43	0.77	0.00 0.00
Jan	31	0	0.00	3.04 0.36	0.27 0.03	0.00 0.00	0.33	0.00 0.00	0.00 0.00	0.00 0.00	0.00	0.00		0.33	1.10	0.00 0.00
Feb	28	0	0.00	2.37 0.28	0.64 0.08	0.00 0.00	0.20	0.00 0.00	0.00 0.00	0.00 0.00	0.00	0.00		0.20	1.30	0.00 0.00
Mar	31	0	0.00	2.48 0.30	1.59 0.19	0.00 0.00	0.11	0.00 0.00	0.00 0.00	0.00 0.00	0.00	0.00		0.11	1.41	0.00 0.00
P-Season	Apr	30	0.8	24.00	1.88 0.22	2.74 0.33	0.00 0.00	23.89	1.60	26.42	0.00 0.00	26.42	25.30	0.00	0.00	1.12 0.04
P-Season	May	31	2.55	79.05	2.14 0.26	3.71 0.44	0.00 0.00	78.87	4.96	81.89	0.00 0.00	81.89	78.87	0.00	0.00	3.02 0.10
P-Season	Jun	30	2.55	76.50	2.02 0.24	4.07 0.49	0.00 0.00	76.25	4.00	66.04	0.00 0.00	66.04	66.04	10.21	10.21	0.00 0.00
P-Season	Jul	31	2.55	79.05	0.83 0.10	4.85 0.58	0.00 0.00	78.57	7.03	116.06	0.00 0.00	116.06	88.78	0.00	0.00	27.28 0.88
P-Season	Aug	31	2.55	79.05	0.92 0.11	4.37 0.52	0.00 0.00	78.64	6.20	102.36	0.00 0.00	102.36	78.64	0.00	0.00	23.72 0.77
P-Season	Sep	30	2.55	76.50	1.09 0.13	3.12 0.37	0.00 0.00	76.26	4.80	79.25	0.00 0.00	79.25	76.26	0.00	0.00	2.99 0.10
Total			414.15	25.82 3.08	28.04 3.35	0.00 0.00	413.89	28.59 472.02	0.00 0.00	0.00 0.00	472.02	413.89	0.00		472.02	58.13

Peak IRR Pumping 2.96 mgd
Peak IRR Pumping 2055 gpm



Appendix 5-D

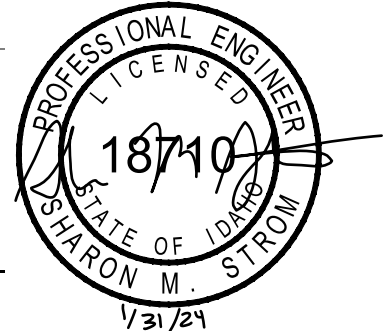
Headworks Influent Feasibility Analysis Technical Memorandum

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TECHNICAL MEMORANDUM

Date: January 31, 2024
To: Craig Borrenpohl, P.E., City of Post Falls
From: Sharon Strom, P.E. and Mike Conn, P.E.
Subject: Headworks Influent Forcemain Feasibility Analysis



Executive Summary

Influent Analysis

The City of Post Falls wanted to determine what the best, long-term option is for bringing flow from the collection system into the Headworks of the Water Reclamation Facility (WRF). To answer this question, an evaluation of multiple alternatives, including multiple forcemain routes, methods of interconnection at the existing Headworks, and the construction and/or decommissioning of various lift stations within the collection system was conducted. Each alternative was evaluated for hydraulic capacity, constructability, expandability, maintenance, best practice, and cost.

Based on the evaluation, subsequent analysis, and discussion, the City decided to proceed with the following:

- From the West: Provide two, 20-inch forcemains from Corbin Road to the WRF for added redundancy. These will be dedicated to conveying flows from future lift stations from the western part of the City to the WRF.
 - Interties will be provided between these two forcemains.
 - Each 20-inch forcemain will be intertied with the existing discharge pipe from Corbin LS.
 - Each 20-inch forcemain may be intertied with the discharge of Idahline LS, outside of the current area of analysis (i.e., west of Corbin Road).
- From the East: Provide two forcemains, one 16-inch and one 12-inch, from Chase Road all the way to the WRF. These will be dedicated for the discharge from 12th Ave Lift Station.
 - The currently designed discharge control valve vault will need revised based on the forcemain routing and locations proposed in this study.

- Provide a piped, 36-inch manifold at the Headworks. The 12-, 16-, and two 20-inch forcemains will tie into this manifold.
 - Interconnection of the new, 36-inch manifold with the existing 24-inch manifold will be further vetted during design but is highly recommended for flexibility.

See **Appendix Figures F.1** and **F.2**. Copies of these figures are included at the end of the Executive Summary for the reader's convenience.

Class A Reuse Pipe Routing Analysis

The City also wanted to determine the best route to convey Class A reuse water to the City's Prairie Reuse Property. Based on an analysis of the space available, we would recommend that the 20-inch pipe (size determined per the 2024 Facility Plan which is currently under development by J-U-B) be routed under the westbound lanes of Seltice Way. A separate, dedicated reuse pipe (8-inch minimum) should be provided to the Montrose Sports Complex if Class A irrigation of that site is also desired.

After further discussion and analysis, the City decided to proceed with the following:

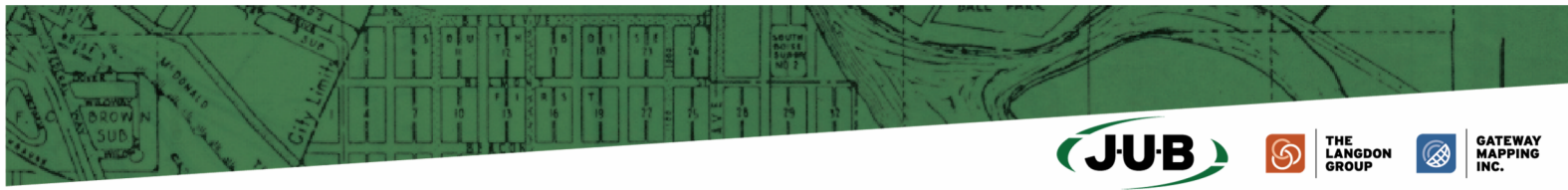
- Provide a 20-inch Class A reuse transmission line from Public Works Way to Chase Road.
- Provision of a dedicated irrigation line from the WRF to the Montrose Sports Complex will be further vetted during design.

See **Appendix Figure F.1**. A copy of this figure is included at the end of the Executive Summary for the reader's convenience.

Limitations of this Study and Next Steps

The scope of this evaluation included a feasibility level analysis to inform a localized plan for future forcemain consolidation and routing into the WRF. As this is a feasibility analysis, and not a complete design, there are additional tasks that should be completed. Using the City's selected alternative as the basis of design, we recommend that the following tasks be completed:

- The collections system model should be updated in order to confirm and validate anticipated flow rates, pipe sizes, and velocities. Consideration should be given to the potential for future flows to change as development occurs. Current sizing is based on best available data for build-out conditions which are predictions of growth patterns which may not actually be realized.
- The proposed alternative should be designed and modeled with supporting field survey and detailed in CAD (or other software). Routing of pipes should be finalized/checked for conflicts with selective pot-hole excavations as necessary to verify existing utilities.
- Additional considerations that the design engineer should evaluate are contained within the following text of this technical memorandum as well as the figures included in the Appendix. The



THE
LANGDON
GROUP



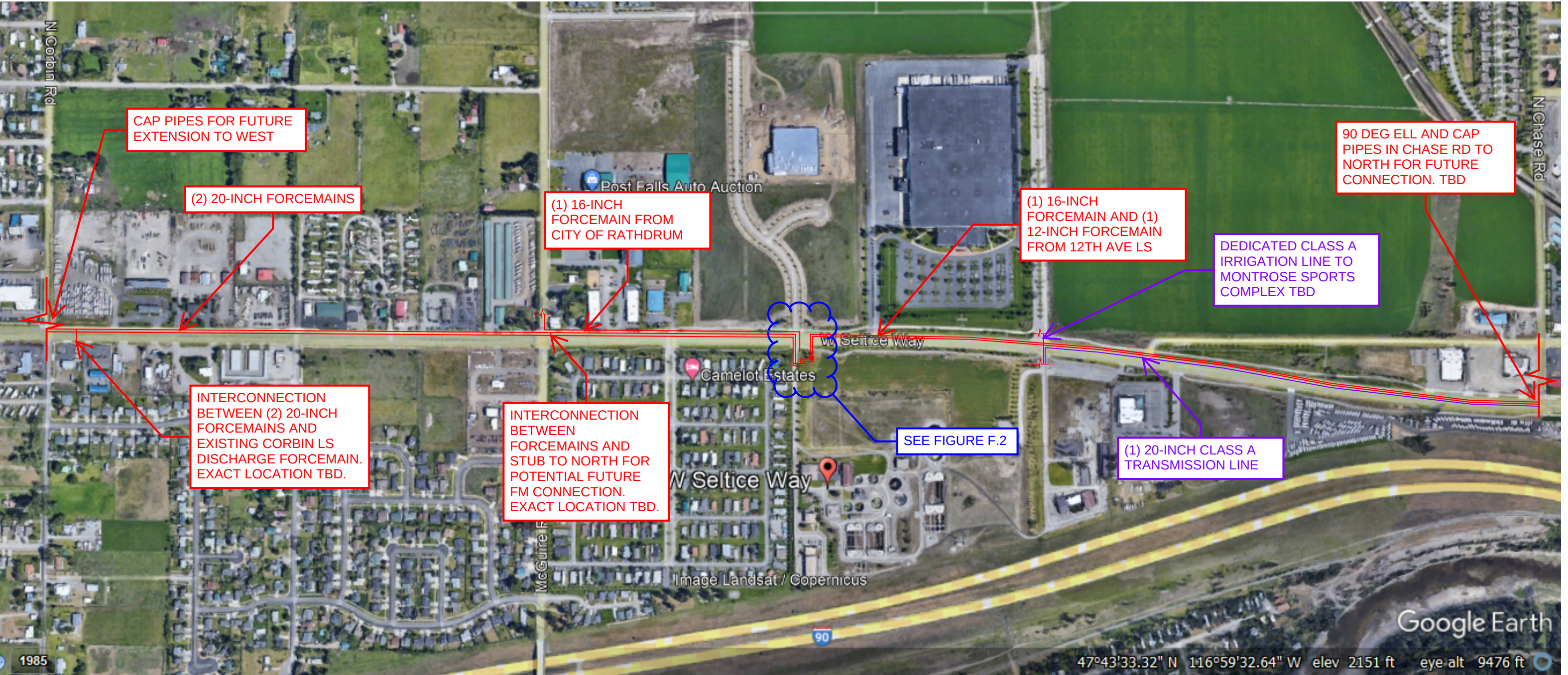
GATEWAY
MAPPING
INC.

J-U-B FAMILY OF COMPANIES

designer is urged to review this document in detail as several disparities exist between available background information including as-built drawings, datums, and utility location information.

- For existing pump stations which may be affected by changes made due to the selected alternatives, headloss and flow rate conditions (pump capacity) should be checked against pump curves to determine if pump upgrades, revisions to controls, or other modifications will be required.

SELECTED ALTERNATIVES FROM CORBIN RD TO CHASE RD



GENERAL NOTES:
1. THE DUAL 20-INCH FORCEMAINS FROM THE WEST WERE SIZED TO ACCOMMODATE THE BUILDOUT FLOWS FOR THE FOLLOWING LIFT STATIONS:
CORBIN LS: 292 GPM
INDUSTRIAL 1 LS: 2884 GPM
INDUSTRIAL 2 LS: 711 GPM
FISHER LS: 1259 GPM
NORTH REGIONAL LS: 1463 GPM
PLEASANT VIEW LS: 1515 GPM
2. HYDRAULICS THROUGH THE 16-INCH RATHDRUM FORCEMAIN WERE NOT EVALUATED AS PART OF THIS ANALYSIS. ROUTING IS PRELIMINARY AND BASED ON THE 2008 CITY OF RATHDRUM SANITARY SEWER FORCE MAIN PHASING OVERVIEW SCHEMATIC AS PROVIDED BY THE CITY OF POST FALLS. HYDRAULICS AND FINAL ROUTING TO BE COORDINATED DURING DESIGN.
3. EXACT LOCATION/ROUTING/ELEVATIONS OF ALL PIPES AND CONTROL VALVE VAULT TO BE DETERMINED DURING DESIGN.

FIGURE F.1

Feasibility Analysis

1. Purpose

The City of Post Falls is currently evaluating improvements and potential reconstruction of the Seltice Way corridor, generally between the McGuire Road and Chase Road. As part of this reconfiguration, the City would like to evaluate three alternatives for routing existing and future influent to the WRF, as well as options for routing a future Class A effluent reuse pipe from the WRF, across Seltice Way, oriented to facilitate future discharge to the City's reuse site(s). Reference **Appendix Figures A.1** and **A.2** for a schematic overview of the existing conditions as well as the proposed improvements per the 2019 Master Plan.

1.1 Alternatives Summary

The following is a brief summary of the alternatives evaluated as part of this analysis. Each of these is further detailed elsewhere for hydraulic capacity, constructability, expandability, maintenance, best practice, and opinion of cost.

1. **Headworks Influent Forcemain Options:** note all options require a 16-inch forcemain to route flow from the City of Rathdrum to the WRF.
 - a. **12th Ave Collections Project Phase 2:** Includes the construction of a flow control valve vault and extension of the existing influent box at the Headworks. One new 16-inch forcemain enters the WRF from the east to accommodate flow from 12th Ave LS. Five new forcemains ranging in size from 12- to 16-inch enter the WRF from the west to accommodate flow from Industrial LS, North Regional LS, Pleasant View LS (currently not shown in the plans as this was a later addition made by the City), and Fisher LS. See **Appendix Figures B.1** through **B.10**.
 - b. **Combined Forcemains from the West:** includes the construction of a flow control valve vault and piped 36-inch manifold at the Headworks. One new 16-inch forcemain enters the WRF from the east to accommodate flow from 12th Ave LS. Two new forcemains (18- and 20-inch) enter the WRF from the west to accommodate flow from Industrial LS, North Regional LS, Pleasant View LS, and Fisher LS. See **Appendix Figure C.1** and **C.2**.
 - c. **Combined Forcemains from the West and East Regional LS:** includes construction of a new regional lift station to the east of the WRF, with a flow control valve vault located at the LS and a piped 36-inch manifold at the Headworks. Up to seven forcemains ranging in size from 6- to 16-inch could be routed to the regional LS, as would one 18-inch gravity sewer, to accommodate flows from the Seltice LS Basin, Montrose LS, North Regional LS, Fisher LS, 12th Ave LS, and 4th Ave LS. Two new forcemains (16- and 20-inch) would be routed from the regional LS to the WRF from the east. Two new forcemains (18- and 20-inch) enter the WRF from the west to accommodate flow from Industrial LS, North Regional LS, Pleasant View LS, and Fisher LS. Seltice LS would be decommissioned. See **Appendix Figure D.1** through **D.7**.

Note, **Appendix Figure D.7** provides a schematic of what it would look like if individual forcemains, as opposed to combined forcemains, were provided from the west.

- d. **Combined Forcemains from the East:** This alternative was deemed to be non-viable as multiple new forcemains are not anticipated to be needed in the future to convey additional flow from the east to the WRF. Only one new forcemain is anticipated to reach the WRF from the east (from 12th Ave LS). Construction of new forcemains to the east of the WRF would likely be done as a replacement project for existing forcemains.
- e. **Eliminate Corbin LS and Gravity to Seltice LS:** This alternative was deemed to be non-viable as the elevations prevent the Corbin Basin from being able to flow by gravity to Seltice LS.
- f. **Eliminate Corbin LS and Gravity to Idahline LS:** This alternative was deemed to be non-viable as the likelihood of obtaining the necessary right-of-way is low.
- g. **Eliminate Seltice LS and Gravity to Corbin LS, Combined Forcemains from West:** includes the decommissioning of Seltice LS as well as construction of a 12-inch gravity line from Seltice LS to Corbin LS and construction of a 36-inch manifold and valve vault at the WRF. Two new forcemains (18- and 20-inch) enter the WRF from the west to accommodate flow from Industrial LS, North Regional LS, Pleasant View LS, and Fisher LS. One new 16-inch forcemain enters the WRF from the east to accommodate flow from 12th Ave LS. See **Appendix Figure E.1 and C.2.**
- h. **West Regional LS and 12th Ave Collections Project Phase 2:** includes construction of a new regional lift station to the west of the WRF, and a flow control valve vault and piped 36-inch manifold at the Headworks. Up to five new forcemains, ranging in size from 12- to 16-inch could be routed to the regional LS to accommodate flow from Industrial LS, North Regional LS, Pleasant View LS, Fisher LS, and (potentially) Corbin LS. Two new forcemains (18- and 20-inch) would be routed from the regional LS to the WRF from the west. One new 16-inch forcemain enters the WRF from the east to accommodate flow from 12th Ave LS. See **Appendix Figure C.1, C.2, and D.1.**

2. **Class A Effluent Reuse Pipe Routing** (See **Appendix Figure A.1**)

- a. Route the 20-inch forcemain from the WRF to Chase Rd
 - i. Via Seltice
 - ii. Via Mullan
- b. Provide a separate line to the Montrose Sports Complex for irrigation

1.2 Assumptions

The following assumptions were utilized for this analysis:

- The size and location of East Greenacres Irrigation District's water piping as shown in the City's interactive Utility Infrastructure Viewer (found at: <https://gis.postfalls.gov/GIS2/UtilityViewer/>) was assumed to be accurate.

- The size and location of the City of Post Fall's potable water piping as shown in the City's interactive Utility Infrastructure Viewer (found at: <https://gis.postfalls.gov/GIS2/UtilityViewer/>) was assumed to be accurate.
- Gas and power locations as provided by Avista Utilities (see **Appendix**) are accurate. It is also assumed that gas and power can be moved to accommodate piping. Where relocation is anticipated to be required, it is discussed specifically under the associated alternative analysis.
- Irrigation piping, fiber, and other minor utilities can be moved to accommodate piping and were not considered to be a restriction to the placement of forcemains or reuse piping.
- The C-Trail forcemain entering the WRF from the south-side of Interstate 90 will remain in its current configuration.
- The City of Rathdrum will have one 16" future forcemain and one 8" existing forcemain which will feed the WRF.
- The design capacity and anticipated buildout flow rates of each lift station and forcemain as stated in the 2019 Collection System Master Plan were utilized to determine preliminary sizing and routing. Additional future growth and/or expansion were not considered.
- The following design criteria apply to pipelines:
 - New forcemains should not have a velocity over 5 feet per second (FPS). Existing forcemains which are reused may have velocities slightly over 5 FPS for interim construction phasing purposes.
 - Gravity pipeline depth to diameter (d/D) ratio shall not be greater than 0.75.
 - New pipelines shall not be at a depth greater than 25 feet, with isolated depths up to 30 feet below surface.
 - Minimum gravity pipe slopes shall be in accordance with Ten States Standards.
 - Manholes shall be required on gravity lines every 500 feet, maximum, with a 0.10 foot drop in elevation across each manhole.
 - Buildout flow rates per the 2019 Collection System Master Plan were used to size piping, unless specifically noted otherwise. Note that it may be possible to phase work based on anticipated operations, design criteria, and actual growth realized in the area which will impact the ultimate pipe size required. Pipe sizes should be reviewed and confirmed as part of the design phase.
- The size and location of all other piping within the area of consideration was determined based on best available information from record drawings and plans provided by the City. Please note:
 - The configuration of the discharge forcemains along the entire flowpath from Seltice Lift Station could not be confirmed as the provided record drawings showed conflicting information. Should the City wish to modify this piping in the future, the forcemain sizes and locations should be verified as part of the future design process.
- Changes to the forcemains will likely impact the pressure (i.e., head) conditions experienced at the collection system lift stations. The impacts on those lift stations for the various alternatives were not evaluated as part of this analysis. During the design phase, the selected alternatives should be

further evaluated to check for any potential impact to the capacity or operating point of existing and/or future pumps.

- For the compilation of cost opinions:
 - It was assumed that the future forcemain from the City of Rathdrum would remain the same for each alternative and was therefore not costed as part of this analysis.
 - In order to make the alternatives comparable, each cost opinion includes all construction required to get the alternative to ultimate build-out conditions. Alternatives do not include options for interim operation. Alternatives include those costs associated with work between Corbin Road and Chase Road, and within or adjacent to Seltice Way and/or the WRF site unless specifically noted otherwise.
 - Unless specifically noted otherwise within the cost opinion, traffic control and asphalt demolition/repair were included for the installation of each pipe within Seltice Way. This was done as it is not clear at this time when each pipe will be installed, and this makes the cost opinions able to be reasonably compared. Savings could be realized in the future if multiple pipes were installed during a single project.

2. Headworks Influent Forcemain Alternatives Analysis

2.1 Alternative #1 – Current Proposed Design per 12th Ave Collections Project Phase 2

As shown in the **Appendix Figure B.1** through **B.8**, the 12th Ave Collections Project Phase 2 plans appear to show the construction of an extension to the concrete influent structure to which one 10-inch, two 12-inch, and one 16-inch pipe stubs are connected. These pipe stubs are offset at an angle and capped to the northwest of the Headworks structure. There appears to be conflicting information regarding how far the pipe stub out is to be constructed (see C-110 vs M-1010-D). The layout shown on C-110 is assumed to be accurate for the purposes of this analysis. These forcemain stub outs are routed below the existing forcemains and approximately half-way down the hillside. A new flow control valve vault is also shown to the north of the influent structure and provides flow control for the existing 14-inch forcemain from Seltice LS and the new dedicated 16-inch forcemain from 12th Ave LS. No provision appears to be made for the future 16" forcemain from the City of Rathdrum, nor is there a provision for a forcemain from the Pleasant View Lift Station. Per discussions with the City, space needs to be reserved for a 16-inch forcemain from Pleasant View LS based on current and ongoing discussions with development in that area

2.1.1 Hydraulic Capacity

One 12-inch and one 16-inch forcemain are proposed to be used for the future Industrial LS. Based on the flow rates provided in Appendix C of the 2019 Collection System Master Plan, "Industry 1" is anticipated to have buildout flow rates of 4,608 GPM and "Industry 2" is anticipated to have buildout flow rates of 783 GPM. A 12-inch and 16-inch forcemain have sufficient capacity to accommodate the "Industry 1" flow rate

at the maximum velocity of 5 FPS, however they do not have sufficient capacity to accommodate the combined total of "Industry 1" and "Industry 2" buildout flow rates at 5 FPS. The 12-inch forcemain should be upsized to a 14-inch pipe in order to accommodate all "industry" flow rates as stated in the 2019 Collection System Master Plan. It is recommended that the anticipated buildout flow rates and pipe sizes be confirmed during design of these forcemains.

One 12-inch forcemain is proposed to be used for the future North Regional LS. Based on the flow rates provided in Appendix C of the 2019 Collection System Master Plan, North Regional LS is anticipated to have buildout flow rates of 1,275 GPM. A 12-inch forcemain will handle this flow rate below the maximum velocity of 5 FPS.

One 10-inch forcemain is proposed to be used for the future Fisher LS. Based on the flow rates provided in Appendix C of the 2019 Collection System Master Plan, Fisher LS is anticipated to have buildout flow rates of 1,259 GPM. A 10-inch forcemain has insufficient capacity to handle this flow rate at the maximum velocity of 5 FPS; the velocity would be 5.14 FPS. Therefore, this future forcemain should be upsized to a 12-inch pipe.

One 16-inch forcemain is proposed to be used for 12th Ave LS. Based on the flow rates provided in Appendix C of the 2019 Collection System Master Plan, 12th Ave LS is anticipated to have buildout flow rates of 3,143 GPM. A 16-inch forcemain has insufficient capacity to handle this flow rate at the maximum velocity of 5 FPS; the velocity would be 5.02 FPS (just slightly over the nominal target of 5FPS for new forcemains).

The City has confirmed that the existing 14-inch forcemain is utilized solely for the discharge from Seltice LS. Current and buildout flow rates are 586 GPM and 392 GPM, respectively, which correlate to velocities of 1.22 and 0.82 FPS in the forcemain, which indicates that settling is likely occurring. Minimum recommended velocities are 2-3 FPS to prevent settling. The City may wish to evaluate the option to route some additional flow through the existing 14-inch forcemain if solids deposition appears to be problematic. Additional flow could be provided from 4th Ave LS, or in the future from 12th Ave LS.

The existing Parshall Flume which measures influent from the City of Post Falls is a 24"/36" nested flume. This flume has a capacity of approximately 14,900 GPM/22,616 GPM. Buildout flows per Appendix C of the 2019 Master Plan are anticipated to be 18,876 at the WRF, so the 36" Parshall Flume will need to be utilized.

The existing Parshall Flume which measures influent from the City of Rathdrum is a 9"/12" nested flume. This flume has a capacity of 3,980 GPM/7,240 GPM. The City of Post Falls should confirm with the City of Rathdrum what their anticipated future flow rates are in order to confirm if the Parshall Flume and associated forcemains are sized appropriately.

2.1.2 Constructability and Expandability

Pipe routing is shown schematically in 12th Avenue Collections Project Phase 2. Since this is such a congested corridor, we would recommend modeling the piping to confirm these larger diameter components will fit in the available space.

Congestion will also likely require shoring and careful excavation around existing utilities and structures which will likely increase construction costs.

Specific elevations for each pipe are also not provided which make it difficult to determine if appropriate clearances are available. Based on distances from centerlines, compaction may be difficult to achieve between pipes.

There is limited space for the construction of the flow control valve vault. The valve vault also shows different pipe sizes than the yard piping (reference 16-inch on C-201 vs. 14-inch on M-101-C without a reducer shown). Additionally, based on the current design it is possible to route flow from 12th Ave LS through the existing 14-inch forcemain "Post Falls A", however this pipe does not have a flow control valve shown on it. We would recommend confirming pipe sizes, head conditions (i.e., the need for flow control valves, in particular for the route which currently does not have a control valve), and anticipated flow routing if this option is pursued. The ability to eliminate the flow control valves will require breaking the line to gravity (e.g., near Chase Rd) and repumping the discharge to the WRF utilizing a separate lift station; this could also be evaluated should the City wish to do so.

Constructability of the influent box extension may be difficult and will likely require extended periods of bypass pumping of the City of Post Falls influent, in particular of the 24-inch Centennial Trail Force Main. Alternately, construction may require that the extension be built around the existing 24-inch and 36" pipes and then the pipes be demolished, which may be difficult to construct or not possible given the extents of the existing tee as well as the ability to seal the concrete around the existing HDPE pipe. Work sequencing should be carefully considered if this option is pursued.

Construction of the valve vault and associated piping modifications to the existing 14-inch forcemain would require the flows from Seltice LS to be routed to the WRF using alternate piping. This could likely be accomplished by using the existing 10-inch and/or 12-inch piping that is currently only used for conveying discharge from Montrose LS to the WRF.

Construction of the 16-inch forcemain below the bike path will require coordination with multiple utilities and demolition of at least portions of the existing gravity sewer manholes.

Extents of construction should be confirmed as different pages within the plans show different extents of construction for this phase. It appears that extending the piping beyond the existing forcemains (i.e., near the entrance road to the site) would eliminate having multiple rounds of congested construction when each new forcemain is brought into the plant.

The angled alignment proposed for the forcemains also means that they will cross the existing forcemains multiple times, increasing risk during construction.

There do not appear to be provisions for the future Rathdrum 16-inch forcemain. This will add congestion to the area and therefore increase risks during construction.

It appears that the existing 36-inch pipe penetration is being retained between the existing influent box and the new influent box extension as proposed in the 12th Avenue Collections Project Phase 2 plan set. A hydraulic profile was not provided in the current plan set. The City may wish to evaluate anticipated water surface elevations within the influent box if this option is pursued.

It appears that the 12th Avenue Collections Project Phase 2 plan set. plans are on the vertical datum NAVD 88 GEOID12B. However, they appear to have utilized elevations from J-U-B's previous Headworks, Equalization, and Sludge Loading Improvements Plans (record drawings signed 2017) which are on the vertical datum NGVD 29 (datum used for projects within the WRF) based on I.T.D R-O-W monument MP-2 elevation 2138.89. At the WRF location there is approximately a 3.84-foot difference between these datums that does not appear to have been accounted for in 12th Avenue Collections Project Phase 2 plan set.

2.1.3 Maintenance

The addition of flow control valves and associated programming will increase the potential for alarms due to communication failures and operational issues with the valves.

Depending on the actual observed flow rates, settling may occur within the extended influent box, in particular at the corners. Solids may also collect and pack within the unused pipe stubs

2.1.4 Best Practice

It is anticipated that not all of the forcemains from the various lift stations will be constructed or connected at the same time. Based on the current extents shown in the 12th Avenue Collections Project Phase 2 plan set, with each successive forcemain connection, existing forcemains would be crossed, increasing risk. The City may wish to consider extending the distance to which the forcemains are constructed in order to avoid multiple crossings in the future. It may also be beneficial to straighten out the alignment (to east-west and north-south runs) for ease of future construction.

It may also benefit the City to install larger diameter piping penetrations and stub-outs at the Influent Box extension in order to provide flexibility for future pipe connections, as pipe sizes will likely change in the future due to changes in actual growth patterns and service areas for the various future lift stations.

2.1.5 Opinion of Cost

See the **Appendix**.

2.2 Alternative #2 – Piped Manifold and Combined Forcemains

In lieu of constructing the influent box extension as currently described in the 12th Avenue Collections Project Phase 2 plan set, the existing pipe stub-outs could be extended to create a manifold for interconnection with discharge forcemains from individual lift stations, new regional lift stations (see **Section 2.3**), and/or combined forcemains which join together in Seltice Way. In general, two forcemains would be provided to accommodate flows that come to the WRF from the west, and two forcemains would be provided to accommodate flows that come to the WRF from the east. Lift stations which are anticipated to feed from the west include Industrial LS, North Regional LS, and Pleasant View LS. Corbin LS also feeds from the west, and could be combined with the other forcemains from the west. Lift stations which are anticipated to feed from the east include Fisher LS, Seltice LS, and 12th Ave LS. 4th Ave LS can also feed the WRF from the east, however this is not its primary flow path. The larger diameter combined forcemains would combine at the WRF in a piped manifold before entering the Parshall flume. The Rathdrum forcemains will always remain separate as the flow rates from the City of Rathdrum are measured separately at the WRF. Reference the **Appendix** for schematics associated with this alternative.

For all options reviewed below, the final pipe sizing should be refined during design once the location and routing of lift station discharges is better defined.

2.2.1 Hydraulic Capacity and Constructability

Option 1: Combine Forcemains from the West

In order to maintain a maximum velocity of 5 FPS and provide redundancy, the lift station forcemains which are anticipated to reach the Headworks from the west could be combined into dual 20-inch and 18-inch forcemains. This could be done by construction of the West Regional LS (see **Section 2.3.5**) or by combining the forcemains from the individual lift stations into the dual forcemains in Seltice Way. At the WRF, the 20-inch and 18-inch forcemains would combine into a single 36-inch pipe which would tie into the existing valving at the Headworks. Because the influent box extension would not be constructed with this option, the 16/18-inch forcemain from 12th Ave LS would also need to be intertied to the 36-inch manifold- see **Appendix Figure C.1** and **C.2**.

Note that at buildout, the flow rates in the existing 24-inch forcemain which receives flow from 3rd Ave LS, 4th Ave LS, Idahline LS, and McGuire LS will be at the maximum velocity and therefore have no more capacity for additional flow rates from other lift stations. Should the City wish to pursue this option, they may consider intertying the existing 24-inch line with the proposed 36-inch manifold to provide redundancy and flow paths for emergency or maintenance operation.

Option 2: Construct East Regional LS and Combine Forcemains from the West

In order to maintain a maximum velocity of 5 FPS and provide redundancy, the lift station forcemains which are anticipated to reach the Headworks from the east could be combined into dual 20-inch and 16-

inch forcemains. As the eastern lift stations already have existing discharge forcemains which reach the WRF, this option only really makes sense if the East Regional LS (see **Section 2.3.4**) is constructed, or if the City decides they want to replace all of the existing eastern forcemains upon the end of their service life. At the WRF, the 20-inch and 16-inch forcemains would combine into a single 36-inch pipe which would tie into the existing valving at the Headworks. It is assumed that the forcemains from the west would also be combined (as discussed in Option 1) and would also intertie with the 36-inch manifold at the WRF. This would limit the number of pipes entering the facility and also allow for more space between piping for construction. If the western pipes were not combined, there would be a total of six tie-ins to the manifold, as opposed to four as proposed – see **Appendix Figures D.1** through **D.7**.

Similar to Option 1, the City may wish to consider intertying the existing 24-inch line with the proposed 36-inch manifold to provide redundancy and flow paths for emergency and maintenance operation.

Note that construction of either Option 1 or Option 2 will require the main vehicle access to the facility to be temporarily rerouted. In order to avoid conflict with the main power feed to the WRF, the new forcemains would likely need to be routed below the existing main entrance to the WRF. See **Appendix Figures C.2** and **D.6**. During construction, the entrance near the Streets Department would need to be used for access to the facility. Alternately, the City could review options to either reroute the main power feed with Avista, or to construct underneath it; both of which put the facility at a higher risk of a power outage.

As shown in **Appendix Figure B.10**, the HDPE tee that was installed just west of the existing influent box at the Headworks is a reducing 36-inch tee, with 24-inch branches. It appears that the valve installed on the northern branch for future extension is also 24-inches in size. A 36-inch pipe is required to keep velocities below the maximum allowable velocity of 5 FPS. Replacement of the existing tee and valve with larger components would require bypass pumping from the existing 24-inch valve located on the C-trail Forcemain downstream of the Parshall Flume, which would be a relatively high-risk operation and would require an alternate means of measuring the plant influent. Alternately, the existing 24-inch components could be left in place and higher velocities (>8 FPS) would be experienced for a relatively short run of piping once buildout flows were achieved. It should be noted that the existing 36-inch penetration which would receive all influent flow from the City of Post Falls would have a velocity greater than 5 FPS at buildout flows, which is also above the maximum allowable velocity for new components.

It should also be noted that until buildout flows are achieved, flow rates within the shared manifolds will likely be low which may lead to solids settling. The City may wish to consider interconnecting the existing C-Trail Forcemain with the new proposed 36-inch branch in order to allow options for flow routing for flushing, maintenance, and emergency operation. See **Appendix Figure C.2** and **D.6**.

Option 3: Combine Forcemains from the East

As mentioned in Option 2, if the East Regional LS is not constructed, there is limited benefit in constructing large-diameter combined forcemains for flows from the east as there are already multiple existing forcemains which convey the flow from the east to the WRF. The main benefit would be to provide additional capacity for emergency routing of flows from 4th Ave LS. Growth to the east of the WRF is also limited, with only one new forcemain, from 12th Ave LS, anticipated to be constructed in this corridor. Combining the 12th Ave LS discharge forcemain would either require flow control prior to the intertie, or a larger flow control valve/vault at the WRF to accommodate the combined forcemain.

It seems most likely that if the East Regional Lift Station was not constructed, a replacement project would be completed to replace the existing discharge forcemains from Seltice LS once they reach their end of life and it is unlikely that 12th Ave LS, as currently designed/anticipated to be controlled, would be combined with these forcemains in a manner that is different from what is currently proposed. This option is therefore not evaluated further as it does not provide much benefit in the way of reducing congestion or the number of forcemains at the WRF.

2.2.2 Expandability

Space at the WRF is at a premium and is congested with utilities including underground power, potable water, and existing forcemains. In order to prevent the potential for future flow restrictions, it may behoove the City to install larger-diameter fittings and valves as opposed to using reducing tees. Reduction in piping sizes should be done after any valves to allow for future flexibility in pipe sizes, based on actual growth observed. Constructing tie-in points with valves will also be critical for future interconnection without bypass pumping.

The pipe sizes shown are based on accommodating a total future influent flow to the facility of 18,876 GPM (approximately 27 mgd).

2.2.3 Maintenance

See **Section 2.3** for maintenance considerations related to constructing a regional lift station. It should be noted that until buildout flows are achieved, low flows may be seen in the large diameter forcemains which could lead to solids settling which may require additional cleaning.

2.2.4 Best Practice

By combining multiple smaller-diameter forcemains into fewer, larger-diameter forcemains, there is less congestion both in Seltice Way and at the WRF. The proposed layouts also remove the need for multiple pipe crossings with existing forcemains when future forcemains are tied into the plant. The addition of regional lift station(s) also provides flexibility to accommodate future unknowns as they become convenient collection points/tie-in points for future forcemains while relieving congestion in Seltice

and/or at the WRF. The East Regional LS also allows the control valve vault (as shown in the 12th Avenue Collections Project Phase 2 plan set) to be relocated outside of the WRF property thereby decreasing congestion at the Headworks. Reference **Section 2.3** for additional considerations related to regional lift stations.

2.2.5 Opinion of Cost

See the **Appendix**. Note that the East Regional LS will have additional O&M costs (approximately \$123,000 per year or \$1,961,000 over twenty years. Decommissioning the Seltice LS will decrease O&M costs by approximately \$50,000 per year or \$803,000 over twenty years. This equates to a net increase of \$73,000 per year or \$1,158,000 over twenty years in O&M costs if the regional lift station is constructed. O&M costs are calculated separately from capital costs in the attached spreadsheets.

2.3 Alternative #3 – Eliminate Lift Station(s)

The ability to eliminate one or both of the Seltice and Corbin Lift Stations by the addition of gravity sewer was evaluated.

2.3.1 Corbin Lift Station – Reroute to East

The ability to eliminate Corbin LS and reroute flow by gravity from this basin to the east, either to Seltice LS or a new lift station across from the WRF, was evaluated. Based on an initial review of elevations, it is not possible to route flow from the Corbin LS basin by gravity to the east. Based on a review of old plans and record drawings, manhole rim elevations stated in the City's interactive Utility Infrastructure Viewer, as well as a check of elevations using Google Earth, the WRF sits at a highpoint in elevation, with the grade dropping to the east and the west of the WRF. Corbin LS is approximately 16.5 feet lower in elevation than Seltice LS and approximately 30.7 feet lower in elevation than the WRF. Therefore, it is not feasible to reroute flow by gravity from the Corbin LS basin eastward.

2.3.2 Corbin Lift Station – Reroute to Idahline Lift Station

2.3.2.1 Hydraulic Capacity

Prior to the preparation of the upgrades to Corbin LS as designed by Welch Comer (2023 plans), the ability to eliminate Corbin LS was evaluated as part of the 2019 Collection System Master Plan. Per the 2019 Master Plan Appendix C, Corbin LS has a calculated firm capacity of 790 GPM, with buildout inflow estimated to be 292 GPM, which appears to reflect future re-routing of flow out of the Corbin LS basin. To eliminate Corbin LS, the Master Plan proposed that flow would be re-routed through a new 15-inch gravity sewer line south down Corbin Road then westward (north of the freeway) to the Idahline LS. Based on the proposed routing and identified manhole inverts in the 2019 Master Plan, Appendix E, the 15-inch gravity sewer from Corbin to Idahline is capable of handling the buildout flow rate of 292 GPM from

Corbin at a d/D of 0.29 and velocity of approximately 2.2 FPS. Therefore, it is feasible to convey Corbin's influent to the Idahline LS.

Based on the data available in the 2019 Master Plan Appendix C, the calculated firm capacity of Idahline is approximately 1,400 GPM, with buildout inflow estimated to be 1,184 GPM which would put Idahline at 85% capacity. Therefore, if Corbin LS were to be eliminated, Idahline LS may require future upgrades to the pumps in order to accommodate Corbin LS's flow rates.

Additionally, Idahline's discharge forcemains appear to have sufficient capacity to handle buildout flows. Specifically, Idahline's primary discharge forcemain is an 18-inch line routed to the south, then east where it joins with the shared 24-inch Centennial Trail forcemain. The 18-inch forcemain appears to have sufficient capacity to accommodate buildout flows from Idahline and Corbin of 1,476 GPM at 1.86 FPS. However, the shared 24-inch Centennial Trail Forcemain may require future modifications depending on future WRF plant drain flow rates. This forcemain currently receives flow from the following lift stations: Idahline, 3rd Ave, 4th Ave, and McGuire, as well as Sludge Building Plant Drain Lift Station. Buildout flow rates for Idahline, Corbin, 3rd Ave, 4th Ave, and McGuire total 6,804 GPM (per the 2019 Collection System Master Plan) which equates to a velocity of 4.83 FPS in the 24-inch forcemain. If the Sludge Building Plant Drain LS flow rates which discharge to this pipe exceed 246 GPM, the 24-inch forcemain will exceed 7,050 GPM which will in turn exceed the City's maximum allowable velocity of 5 FPS in this forcemain.

2.3.2.2 Constructability, Expandability, Maintenance, and Opinion of Cost

The City has indicated that the likelihood of being able to obtain right-of-way from the Idaho Transportation Department to install the new gravity sewer from Corbin LS to Idahline LS is low and not something the City is interested in pursuing. Therefore, this option will not be evaluated further at this time. Reference the 2019 Master Plan for a review of additional construction, expandability, and maintenance considerations, as well as an opinion of cost for the reroute of Corbin LS flows to Idahline LS.

2.3.3 Seltice Lift Station – Reroute to West

2.3.3.1 Hydraulic Capacity

The ability to eliminate Seltice Lift Station and reroute flows to the west to Corbin Lift Station was evaluated. Based on an initial review of elevations, it is possible to route flow from the Seltice LS basin by gravity to Corbin LS. Based on a review of old plans and record drawings, manhole rim elevations stated in the City's interactive Utility Infrastructure Viewer, as well as a check of elevations using Google Earth, a 12-inch gravity line from MH-879 (just east of Seltice LS) could be routed to MH-2 (inside Corbin LS boundaries, as denoted in Welch-Comer's 2023 plans) which would convey the anticipated buildout flow rate of 392 GPM (per 2019 Master Plan) with a d/D of 0.48 and a velocity of approximately 2.43 FPS. Current flow rates which are higher than buildout (586 GPM per 2019 Master Plan's 2017 flow rates) would have a d/D of 0.59 and a velocity of approximately 3.08 FPS in a 12-inch pipe.

Corbin Lift Station is currently planned to undergo upgrades in 2024 which include the replacement of the existing pumps with three submersible pumps, each with a capacity of 370 GPM. Assuming two duty, and one standby pump, this gives the lift station a firm capacity of 740 GPM. Buildout flow rates for Corbin LS, as described previously, are 292 GPM. With the addition of the buildout flows from the Seltice Basin, the total flow rate into Corbin LS is anticipated to be 684 GPM, which is less than the firm capacity of the planned upgrades. Current flow rates of 586 GPM from Seltice LS and 112 GPM from Corbin LS total 698 GPM, which is also less than the firm capacity of the planned upgrades.

Additionally, Corbin's 12-inch discharge forcemain has sufficient capacity to pass the anticipated buildout flow of 684 GPM with a velocity of 1.94 FPS and the current flow of 698 GPM with a velocity of 1.98 FPS.

2.3.3.2 Constructability, Expandability, and Maintenance

Construction of a 12-inch gravity line from Seltice LS to Corbin LS poses multiple construction and expandability challenges including:

- Trench depth. As the gravity line passes by the WRF, the finished grade rises, and the pipe would be over 20 feet below the surface.
- Utility crossings and coordination. There are multiple utilities, including existing and future forcemains, gravity sewer lines, water mains, reuse pipes, fiber, gas, and overhead power on the south side of Seltice Way. This line would be deep and would likely be installed under all existing and planned utilities. The addition of one more pipe within this corridor limits future options for additional piping. Additionally, if the gravity line were routed to the south of Seltice, there would need to be coordination with property Owner's to maintain access to their properties during construction. Alternately, the new gravity line could be placed underneath the westbound lanes of Seltice Way. This would require additional traffic control and surface repair measures which are currently not accounted for in the cost opinion.
- Retention of pipes. The elimination of Seltice LS does not mean that the forcemains associated with Seltice LS can be removed or completely repurposed as they are currently utilized by other lift stations either as primary flow paths, or as alternate flow paths.
- Accommodation of emergency flow rates. 4th Ave LS can currently discharge to Seltice LS as an alternate flow path should an issue arise with the C-Trail Forcemain. If emergency flow rates were intended to be conveyed to Corbin LS as well, the gravity line would need to be upsized, as would the pumps at Corbin LS, in order to accommodate emergency flows from 4th Ave LS. When emergency flows were not directed down the upsized gravity line, velocities would likely be low leading to solids settlement. However, emergency flows from 4th Ave LS could also be redirected to the WRF via the existing 14-inch bypass line which then proceeds to the WRF via "Post Falls A". Note that velocities will be high in this forcemain during these emergency conditions: 6.01 FPS at current flow rates and up to 11.52 FPS at buildout flow rates.

The addition of a 12-inch gravity line also impacts maintenance. Specifically, while maintenance with the Seltice Lift Station would be eliminated, there would be approximately 6,200 more feet of gravity sewer which may require periodic cleaning. However, the addition of flow from the Seltice Basin may decrease maintenance in the Corbin LS discharge forcemain. The addition of flows from the Seltice Basin will increase the flow rate in the Corbin LS 12-inch discharge forcemain to almost 2 FPS (at buildout), which will help prevent solids settling which may decrease maintenance required due to settlement.

2.3.3.3 Best Practice and Opinion of Cost

It is generally not advisable to construct additional pipe to carry wastewater past the WRF just to pump it back again. The gravity sewer would also be deep and likely require high levels of coordination with existing utilities and property owners (if installed to the south of Seltice) or traffic control and asphalt repair if installed under the westbound lanes of Seltice. However, the addition of this gravity sewer would eliminate a lift station from the system reducing required equipment maintenance but adding maintenance to the collection system with more gravity pipe in place.

A cost opinion is provided in the **Appendix**. Note that in order to maintain an “apples-to-apples” comparison, it is assumed that discharge from 12th Ave LS is routed to the WRF similarly to what is shown in the 12th Ave Collection Project Phase 2 plans, a piped manifold is provided at the WRF, and forcemains from the west are combined into two larger diameter pipes which connect to the manifold at the WRF. Reference **Section 2.2.5** for a discussion of O&M costs associated with decommissioning a lift station.

2.3.4 Seltice Lift Station – Replace with East Seltice Regional Lift Station

The ability to eliminate Seltice LS and replace it with a regional influent lift station near the WRF was evaluated. The addition of this regional lift station (known herein as the East Seltice Regional LS or the East Regional LS) was also evaluated to determine if it could act as a collection point for flow from multiple lift stations currently feeding the WRF, thereby reducing the number of forcemains within and crossing Seltice Way. Potential City-owned sites for the East Seltice Regional LS are shown in **Appendix Figure D.1**. Note that at the time of this analysis, the property east of North Empire Center Boulevard is a proposed park called the Montrose Sports Complex and the property is not currently owned by the City according to the Kootenai County Assessor’s website.

2.3.4.1 Hydraulic Capacity and Constructability

If the City could obtain space at the Montrose Sports Complex, this could be an ideal location for a regional lift station. As shown in **Appendix Figure D.2**, by placing the regional lift station in the southwest corner of the proposed park property, there is the potential to not only eliminate Seltice Lift Station by rerouting the gravity flows from the Seltice Basin, but to also route the discharge from Montrose LS, 12th Ave LS, 4th Ave LS, and the future Fisher Lift Station to this regional lift station as well. This has the benefit of limiting the number of forcemains required to be routed to and accommodated at the WRF Headworks in the future as well as providing capacity for emergency flow routing. Note, the

future North Regional Lift Station could also potentially be routed to this site, however based on additional information provided by the City, the current plan being negotiated with developers in the Pleasant View Corridor is to route the discharge from North Regional LS down Pleasant View and Seltice directly to the WRF.

Based on the elevations provided in the City's interactive Utility Infrastructure Viewer, it is possible to reroute the gravity flows within the Seltice Basin to discharge to a new regional influent lift station. Pipe invert is anticipated to be approximately 5-15 feet below finished grade at the wet well (final elevations to be confirmed during design based on actual sizing, routing, and field-verified elevations). This is well within constructable ranges.

To accommodate the buildout flow rates from all of the potential sources at a maximum velocity of 5 FPS, there are at least two options that should be considered for the discharge piping from the regional lift station:

1. Provide two new parallel discharge forcemains. Forcemains are anticipated to be 20-inch and 16-inch based on buildout flows (including discharge from North Regional LS). Sizing and acceptable flow rates should be confirmed during the design process if the City chooses to pursue this option. This would likely be easier to construct but would likely require more coordination with and/or relocation of existing utilities including gas, power, and fiber. As shown in **Appendix Figure D.5** and **D.6**, the two new forcemains would discharge into a 36-inch shared manifold at the WRF.
2. Reuse the existing 10-inch, 12-inch, and 14-inch forcemains which currently discharge from Seltice LS and provide a new 16-inch discharge forcemain from the regional lift station to accommodate future flows. Note:
 - a. The reuse of the existing forcemains is dependent on their condition and will require phasing in construction. It is possible that the lift station could be constructed with the new 16-inch discharge forcemain. Flows from Montrose LS and Seltice LS (and potentially 12th Ave LS depending on its phase of construction) would then be diverted and discharged through the new 16-inch forcemain, while interconnection work with the existing forcemains is completed. This would be a more complicated construction procedure but would also make use of existing infrastructure.

The City has indicated that they would likely want both the of the new 16-inch and 20-inch forcemains constructed as the existing forcemains are old and would likely need to be decommissioned in the future. However, the existing forcemains could be used in the interim for construction phasing.

In order to avoid conflict with the main power feed to the WRF, the new 16-inch and 20-inch forcemains would likely need to be routed below the existing main entrance to the WRF. See **Appendix Figure D.6**. During construction, the entrance near the Streets Department would need to be used for access to the facility. Alternately, the City could review options to either reroute the main power feed with Avista, or to construct underneath it; both of which put the facility at a higher risk of a power outage.

As shown in **Appendix Figure B.10**, the HDPE tee that was installed just west of the existing influent box at the Headworks is a reducing 36-inch tee, with 24-inch branches. It appears that the valve installed on the northern branch for future extension is also 24-inches in size. A 36-inch pipe is required to keep velocities below the maximum allowable velocity of 5 FPS. Replacement of the existing tee and valve with larger components would require bypass pumping from the existing 24-inch valve located on the C-trail Forcemain downstream of the Parshall Flume, which would be a relatively high-risk operation and would require an alternate means of measuring the plant influent. Alternately, the existing 24-inch components could be left in place and higher velocities (8.06 FPS) would be experienced for a relatively short run of piping once buildout flows were achieved. It should be noted that the existing 36-inch penetration which would receive all influent flow from the City of Post Falls would have a velocity of approximately 5.63 FPS at buildout flows, which is also above the maximum allowable velocity for new components.

It should also be noted that until buildout flows are achieved, flow rates within the shared manifolds will likely be low which may lead to solids settling. The City may wish to consider interconnecting the existing C-Trail Forcemain with the new proposed 36-inch branch in order to allow options for flow routing for flushing, maintenance, and emergency operation. See **Appendix Figure D.6**.

Note that the normal operation of the 4th Ave LS is to discharge to the shared Centennial Trail Forcemain which enters the WRF from the south. The City has confirmed that they need to keep the option to route discharge from the 4th Ave LS to the Seltice LS Basin as this is the only backup flow path for this lift station. If flow from 4th Ave LS is conveyed by gravity to the Seltice Basin (via existing piping and manholes, see **Appendix Figure A.1**), this would also eliminate the need to route a 14" forcemain across Seltice Way to the proposed lift station. This should be further evaluated during design, should the City choose to pursue the East Seltice Regional LS option.

Additionally, it should be noted that the 12th Ave Collection Project Phase 2 plans currently show the 12-inch forcemain from 12th Ave LS connecting to the existing 12-inch forcemain from 4th Ave LS at the intersection of Chase Road and Seltice Way. As shown in **Appendix Figure A.1**, from this interconnection the discharge from 12th Ave LS could be routed through either the existing 10-inch, 12-inch, or 14-inch discharge from Seltice LS to the WRF. As currently shown in this plan set, if the 10-inch or 12-inch forcemains are used, the flow would not pass through a flow control valve prior to discharging to the Headworks. However, the proposed, dedicated 16-inch forcemain from 12th Ave LS and the existing 14-inch forcemain from Seltice LS that could also see flows from 12th Ave LS are routed through a flow control valve prior to discharging at the Headworks. While a full evaluation of the routing and control of the 12th Ave LS forcemains is not part of this scope, further consideration should be given to the route of the 12th Ave LS discharge forcemains. Should the City elect to pursue a new regional lift station, there could be benefit in routing the 12-inch and 16-inch discharge from the 12th Ave LS all the way to the new regional lift station. This would provide more space for the construction of a flow control valve vault, if necessary, and reduce congestion at the Headworks. This would also eliminate the need to separately route the 16-inch discharge to the WRF, as currently shown in 12th Ave Collection Project Phase 2 plans.

In addition to those noted previously, other construction considerations include coordination with Avista and other utilities. As shown in **Appendix Figure D.3**, there are multiple underground conductors as well as gas piping in the southwest corner of the Montrose Sports Complex. Additional information provided by the City also indicates that there is a planned baseball field where the regional lift station is currently schematically shown. Between the existing utilities and the proposed baseball field, there is limited space in the southwest corner of the Montrose Sports Complex for a regional lift station. In order to fit a lift station in this location, it may be necessary to relocate Avista's underground utilities and/or the baseball field. However, if those disadvantages could be overcome, potential advantages to utilizing the southwest corner of the Montrose Sports Complex include easy access for future construction via the baseball field and the potential ability to locate overflow basins under the baseball field.

Note that the southern half of the complex is not scheduled for construction in the near future. Therefore, the City may wish to coordinate with the layout of the Montrose Sports Complex in order to accommodate a regional lift station along the southern edge of the property. If the lift station were moved east, near Mullan Ave, the number of potential utility conflicts decreases substantially (see **Appendix Figure D.4**).

Other potential sites for the East Seltice Regional LS include the gravel lot north of the Streets Department and City-owned property on the north side of Seltice, south of Mullan. The location of the regional lift station will affect the pipe routing and ultimately the number of pipes crossing and running in Seltice. The final location of the regional lift station and routing of the associated piping should therefore be carefully considered and coordinated should the City elect to pursue this option.

Construction would require coordination with any utilities present at the property, as well as coordination with existing utilities in Seltice Way. In general, the northern half (i.e., the westbound lanes) of Seltice Way is generally open and appears to have sufficient space to accommodate two large diameter forcemains. Based on the City's interactive Utility Infrastructure Viewer and the available record drawings, the existing gravity sewer lines appear to be low enough to allow the forcemains to pass over them while passing below the City's watermain and service lines in accordance with IDAPA clearance requirements, all while maintaining a minimum of four foot of bury. Elevations for all existing utilities, including EGID waterlines for which record drawings were not available at the time of this analysis, should be confirmed during design if the City elects to pursue this option.

2.3.4.2 Expandability

A greenfield site, such as the proposed park property, offers the most flexibility for expandability. If pursued, a regional lift station could be designed and constructed to provide dedicated connection points for discharge forcemains from future lift stations (i.e., Fisher...etc.) as well as the space and ability to expand in the future should future buildout conditions change.

2.3.4.3 Maintenance

Required maintenance for a new regional lift station is anticipated to be similar to that of an existing lift station, and it is likely that if Seltice LS were decommissioned and the new East Seltice Regional LS constructed, the City would likely see similar levels of maintenance hours required. The regional lift station would be larger and have more instrumentation, however it would be newer and therefore theoretically less prone to failure after the initial start-up period.

As noted previously, if Seltice LS is the only discharger to the existing 14-inch forcemain, velocities in the pipe appear to be below 2 FPS. In order to keep solids in suspension, best practice is to provide a minimum velocity of 2-3 FPS. Being below 2 FPS means that settling of solids is likely occurring within this forcemain, creating a potential maintenance issue. By constructing a regional lift station, flows from Seltice LS would be rerouted thereby eliminating low flows and the deposition of solids within the existing 14-inch forcemain.

2.3.4.4 Best Practice

General best practice is to minimize the amount of re-pumping occurring within a system. While a new regional lift station would potentially mean re-pumping flow from Fisher LS (and potentially North Regional LS depending on ultimate pipe routing) which otherwise were not anticipated to be double-pumped, the reduction in the number of forcemains crossing Seltice way, as well as a reduction in congestion at the Headworks due to the decrease in the number of forcemains entering the WRF may offset this disadvantage.

2.3.4.5 Opinion of Cost

Reference the **Appendix**. Note that the opinion of cost assumes that the forcemains coming to the WRF from the east are combined into two larger diameter forcemains in order to reduce congestion at the Headworks. Reference **Section 2.2.5** for a discussion of O&M costs associated with constructing and decommissioning a lift station.

2.3.5 West Seltice Regional Lift Station

According to the Kootenai County Assessor's Website, the City currently does not own any additional empty property along Seltice between Corbin Road and the WRF. Privately-owned lots which appear to have large portions of empty space are identified in **Appendix Figure D.1**. If the City were able to procure one of these lots, a regional lift station (hereafter referred to as the West Seltice Regional Lift Station) could be constructed. This lift station could collect flows from the future Industrial LS, North Regional LS, Pleasant View LS, Fisher LS, and/or Corbin LS.

2.3.5.1 Hydraulic Capacity and Constructability

If the West Seltice Regional Lift Station were located just north of the existing Corbin LS, there is the potential that flows from the Corbin Basin could be routed by gravity to the regional lift station. The

depth of the wet well would likely be similar to that at the existing Corbin LS, but this should be confirmed if the City elects to pursue this option.

To accommodate the buildout flow rates from all of the potential sources at a maximum velocity of 5 FPS, the West Regional Lift Station would likely require an 18-inch and a 20-inch discharge forcemain. As shown in **Appendix Figure C.2**, these two forcemains would discharge into a shared 36-inch forcemain at the WRF. Sizing and acceptable flow rates should be confirmed during the design process if the City chooses to pursue this option. If the East Regional Lift Station were not constructed, the 16-inch discharge forcemain from 12th Ave LS would need to intertie with the shared 36-inch forcemain- see **Appendix Figure C.2**.

Reference **Section 2.3.4** for additional constructability constraints which also apply to the West Regional LS Option.

2.3.5.2 Expandability, Maintenance, Best Practice, and Opinion of Probably Cost

The overall size of the West Regional Lift Station is roughly equivalent to that of the East Regional Lift Station. Therefore, for the purposes of this analysis, the considerations for maintenance, best practice, and opinion of probable cost are the same as the East Regional Lift Station. See **Section 2.3.4**. Consideration should be given to the increased cost required to purchase property on which to build the lift station, which is not accounted for in the cost for the East Regional Lift Station as the City already owns property to the east of the WRF. Approximate costs to purchase a half-acre lot are estimated at \$250,000.

3. Effluent Reuse Pipeline Consideration

Preliminary options for routing a future 20-inch Class A reuse forcemain from the WRF to Chase Road were evaluated as part of this analysis. It was assumed that the ultimate discharge location for the reuse pipe is the City’s Prairie Reuse Property, located between Idaho Road and Greensferry, south of Hayden Avenue, and that Chase Road would be the primary route north to this property. Additionally, the City noted that there was potential interest in providing reuse water to the Montrose Sports Complex north of Seltice Way, just east of North Empire Center Boulevard. At the time of this analysis, estimated irrigation rates for this proposed park had not been determined, and therefore a pipe size had not been determined. Routing options for a future reuse pipe to this area are therefore only cursory and consist purely of an evaluation of how best to avoid existing infrastructure while sharing piping corridors where possible. Further consideration or design for this pipe is not provided herein.

As determined during the analysis of the influent forcemain alternatives, the northern half of Seltice Way is relatively open. As shown in **Appendix Figure A.1**, it is anticipated that the reuse pipe would head north from the UV Disinfection Building at the WRF via Public Works Way and be constructed under the westbound lane(s). Exact location would be dependent on which alternative the City selects to bring influent flow to the WRF and should be further evaluated during design. Coordination would also be required at existing forcemain crossings, gravity sewer crossings, and potable waterline crossings. Based

on best available information, it appears that the reuse line would need to be routed below the existing utilities.

It is likely that the Montrose Sports Complex will be constructed prior to the Prairie Reuse Property. Therefore, if Class A water is needed for irrigation purposes at the complex, a dedicated Class A reuse line and booster pump from the WRF would likely be required well in advance of the system (i.e., 20-inch transmission main) for the reuse property. This dedicated line could be provided near the intersection of North Empire Center Boulevard and Seltice, although this would require coordination with multiple underground electrical conductors, or farther east near the intersection of Mullan and Seltice, which has fewer underground utilities to coordinate with. As noted previously, size of the branch line is dependent on irrigation needs at the site but would likely be 8-inch or larger.

Alternately, the 20-inch reuse line could be routed down Mullan Ave to Chase Road, in lieu of routing it in Seltice. This would require coordination with construction of the 12th Ave discharge forcemain as they would likely be completed at the same time and be routed in the same corridor (with appropriate separation).

A cost opinion for the 20-inch reuse pipe is included as part of the Facility Plan, currently under development by J-U-B.

4. Discussion and Selection of Preferred Alternative

A summary of the major advantages and disadvantages associated with each alternative is provided herein. Reference the previous text for a full discussion of all anticipated advantages and disadvantages for each option.

	Alternative #1: 12th Ave Collections Project Phase 2	Alternative #2: Option #1- Combine FM from West	Alternative #2: Option #2- Combine FM from West and East Regional LS	Alternative #2: Option #3 – Combine FM from East	Alternative #3: Option #1 - Eliminate Corbin LS and Gravity to Seltice LS	Alternative #3: Option #2 – Eliminate Corbin and Gravity to Idahline LS	Alternative #3: Option #3 – Eliminate Seltice and Gravity to Corbin LS	Alternative #3: Option #4 – East Regional LS	Alternative #3: Option #5 – West Regional LS
Relevant Figures	B.1 (primary overview) through B.10	C.1 and C.2	D.1 through D.7; D.5 and D.6 focus on modifications at the Headworks, D.1 and D.2 focus on the new regional lift station	N/A	N/A	N/A	Figure E.1 and C.2	D.1 through D.7; D.7 focuses on modifications at the Headworks, D.1 and D.2 focus on the new regional lift station	C.1, C.2, and D.1
Relative Cost	\$\$\$	\$	\$\$\$\$\$	\$	N/A	N/A	\$\$	\$\$\$\$\$	\$\$\$\$\$
Cost Estimate	\$18,989,000	\$12,543,000	\$31,311,000 (+\$1,961,000 O&M) Total: \$33,272,000	N/A	N/A	N/A	\$17,846,000 (-\$803,000 O&M) Total: \$17,043,000	\$31,311,000 (+\$1,961,000 O&M) Total: \$33,272,000	\$31,311,000 (+\$1,961,000 O&M) (+\$250,000 for property) Total: \$33,522,000
Main Advantages	Limits likelihood of failure with control valve by placing it at the WRF	- Reduces the number of forcemains routed to the WRF - No bypass pumping with a piped manifold connection at WRF	- Reduces the number of forcemains routed to the WRF - Reduces congestion at WRF by moving control valves offsite - Ability to eliminate Seltice LS - Allows for multiple flow paths to eliminate potential for low velocities in large diameter pipes - Provides increased capacity for emergency flow routing - No bypass pumping with a pipe manifold connection at WRF	Provides back up for existing forcemains and could accommodate emergency flows from 4th Ave LS.			Eliminates a lift station		- Reduces the number of forcemains routed to the WRF - Provides flexibility for routing future LS to a collection point as opposed to having multiple tie-ins within Seltice Way - No bypass pumping with a piped manifold connection at WRF
Main Disadvantages	- Requires crossing with existing forcemains for each successive tie-in - Limits future flexibility - Requires bypass pumping for construction of influent box extension	Low velocities until buildout flows achieved	- Expensive - Coordinating a location within City-owned property - Additional maintenance	- Flow control still required for 12th Ave LS discharge - Does not reduce the number of forcemains at the WRF			- Additional piping to route flows past their final destination. - Trench depths required are deep - Multiple utility crossings/coordination required. - Coordination likely required with existing property Owners if installed to south of Seltice.		- Expensive - Requires property to be purchased - Additional maintenance
Notes				Full cost opinion not developed; see text for reasoning	Not possible based on elevations	Ability to get ROW makes this unfeasible; see text for additional commentary		Construction of the East Regional LS with separate forcemains from the west is unlikely. It would make more sense to combine forcemains from the west. See Alternative #2, Option #2.	Cost assumed to be similar to that for East Regional LS

4.1 Preliminary Recommendations

West of the WRF: Based on the preceding analysis, it is our recommendation that the City install two large diameter forcemains (18- and 20-inch, size to be confirmed in design) in Seltice Way, headed west to Corbin Road (Combined Forcemains from the West). This provides the City with the most flexibility to either combine future forcemains within Seltice Way, or construct a West Regional Lift Station. We recommend connecting the forcemains at the WRF with a piped 36-inch manifold (size to be confirmed in design) as this provides the most flexibility to accommodate future flows and decreases the level of risk during construction.

East of the WRF: From the east, we recommend retaining the 12th Ave Lift Station discharge piping as currently routed in the 12th Ave Collections Project Phase 2 plans. The City may wish to consider relocating the 16-inch forcemain into Seltice Way for ease of construction.

Reuse Piping: Regarding the Class A reuse transmission line, we recommend that a 20-inch line be installed from Public Works Way to Chase Road under the westbound lanes of Seltice Way. If the City would like to irrigate the Montrose Sports Complex with Class A reuse water, we would recommend installing a dedicated 8-inch pipe from the WRF (at minimum, size to be confirmed during design) via Public Works Way, across Seltice Way, to the sports complex site.

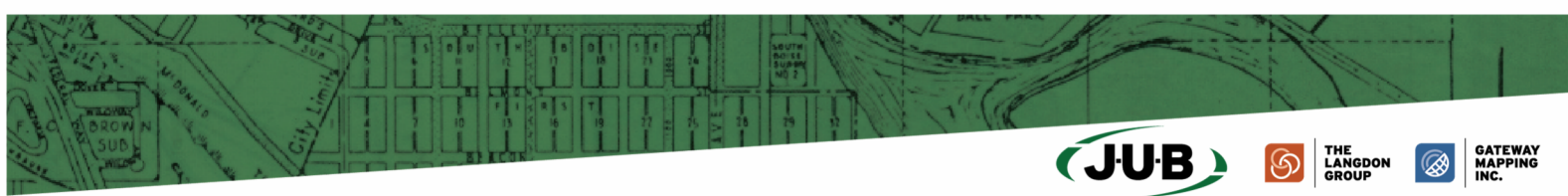
4.2 City Review and Additional Analysis

The City reviewed the recommended alternatives and requested that three additional items be reviewed:

1. The feasibility of and anticipated additional cost to provide a dedicated 12-inch forcemain for the 12th Ave LS discharge (as opposed to the originally planned tie-in at Chase Road).
2. The amount of redundancy provided in the dual 18-inch and 20-inch forcemains, specifically what the anticipated velocities would be in each pipe if a single pipe was used to convey all of the flow through buildout conditions, and if the pipes should be upsized or additional pipes provided.
3. The feasibility of routing discharge from 4th Ave LS (including flows from 3rd Ave LS which would be conveyed to 4th Ave LS) to the WRF via existing piping in Seltice Ave in the event of a major outage in the Centennial Trail Forcemain. This was an analysis of anticipated velocities only.

4.2.1 Dedicated 12-inch Forcemain from 12th Ave Lift Station

As shown in the 12th Ave Collections Project Phase 2 plans, there are two forcemains which convey discharge from the 12th Ave LS to the WRF: one, 16-inch forcemain which routes all the way to the WRF, and one 12-inch forcemain that ties into existing piping at the intersection of Chase and Seltice. Rather than tying into existing piping, the 12-inch forcemain could be continued all the way to the WRF. This would require the control valve vault at the WRF to be relocated, likely to the east of its current proposed location (see **Appendix Figures C.1.1 and C.2.1**). Providing a dedicated forcemain all the way to the WRF has two main benefits: 1) it increases capacity within the existing piping in Seltice Way to accommodate



emergency flows from other lift stations (namely 3rd Ave and 4th Ave LSs), and 2) it ensures that all flow from 12th Ave LS passes through a flow control valve.

Assuming the 12-inch forcemain from 12th Ave LS follows the same path as the 16-inch forcemain shown in the 12th Ave Collections Project Phase 2 plans, the anticipated additional cost is \$3,133,000 (see the **Appendix** for a full cost breakdown). It may be possible to decrease the total cost of construction of the 12th Ave LS discharge forcemains by constructing them at the same time, thereby sharing trenching and traffic control costs. It may also be beneficial to route these forcemains under the westbound lanes of Seltice Way which would shorten the pipe runs and potentially minimize coordination required with existing utilities.

4.2.2 Redundancy Analysis of Dual Forcemains from the West

In order to evaluate available redundancy and anticipated velocities in the dual forcemains proposed to feed the WRF from the west, the City provided updated flow data for the Industrial 1, Industrial 2, Pleasant View, and North Regional Lift Stations (see **Appendix**). These flow rates were developed as part of the Pleasant View Corridor Sewer Study conducted in 2020. Flow rates for the remaining lift stations which contribute to these dual forcemains (i.e., Corbin and Fisher LSs) were assumed to remain the same as previously stated in the 2019 Master Plan. Based on these flow rates, if all of the flow were routed through the 18-inch forcemain, the velocity would be <3 FPS through 2027, however at buildout velocities would increase above 10 FPS. If all of the flow were routed through the 20-inch forcemain, the velocity would be <2.5 FPS through 2027, and approximately 8.3 FPS at buildout. General recommendations for maximum velocities in pipes are 5-7 FPS, however for short-term durations (i.e., a few days), velocities below 10 FPS can be acceptable. Two, 20-inch forcemains therefore provide additional capacity and redundancy should one forcemain be out of commission during an emergency scenario. The cost difference between 18-inch/20-inch dual forcemains and 20-inch dual forcemains is approximately \$583,000 for the distance from the WRF to Corbin Road (see the **Appendix** for a full cost breakdown).

Prolonged high velocities may also decrease the lifespan of piping by increasing abrasion and wear and tear to linings and fittings, therefore buildout flows should only be routed through a single pipe in an emergency scenario and for a short period of time.

It should be noted that high velocities within the piping will dramatically increase headloss and affect pump operation. Providing multiple interties between the two large diameter forcemains will limit the distance where all flow must travel through a single pipe, thereby limiting potential effects on headloss. The City also noted that they would like the Corbin LS discharge pipe to be intertied with each of these large diameter forcemains in order to increase flow prior to buildout to prevent settling, as well as provide an alternate route for emergency flow routing. Additional considerations which will help to mitigate potential issues with outages in these forcemains include:

- Increasing the overflow basin sizes of future lift stations to manage peak influent flows.

- Selecting pumps for future lift stations which can handle a wide range of head conditions (i.e., pumps with steeper pump curves).
- Routing Fisher, or another lift station, separately to the WRF influent manifold to decrease the buildout flow in the combined forcemain.

The City also noted that they would like to consider an intertie between the discharge of Idahline LS and each of the 20-inch forcemains as a means to increase flow prior to buildout. This intertie would likely be constructed west of the current area of study (i.e., west of Corbin Road) and should be further evaluated as part of the final design of the forcemains.

4.2.3 Emergency Routing of 3rd Ave LS and 4th Ave LS Flows

Under normal operational conditions, flows from 3rd Ave LS and 4th Ave LS are conveyed to the WRF via the Centennial Trail (C-Trail) Forcemain. If the C-Trail forcemain suffers an emergency outage, the City would like to utilize existing piping to route flows from 3rd Ave LS to 4th Ave LS, from which flows would be routed via piping in Seltice Way to the WRF.

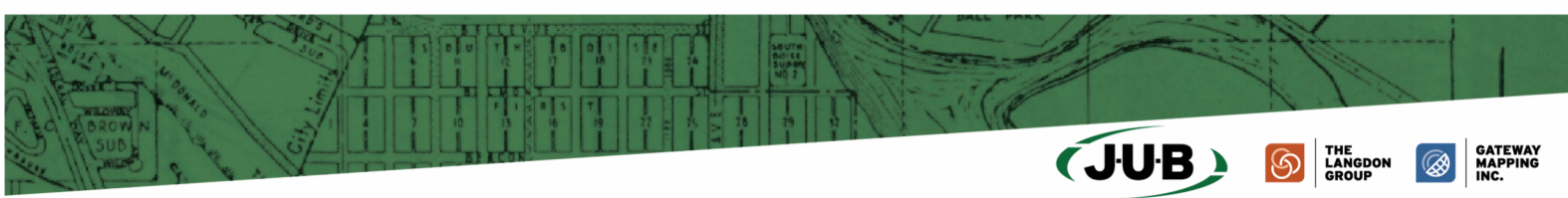
Specifically, there are dual 10-inch and 12-inch forcemains from 4th Ave LS which intertie with the 10-inch, 12-inch, and 14-inch discharge piping from Seltice LS (see **Appendix Figure A.1**). Assuming the 12-inch forcemain from 12th Ave LS does not intertie with the dual 10- and 12-inch discharge forcemains from 4th Ave LS (see **Section 4.2.1** prior), the velocity in the 10-inch pipe is approximately 6-7 FPS for current conditions through 2027 projected conditions and jumps to approximately 11 FPS at buildout conditions. Velocity in the 12-inch pipe is approximately 4-5 FPS for current-2027 conditions and jumps to approximately 8 FPS at buildout. Therefore, at buildout these two existing forcemains likely create a bottleneck which have high velocities and higher headloss which may prevent the existing pumps from being able to convey all of the flow to the WRF.

The discharge piping from Seltice LS to the WRF appears to have capacity to accommodate the emergency flows from 3rd Ave LS and 4th Ave LS as well as the discharges from Seltice LS, Montrose LS, and Corbin LS which normally discharge to these pipes while maintaining velocities below 8 FPS for current through buildout conditions. This requires splitting the flows from 3rd and 4th Ave LSs between all three of the discharge pipes (i.e., the 10-, 12-, and 14-inch forcemains which feed "Post Falls A" and "Post Falls B" at the WRF).

A review of the hydraulic conditions, including associated headloss and anticipated pump operation, should be conducted as part of the next collection system master plan to confirm these preliminary findings.

4.3 Final Selected Alternative

Upon review of the recommended alternatives and the additional analysis, the City has decided to proceed with the following alternatives which will be further vetted during design:



- From the West: Provide two, 20-inch forcemains from Corbin Road to the WRF. These will be dedicated to conveying flows from future lift stations from the western part of the City to the WRF.
 - Interties will be provided between these two forcemains.
 - Each 20-inch forcemain will be intertied with the existing discharge pipe from Corbin LS.
- From the East: Provide two forcemains, one 16-inch and one 12-inch, from Chase Road all the way to the WRF. These will be dedicated to the discharge from 12th Ave LS.
- Provide a piped, 36-inch manifold at the Headworks. The 12-, 16-, and two 20-inch forcemains will tie into this manifold.
 - Interconnection of the new, 36-inch manifold with the existing 24-inch manifold will be further vetted during design but is highly recommended for flexibility.
- Provide a 20-inch Class A reuse transmission line from Public Works Way to Chase Road.
 - Provision of a dedicated irrigation line from the WRF to the Montrose Sports Complex will be further vetted during design.

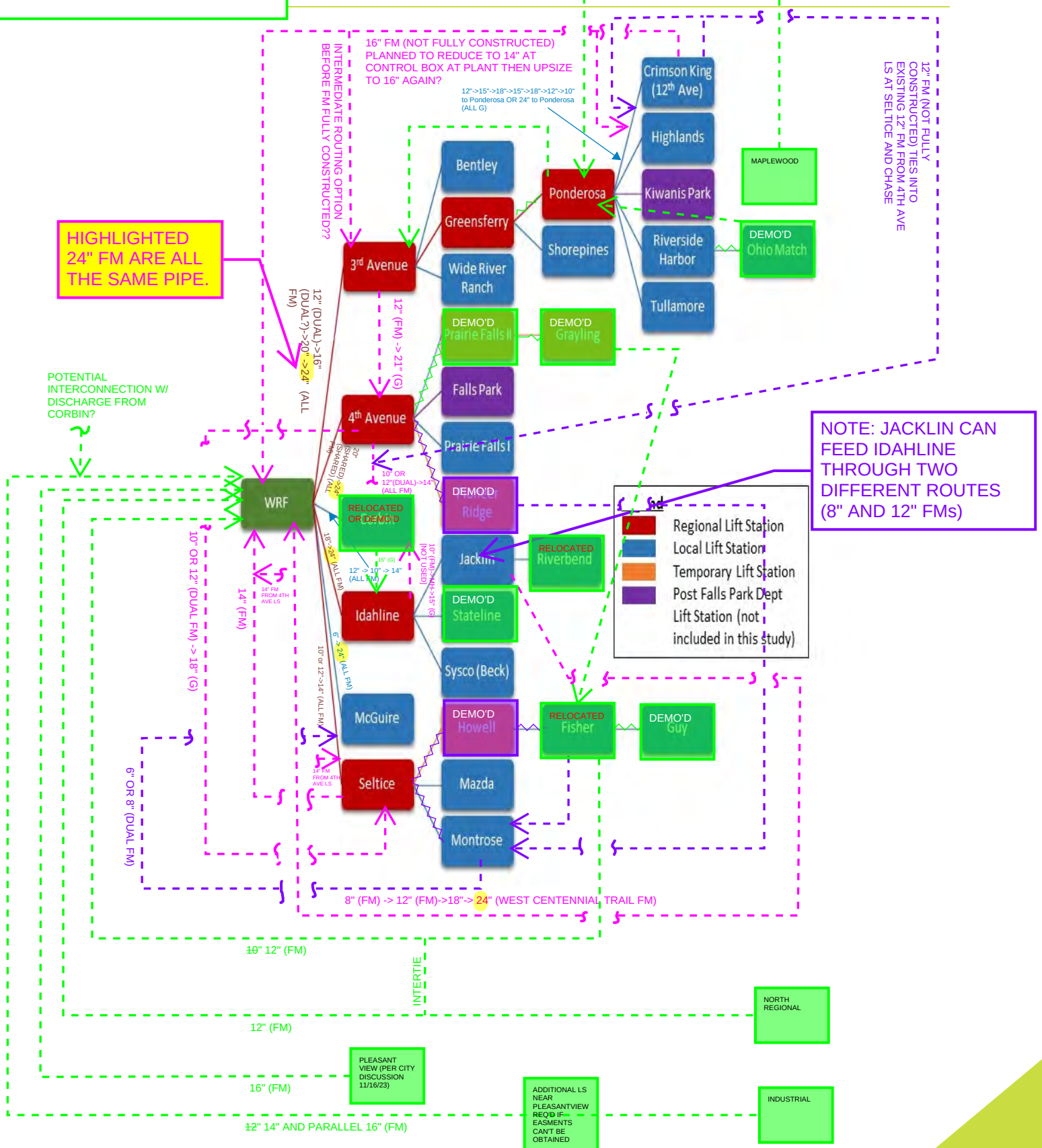
See **Appendix Figures F.1 and F.2**. All new collection system and Class A reuse piping is recommended to be routed under the westbound lanes of Seltice Way, however final location and routing will be determined during design.

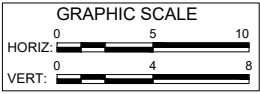
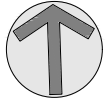
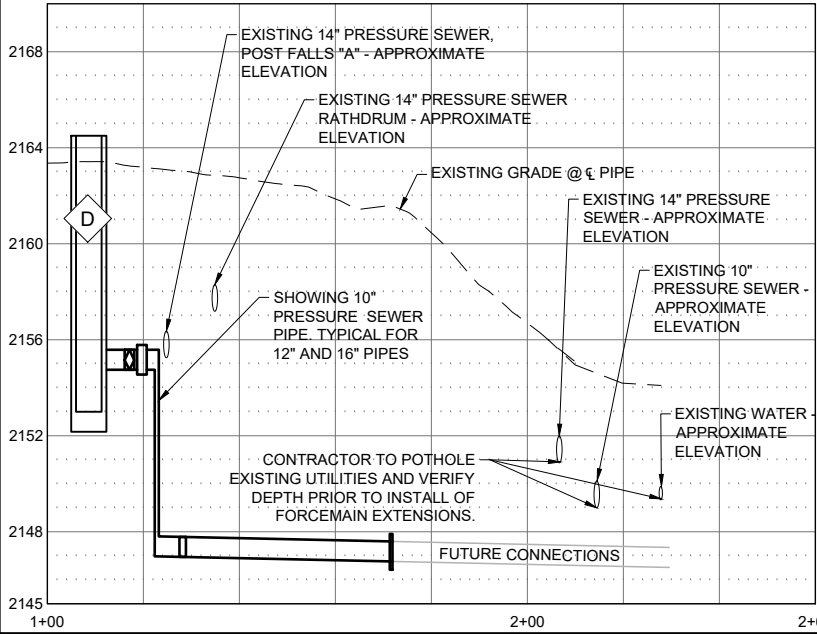
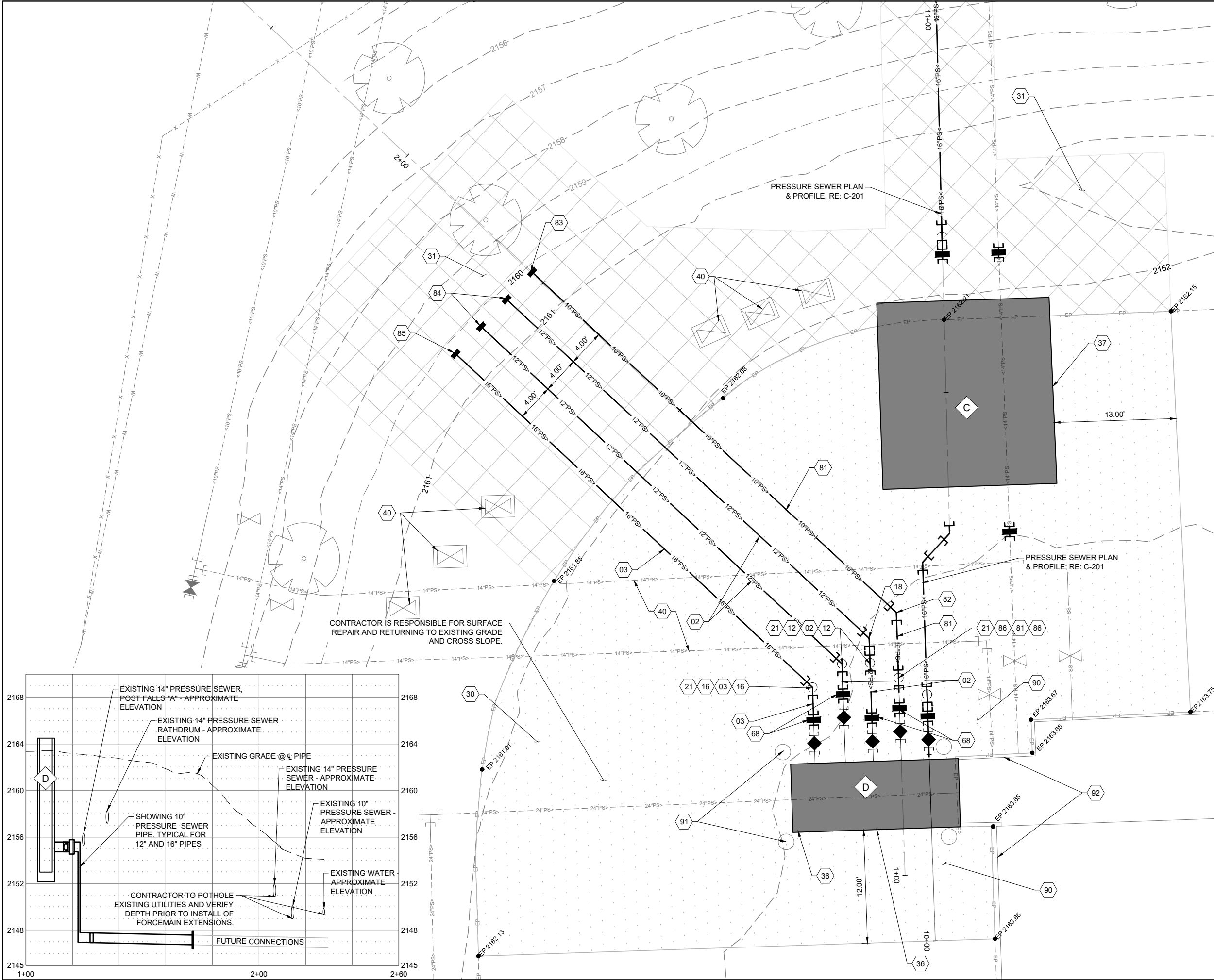
The selected alternatives should be reviewed for constructability concerns and disparities between various source documentation as identified in the preceding text.

Appendix

Figures of Alternatives

FIGURE 3.2 – EXISTING (2018) LIFT STATIONS FLOW CHART





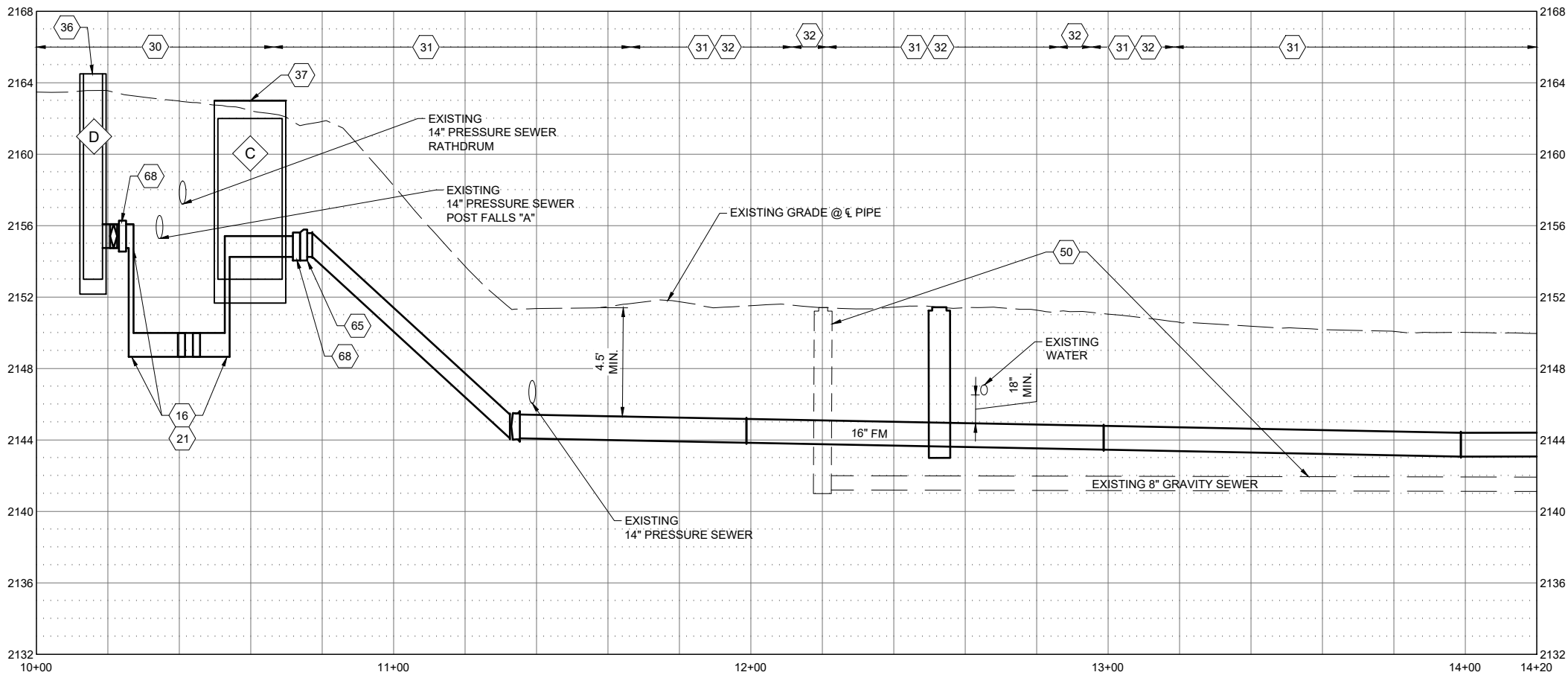
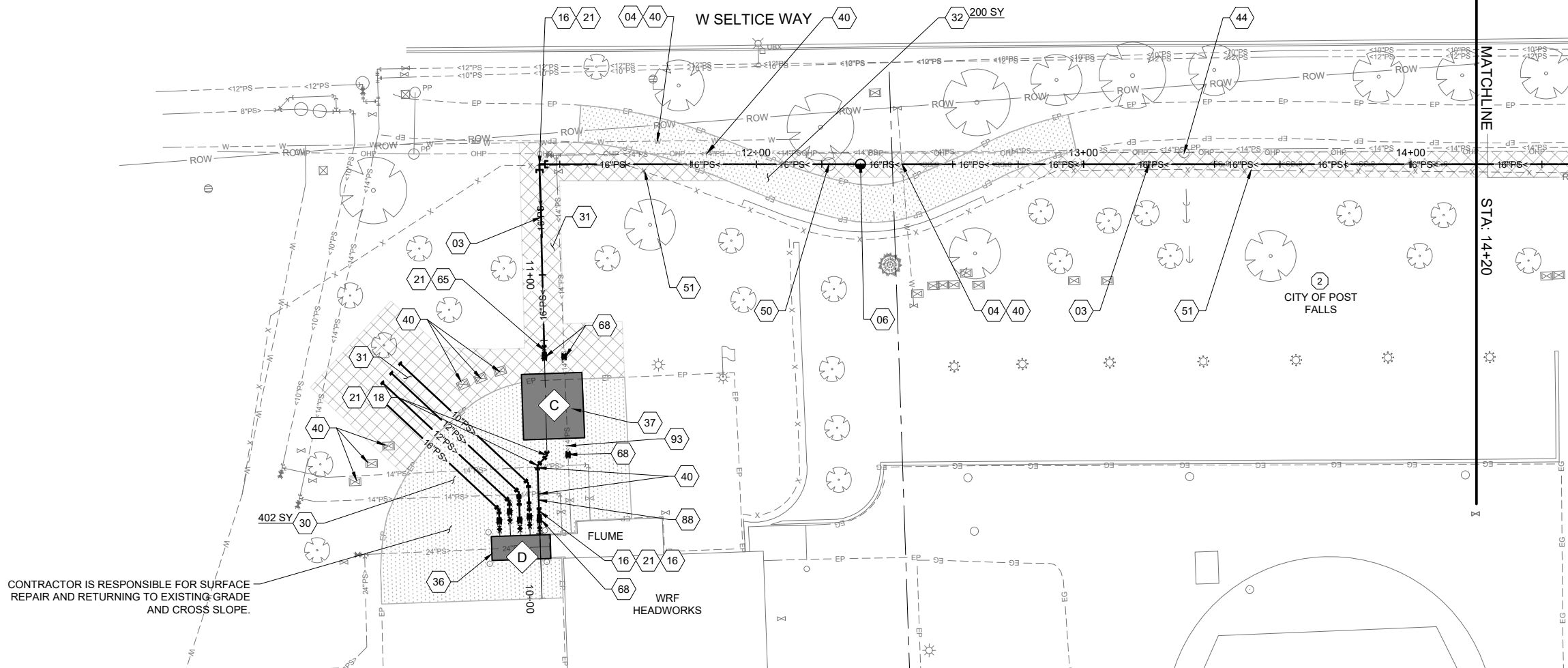
GENERAL SHEET NOTES

- EXISTING PIPELINES SHOWN ARE ESTABLISHED FROM RECORD DRAWINGS AND TOPOGRAPHICAL SURVEY. CONTRACTOR TO FIELD VERIFY LOCATIONS, PIPE SIZES, AND ELEVATIONS PRIOR TO PURCHASING CONNECTING PARTS
- PRIOR TO CONSTRUCTION CONTRACTOR TO POTHOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH. WHERE EXISTING UTILITIES WILL BE ENCOUNTERED IT'S RECOMMENDED THAT THE CONTRACTOR HAND DIG OR VACUUM TRUCK EXCAVATE FOR MATERIAL EXCAVATION IN THESE AREAS.
- PROVIDE CONCRETE THRUST RESTRAINT AT EACH VERTICAL OR HORIZONTAL CHANGE IN DIRECTION.
- FURNISH MATERIALS WHERE INSTALL, PLACE OR CONSTRUCT IS REQUIRED UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL OVER EXCAVATE TO ACHIEVE VERTICAL CLEARANCE OF POTENTIALLY CONFLICTING UTILITIES AND TO MAINTAIN POSITIVE UPWARD SLOPES TOWARD AIR RELEASE FACILITIES.

SHEET KEYNOTES

- | | |
|----|--|
| 02 | PIPE - 12" PRESSURE SEWER; C-900 DR 18 PIPE; RE: SD-301/C-517 |
| 03 | PIPE - 16" PRESSURE SEWER; C-900 DR 18 PIPE; RE: SD-301/C-517 |
| 12 | INSTALL - 12" 90° BEND |
| 16 | INSTALL - 16" 90° BEND |
| 18 | INSTALL - 16" 45° BEND |
| 21 | INSTALL THRUST RESTRAINT; RE:SD 403/C-517 |
| 30 | SURFACE REPAIR - STREET MINOR COLLECTOR 3" ASPHALT, 4" BASE AGGREGATE, 12" SUBGRADE, RE: SD 2003/C-511. |
| 31 | SURFACE REPAIR - MISCELLANEOUS, RETURN TO EXISTING CONDITION. |
| 36 | INFLUENT STRUCTURE; RE: M-101-D |
| 37 | INFLUENT METER VAULT. CONTRACTOR TO MATCH METER VAULT LID WITH EXISTING ASPHALT GRADES. CONTRACTOR TO VALIDATE ELEVATIONS WITH ENGINEER PRIOR TO CONSTRUCTION; RE: M-101-C |
| 40 | RETAIN AND PROTECT UTILITIES. UNDERGROUND UTILITIES LOCATION AND DEPTH IS APPROXIMATE. CONTRACTOR TO POTHOLE UTILITY CROSSINGS IN ADVANCE OF CONSTRUCTION. CONTRACTOR TO PROPERLY SUPPORT CROSSING AND BEDDING PER UTILITY OWNER REQUIREMENTS. |
| 68 | PVC TO DUCTILE IRON FLEXIBLE COUPLING, MATCH COUPLING SIZE TO PIPE SIZES SHOWN RE: M254/M-501 |
| 81 | PIPE - 10" PRESSURE SEWER; C-900 DR 18 PIPE; RE: SD-301/C-517 |
| 82 | INSTALL - 10" 45° BEND |
| 83 | INSTALL - 10" MECHANICAL JOINT CAP |
| 84 | INSTALL - 12" MECHANICAL JOINT CAP |
| 85 | INSTALL - 16" MECHANICAL JOINT CAP |
| 86 | INSTALL - 10" 90° BEND |
| 90 | CONTRACTOR TO DEVELOP SHORING PLAN TO PROTECT EXISTING STRUCTURE FOUNDATION AND SUBMIT TO ENGINEER. |
| 91 | REMOVE EXISTING BOLLARDS AND REUSE AT THE END OF STRUCTURE D. IF DAMAGED, CONTRACTOR TO INSTALL NEW BOLLARDS AT NO COST TO OWNER. |
| 92 | RETAIN AND PROTECT EXISTING BUILDING, FLUME AND FOUNDATIONS. CONTRACTOR TO PREVENT ANY UNDERMINING OF FOUNDATIONS AND STRUCTURAL MATERIALS |

FIGURE B.1





GRAPHIC SCALE
HORIZ: 0 20 40
VERT: 0 4 8

GENERAL SHEET NOTES

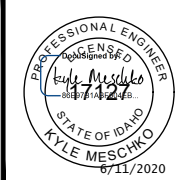
- EXISTING PIPELINES SHOWN ARE ESTABLISHED FROM RECORD DRAWINGS AND TOPOGRAPHICAL SURVEY. CONTRACTOR TO FIELD VERIFY LOCATIONS, PIPE SIZES, AND ELEVATIONS PRIOR TO PURCHASING CONNECTING PARTS
- PRIOR TO CONSTRUCTION CONTRACTOR TO POTHOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH. WHERE EXISTING UTILITIES WILL BE ENCOUNTERED IT'S RECOMMENDED THAT THE CONTRACTOR HAND DIG OR VACUUM TRUCK EXCAVATE FOR MATERIAL EXCAVATION IN THESE AREAS.
- PROVIDE CONCRETE THRUST RESTRAINT AT EACH VERTICAL OR HORIZONTAL CHANGE IN DIRECTION.
- FURNISH MATERIALS WHERE INSTALL, PLACE OR CONSTRUCT IS REQUIRED UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL OVER EXCAVATE TO ACHIEVE VERTICAL CLEARANCE OF POTENTIALLY CONFLICTING UTILITIES AND TO MAINTAIN POSITIVE UPWARD SLOPES TOWARD AIR RELEASE FACILITIES.

SHEET KEYNOTES

03
04
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601 Sherman Avenue, Suite 1
Coeur d'Alene, Idaho 83814
(208) 813-7603



PROFESSIONAL ENGINEER
KYLE MESCHKO
STATE OF IDAHO
10000
6/11/2020

NO.	REVISIONS	DATE



12TH AVENUE COLLECTION PROJECT
PHASE 2
10+00 TO 14+20 (SELCTICE WAY)

DRAWN: SMC CHECK: KJM
VERIFY SCALE: Scales based on 22"x34" prints.
1-1/2 Inches

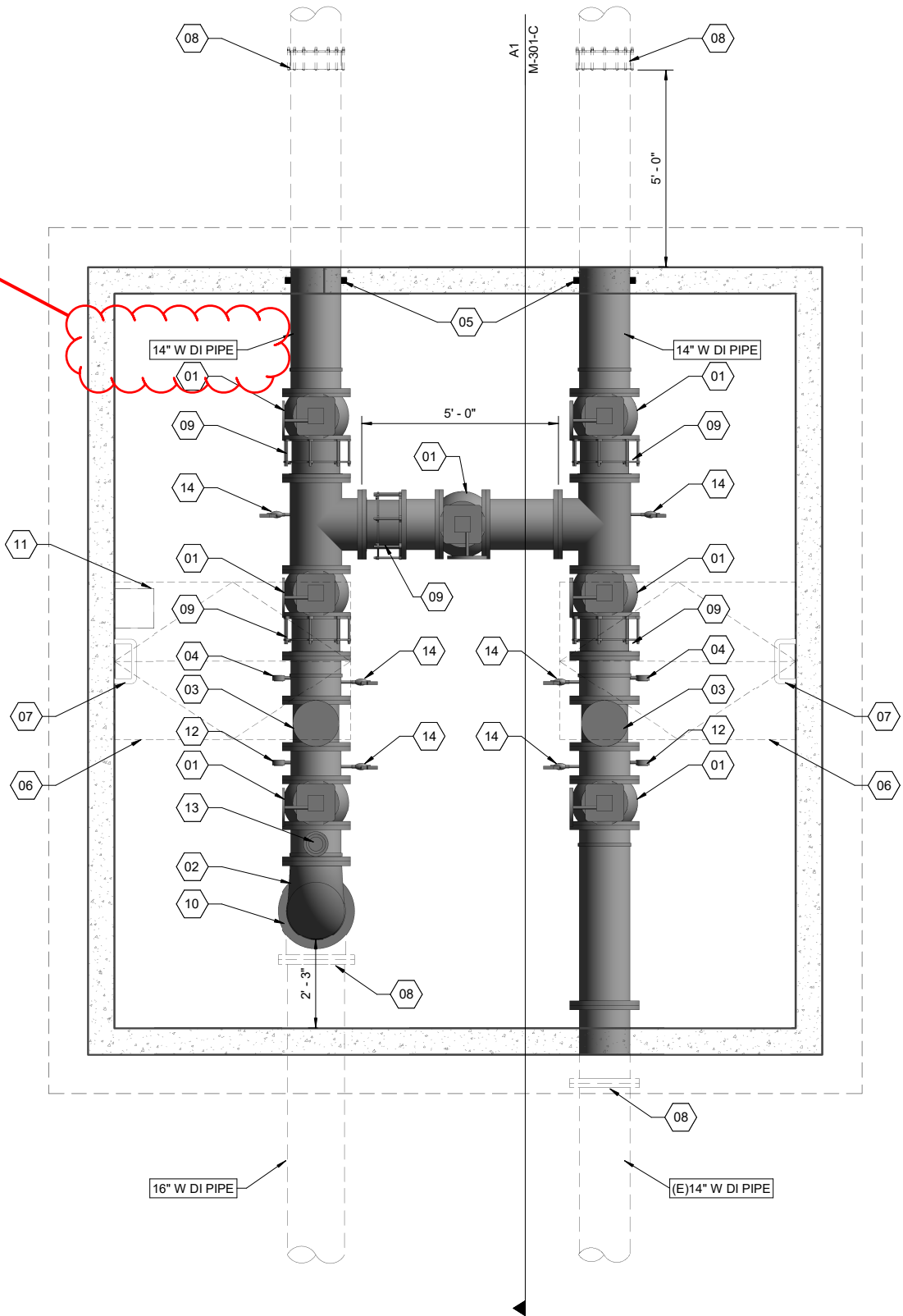
PROJECT NO. 218169-000
SHEET NO. C-201

FIGURE B.2

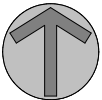
6/5/2020 9:56:58 AM C:\REV\T\218169-000\Revit\C-POST FALLS VALVE VAULT.rvt

A1 INFLUENT METER VAULT - PLAN

1/2" = 1'-0"



1/2" 0 1' 2' 4'



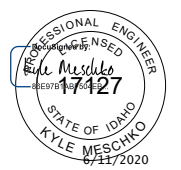
GENERAL SHEET NOTES

- REFERENCE STANDARD MECHANICAL NOTES, SHEET M-001, FOR ADDITIONAL REQUIREMENTS.
- ALL PIPE SUPPORTS ARE NOT SHOWN. CONTRACTOR SHALL SUPPORT PIPING AND VALVES IN ACCORDANCE WITH SPECIFICATION SECTION 40 05 07 AND RE: M-500 SERIES SHEETS.
- CONTRACTOR SHALL INSTALL EQUIPMENT AS PER MANUFACTURER'S INSTRUCTIONS AND SUPPORT PIPING AT EACH PUMP CONNECTION.
- PIPING, VALVES, AND EQUIPMENT SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 90 00.
- ALL PIPING ABOVE GRADE SHALL BE FLANGED; ALL BURIED FITTINGS SHALL BE MECHANICAL JOINT AND RESTRAINED WITH RETAINER GLANDS OR THRUST BLOCKS AS PER THE SPECIFICATIONS AND DRAWINGS.
- CONCRETE ENCASEMENT NOT SHOWN. PIPING LOCATED BELOW THE BUILDING, EXCEPT PLUMBING, SHALL BE CONCRETE ENCASED TO FIVE FEET OUTSIDE OF THE BUILDING FOUNDATION. RE: S103 & S105.

SHEET KEYNOTES

- | | |
|----|--|
| 01 | 14" PLUG VALVE |
| 02 | 16"x14" REDUCING 90° |
| 03 | 14" MODULATING PINCH VALVE W/ ACTUATOR |
| 04 | PRESSURE GAUGE AND PRESSURE TRANSDUCER, RE: M331 |
| 05 | PENETRATION, RE: M226 |
| 06 | 4'X6' ACCESS HATCH |
| 07 | MANHOLE RUNGS |
| 08 | FLEXIBLE COUPLING, RE: CIVIL |
| 09 | DISMANTLING JOINT |
| 10 | PENETRATION, RE: M232 |
| 11 | 1'X1'X2' SUMP DRAIN |
| 12 | PRESSURE SENSOR RE: M325 |
| 13 | 2" AIR RELEASE VALVE RE: M140 |
| 14 | 1/2" STAINLESS STEEL BALL VALVE |

EQUIPMENT KEYNOTES



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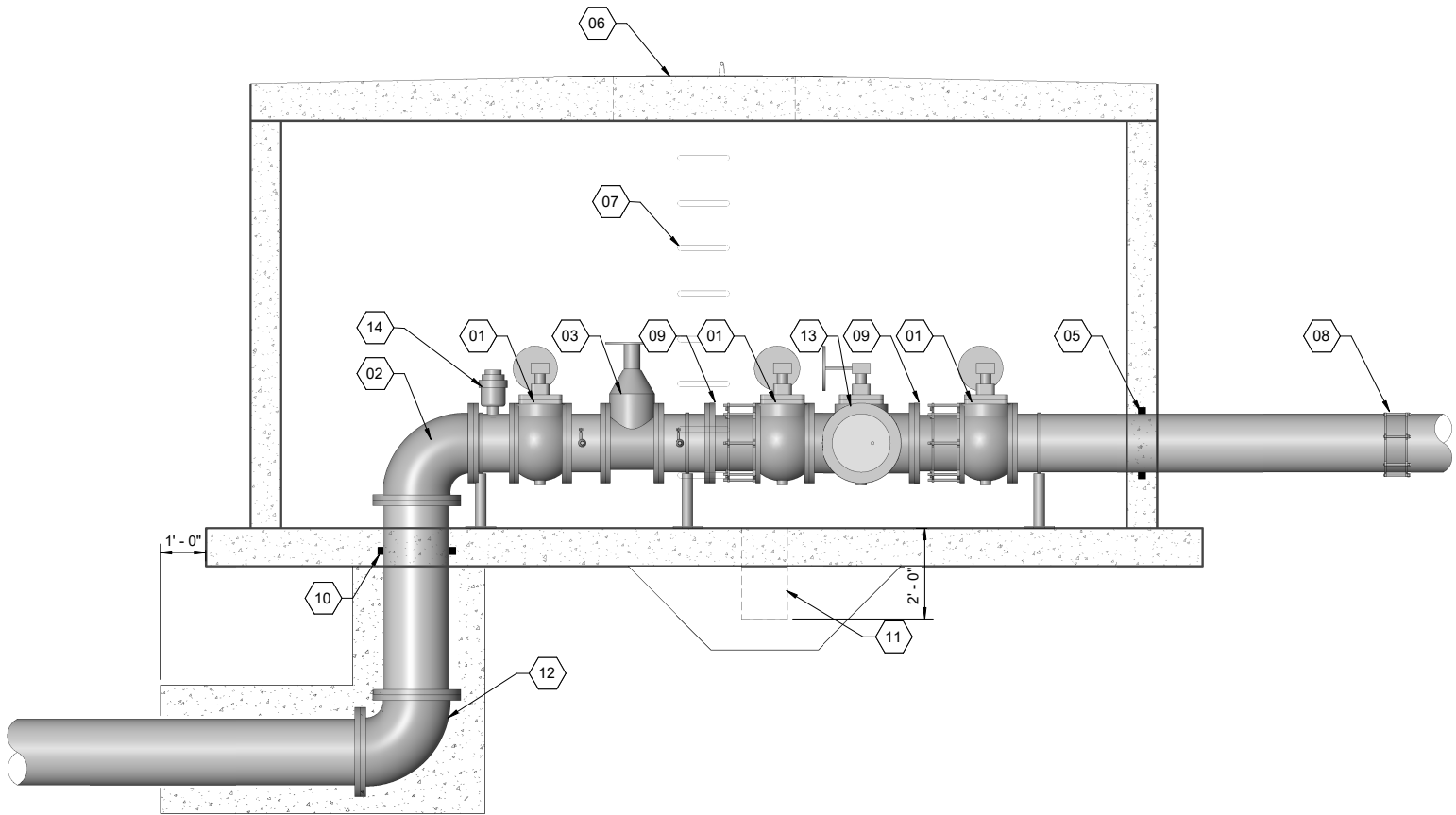
12TH AVENUE COLLECTION PROJECT
PHASE 2

VALVE VAULT - MECHANICAL PLAN

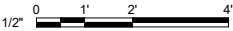
DRAWN: --	CHECK: --
VERIFY SCALE: Scales based on 22"x34" prints.	
1-1/2 Inches	
PROJECT NO. 218169-000	PAGE
SHEET NO.	M-101-C

FIGURE B.3

6/5/2020 9:57:01 AM C:\REV\IT218165-000\Revit\C-POST FALLS VALVE VAULT.rvt



A1 SECTION
1/2" = 1'-0"



GENERAL SHEET NOTES

- REFERENCE STANDARD MECHANICAL NOTES, SHEET M-001, FOR ADDITIONAL REQUIREMENTS.
- ALL PIPE SUPPORTS ARE NOT SHOWN. CONTRACTOR SHALL SUPPORT PIPING AND VALVES IN ACCORDANCE WITH SPECIFICATION SECTION 40 05 07 AND RE: M-500 SERIES SHEETS.
- CONTRACTOR SHALL INSTALL EQUIPMENT AS PER MANUFACTURER'S INSTRUCTIONS AND SUPPORT PIPING AT EACH PUMP CONNECTION.
- PIPING, VALVES, AND EQUIPMENT SHALL BE COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 90 00.
- ALL PIPING ABOVE GRADE SHALL BE FLANGED; ALL BURIED FITTINGS SHALL BE MECHANICAL JOINT AND RESTRAINED WITH RETAINER GLANDS OR THRUST BLOCKS AS PER THE SPECIFICATIONS AND DRAWINGS.
- CONCRETE ENCASEMENT NOT SHOWN. PIPING LOCATED BELOW THE BUILDING, EXCEPT PLUMBING, SHALL BE CONCRETE ENCASED TO FIVE FEET OUTSIDE OF THE BUILDING FOUNDATION. RE: S103 & S105.

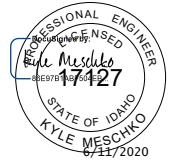
SHEET KEYNOTES

- | | |
|----|--|
| 01 | 14" PLUG VALVE |
| 02 | 16"x14" REDUCING 90° BEND |
| 03 | 14" MODULATING PINCH VALVE W/ ACTUATOR |
| 04 | NOT USED |
| 05 | PENETRATION, RE: M226 |
| 06 | 4'X6' ACCESS HATCH |
| 07 | MANHOLE RUNGS |
| 08 | FLEXIBLE COUPLING, RE: CIVIL |
| 09 | DISMANTLING JOINT |
| 10 | PENETRATION, RE: M232 |
| 11 | 1'X1'X2' SUMP DRAIN |
| 12 | 16" MJ 90° BEND |
| 13 | 14" TEE |
| 14 | 2" AIR RELEASE VALVE RE: M140 |

EQUIPMENT KEYNOTES



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CITY OF
POST FALLS
City of Post Falls, Idaho

12TH AVENUE COLLECTION PROJECT
PHASE 2

VALVE VAULT - SECTIONS

DRAWN: --	CHECK: --
VERIFY SCALE: Scales based on 22"x34" prints.	
1-1/2 Inches	
PROJECT NO. 218169-000	PAGE
SHEET NO. M-301-C	

FIGURE B.4

A1

DEMOLITION PLAN

3/8" = 1'-0"

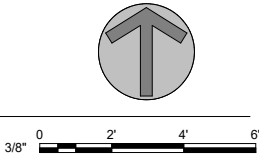
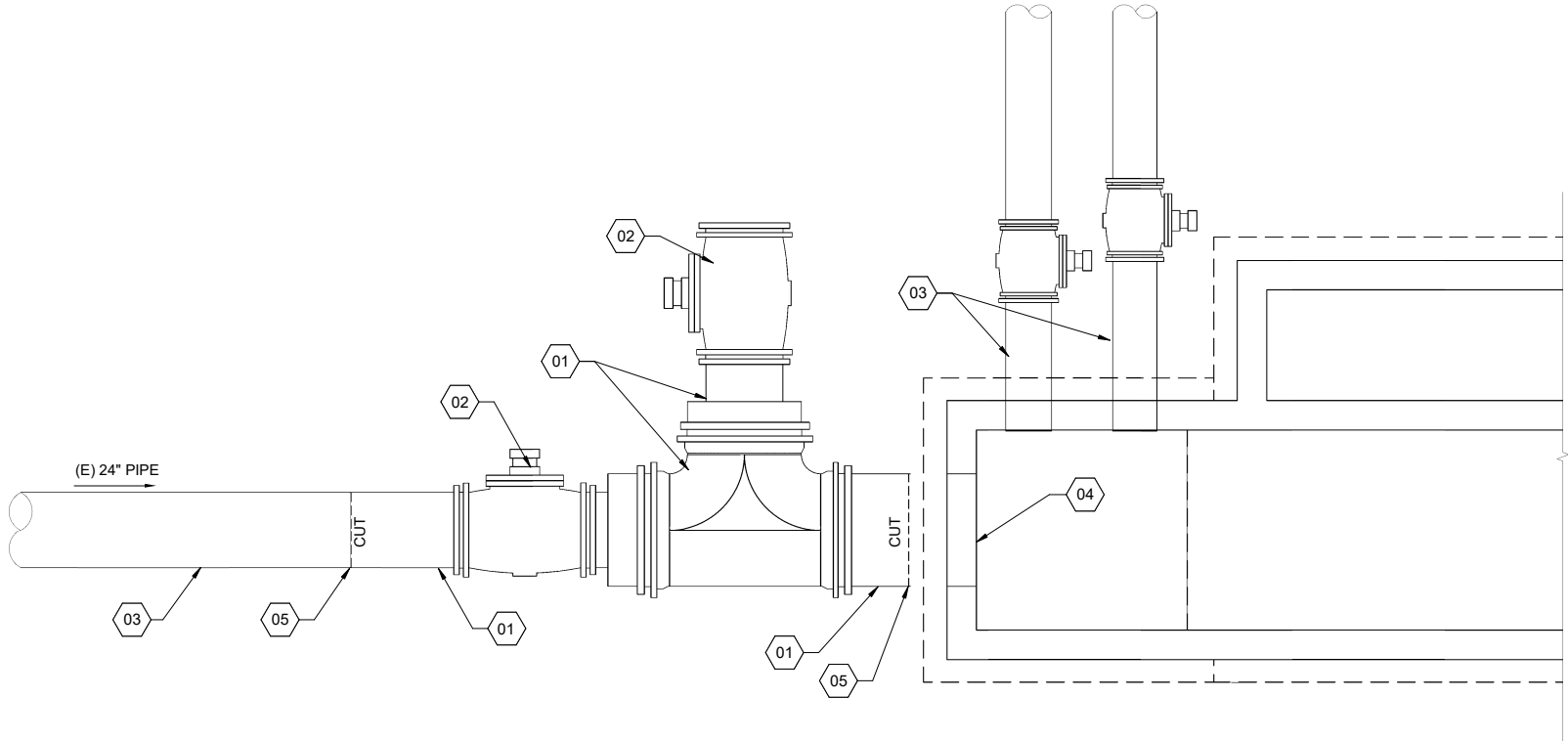


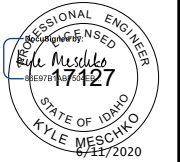
FIGURE B.5

GENERAL SHEET NOTES

1. WORK SHALL BE SEQUENCED TO KEEP THE EXISTING PLANT IN OPERATION. COORDINATE WORK IN ACCORDANCE WITH SPECIFICATION SECTION 01 35 13.
2. CONTRACTOR TO SUBMIT PLAN TO RETAIN OPERATIONS WHILE EXISTING 24" PIPE IS ISOLATED FROM EXISTING FLUME.

SHEET KEYNOTES

- | | |
|----|---|
| 01 | REMOVE PIPE |
| 02 | REMOVE VALVE AND RETURN TO CITY FOR SALVAGE. RETAIN ONE VALVE TO BE REINSTALLED IN A NEW LOCATION, RE: PLANS |
| 03 | EXISTING PIPE TO REMAIN |
| 04 | SAW CUT AND DEMO CONCRETE WALL MATCHING WIDTH OF 36-IN PIPE PENETRATION. FROM THE PIPE PENETRATION TO THE TOP OF WALL |
| 05 | PIPE TO BE CUT FOR TIE IN TO NEW INFLUENT BOX EXTENSION, RE: MECHANICAL PLANS EXACT LOCATION OF CUT TO BE COORDINATED IN THE FIELD DURING CONSTRUCTION. |



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12TH AVENUE COLLECTION PROJECT
PHASE 2

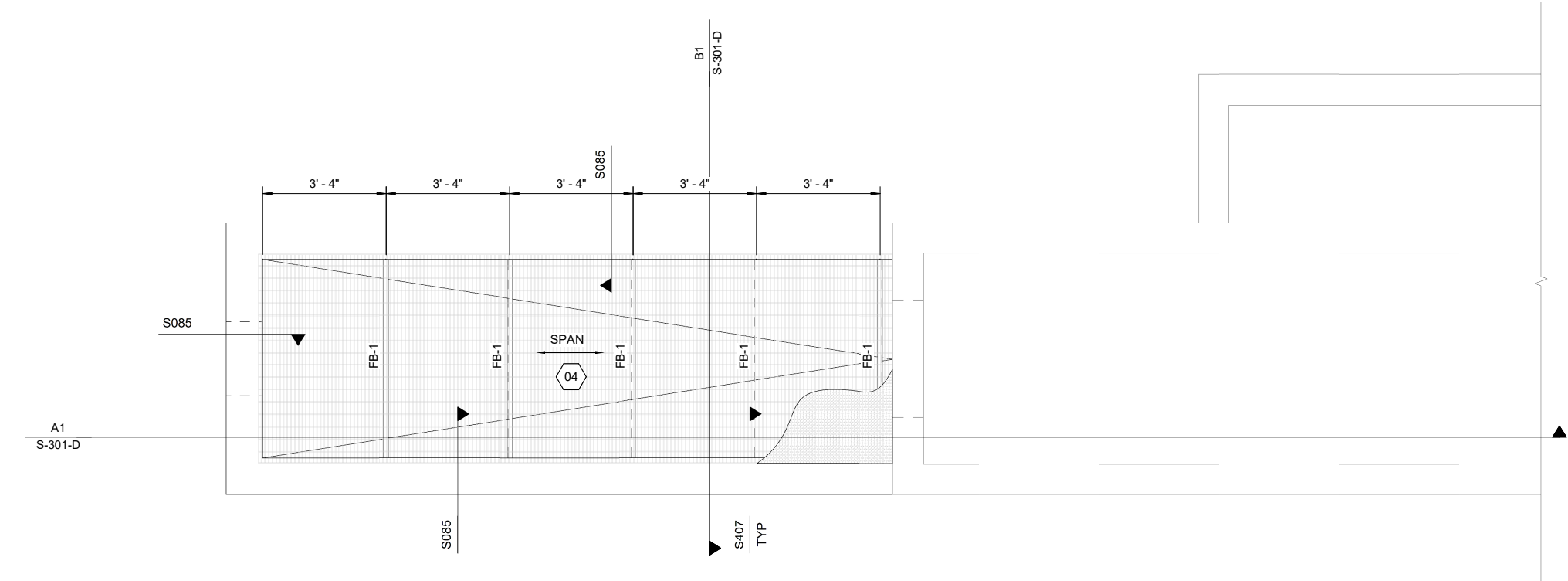
INFLUENT STRUCTURE - DEMOLITION
PLAN

DRAWN: --	CHECK: --
VERIFY SCALE: Scales based on 22"x34" prints.	
1-1/2 Inches	
PROJECT NO. 218169-000	PAGE
SHEET NO.	DM-101-D

6/5/2020 10:11:50 AM C:\REV\T218169-000\Rev\1D\POST FALLS FLUME .n4

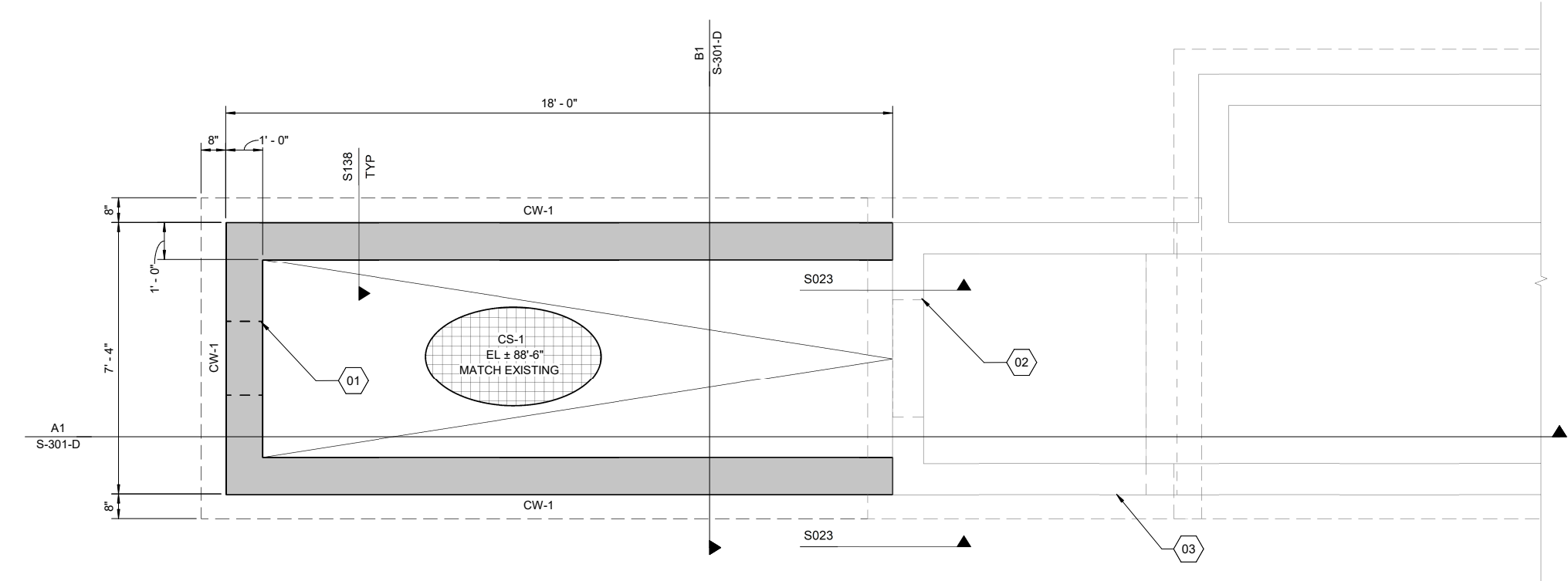
B1 GRATING PLAN

1/2" = 1'-0"



A1 FOUNDATION PLAN

1/2" = 1'-0"



STRUCTURE "D" REFERENCE ELEVATION
TOP OF WALL 100'-0" = 2164.50'

GENERAL SHEET NOTES

1. SEE DETAILS & GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. RESOLVE ANY DISCREPANCIES WITH THE ENGINEER.
3. CONTRACTOR TO VERIFY LOCATION OF ALL INSERTS IN WALL WITH APPROVED MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS PRIOR TO CONSTRUCTION.
4. PLANS ARE BASED ON BEST KNOWN INFORMATION AT TIME OF DESIGN. CONTRACTOR TO FIELD VERIFY DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES THAT EFFECT PROJECT CONSTRUCTABILITY TO ENGINEER FOR DIRECTION PRIOR TO PERFORMING ANY WORK.
5. CONTRACTOR TO VERIFY CONDITION OF EXISTING CONCRETE. IF DETERIORATION FOUND CONTACT ENGINEER BEFORE PROCEEDING.

SHEET KEYNOTES

- | | |
|----|---|
| 01 | WALL PENETRATION, ALIGN WITH EXISTING |
| 02 | PROTECT EXISTING PIPE PENETRATION |
| 03 | EXISTING STRUCTURE, RETAIN AND PROTECT |
| 04 | FRP COVERED GRATING, RE: S083 AND SPECS |

LEGEND

CW-#	CONCRETE WALL, RE: SCHEDULE BELOW
CS-#	CONCRETE SLAB, RE: SCHEDULE BELOW
FB-1	C6x1-5/8x1/4 FRP CHANNEL

CONCRETE WALL SCHEDULE

MARK	THICK	VERTICAL REINF.	HORIZONTAL REINF.	NOTES
CW-1	12"	#5 @ 12" OC	#5 @ 12" OC	EACH FACE
- REFER TO DETAILS S126 AND S127 FOR CORNER REINFORCING				

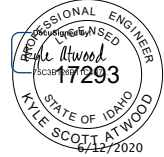
CONCRETE SLAB SCHEDULE

MARK	THICKNESS	REINFORCING
CS-1	12"	#5 @ 6" OC EW T&B

FIGURE B.6

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City of Post Falls, Idaho

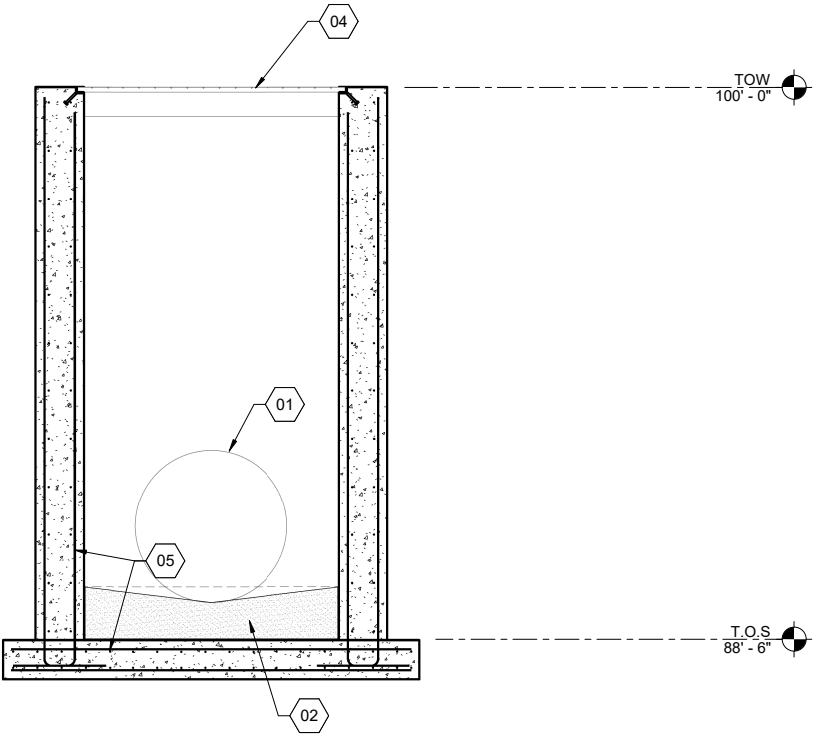
12TH AVENUE COLLECTION PROJECT
PHASE 2

INFLUENT STRUCTURE - FOUNDATION
PLAN

DRAWN: -	CHECK: -
VERIFY SCALE: Scales based on 22"x34" prints.	
1-1/2 Inches	
PROJECT NO. 218169-000	PAGE
SHEET NO.	PAGE
S-101-D	

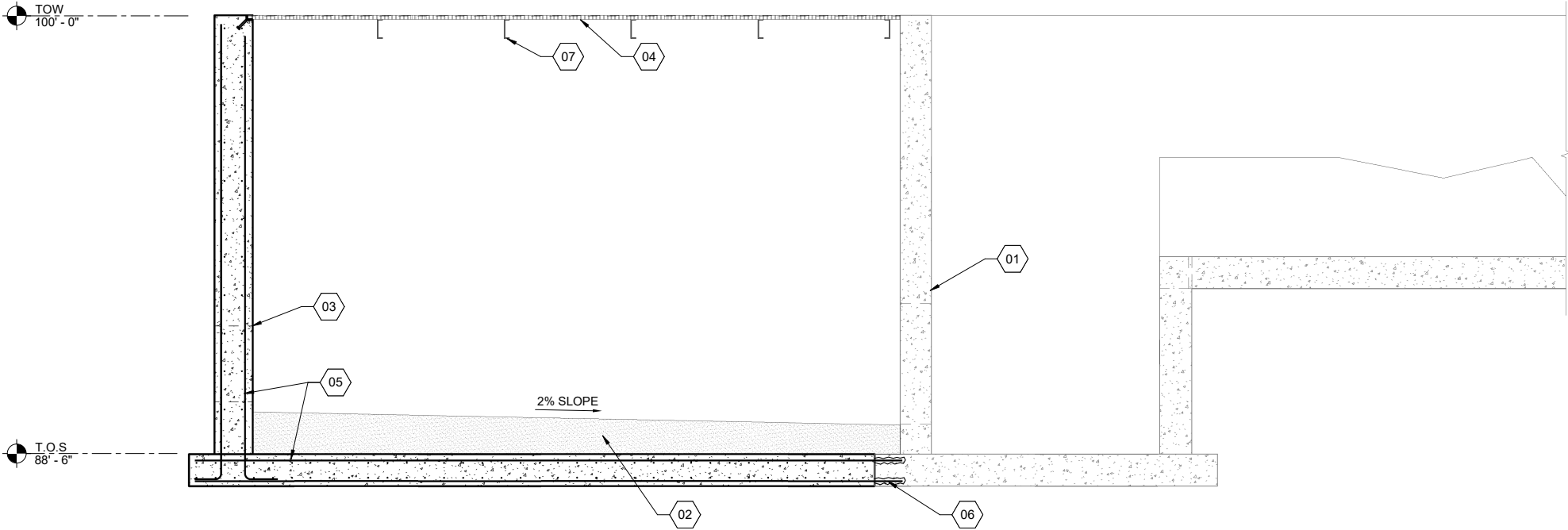
B1

SECTION
1/2" = 1'-0"



A1

SECTION
1/2" = 1'-0"



GENERAL SHEET NOTES

- SEE TYPICAL DETAILS & GENERAL NOTES FOR ADDITIONAL INFORMATION.
- CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. RESOLVE ANY DISCREPANCIES WITH THE ENGINEER.
- ELEVATIONS ARER BASED ON BEST KNOWN INFORMATION AT THE TIME OF DESIGN. CONTRACTOR TO FIELD VERIFY ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES THAT EFFECT PROJECT CONSTRUCTABILITY TO ENGINEER FOR DIRECTION PRIOR TO PERFORMING ANY WORK.
- CONTRACTOR TO VERIFY CONDITION OF EXISTING CONCRETE. IF DETERIORATION FOUND CONTACT ENGINEER BEFORE PROCEEDING.

SHEET KEYNOTES

- | | |
|----|---|
| 01 | EXISTING CONCRETE INTAKE STRUCTURE, RETAIN AND PROTECT |
| 02 | NON SHRINK GROUT, RE: SPECS |
| 03 | PIPE PENETRATION, RE: S074 |
| 04 | FRP COVERED GRATING, RE: S083 & SPECS |
| 05 | CONCRETE SLAB AND WALL REINFORCING, RE: PLAN |
| 06 | DRILL AND ADHESIVE REINFORCING TO EXISTING FOUNDATION & WALLS, 5" EMBEDMENT |
| 07 | FRP BEAM |



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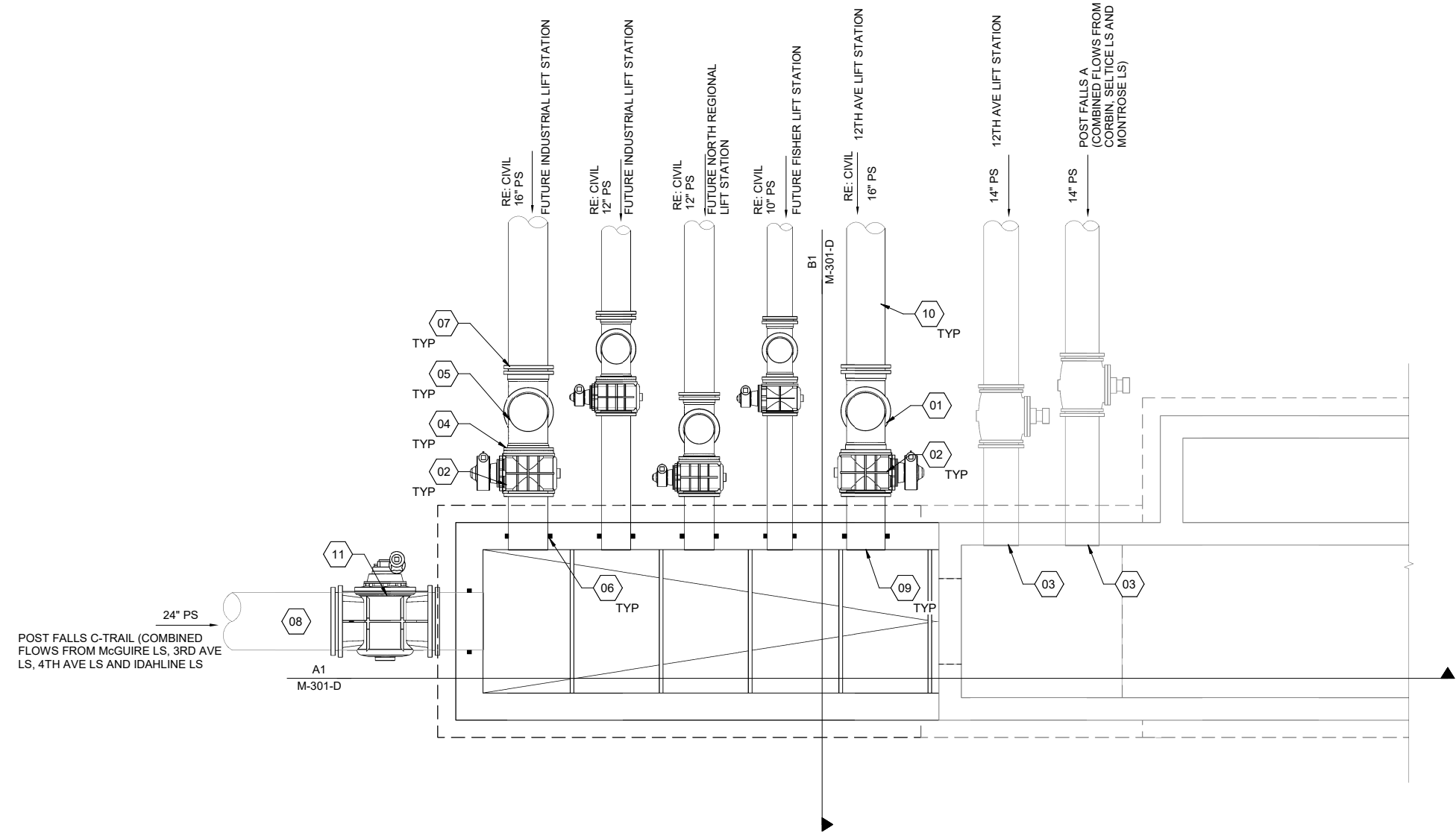


12TH AVENUE COLLECTION PROJECT
PHASE 2

INFLUENT STRUCTURE - SECTIONS

DRAWN: --	CHECK: --
VERIFY SCALE: Scales based on 22"x34" prints.	
1-1/2 Inches	
PROJECT NO. 218169-000	PAGE
SHEET NO.	
S-301-D	

FIGURE B.7



A1 MECHANICAL PLAN VIEW

3/8" = 1'-0"

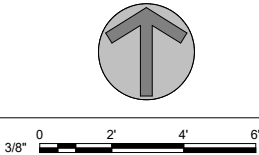


FIGURE B.8

GENERAL SHEET NOTES

1. REFERENCE STANDARD MECHANICAL NOTES, SHEET M-001, FOR ADDITIONAL REQUIREMENTS.
2. ALL PIPE SUPPORTS ARE NOT SHOWN. CONTRACTOR SHALL SUPPORT PIPING AND VALVES IN ACCORDANCE WITH SPECIFICATION SECTION 40 05 07, RE: M-500 SERIES SHEETS.
3. CONTRACTOR SHALL INSTALL EQUIPMENT AS PER MANUFACTURER'S INSTRUCTIONS AND SUPPORT PIPING AT EACH PUMP CONNECTION.
4. ALL BURIED FITTINGS SHALL BE MECHANICAL JOINT AND RESTRAINED WITH RETAINER GLANDS OR AS PER THE SPECIFICATIONS AND DRAWINGS.

SHEET KEYNOTES

- | | |
|----|--|
| 01 | 90° ELBOW DOWN |
| 02 | PLUG VALVE FLXFL |
| 03 | EXISTING PIPE PENETRATION TO REMAIN |
| 04 | MJ CAP |
| 05 | FUTURE 90° ELBOW BY OTHERS |
| 06 | PIPE PENETRATION, RE: M229 |
| 07 | DUCTILE IRON TO PVC COUPLER |
| 08 | EXISTING 24" PRESSURE SEWER |
| 09 | DUCTILE IRON, EPOXY LINED |
| 10 | MATERIAL, SEE CIVIL PLANS |
| 11 | REINSTALL 24-IN PLUG VALVE, RE: DEMO PLANS |

EQUIPMENT KEYNOTES

KELLER ASSOCIATES

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(208) 288-1992

PROFESSIONAL ENGINEER

Kyle Meschko

17427

STATE OF IDAHO

KYLE MESCHKO

6/11/2020

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CITY OF POST FALLS

City of Post Falls, Idaho

12TH AVENUE COLLECTION PROJECT PHASE 2	INFLUENT STRUCTURE - MECHANICAL PLAN
---	---

DRAWN: --	CHECK: --
VERIFY SCALE: Scales based on 22"x34" prints.	
1-1/2 Inches	
PROJECT NO. 218169-000	PAGE
SHEET NO. M-101-D	

ALL MASTERPLAN PROJECTS COMPLETED

BLUE TEXT IS PRIMARY FLOW PATH

DOESN'T EXIST IN CITY'S GIS

FROM CORBIN LS

FROM RATHDRUM

MISLABELED AS FROM CORBIN LS IN CITY GIS

Additional pipe from Pleasant View LS (per City discussion on 11/16/23) not shown herein

FROM FISHER LS

FROM NORTH REGIONAL

FROM INDUSTRIAL LS

12" FROM SELTICE LS AND/OR MONTROSE LS AND/OR 4TH AVE LS AND/OR 12TH AVE LS

10" FROM SELTICE LS AND/OR MONTROSE LS AND/OR 4TH AVE LS AND/OR 12TH AVE LS

FROM SELTICE LS AND/OR 4TH AVE LS AND/OR 12TH AVE LS

FROM 12TH AVE LS

ALIGNMENT/CROSSING POINT DOESN'T MATCH CITY'S GIS; LABELING IN 20-13-050 PLANS IS INCONSISTENT BUT THIS DOES MATCH OUR CAD MODEL. ASSUMING THIS LAYOUT SHOWN HERE IS CORRECT.

12TH AVE PLANS (M-101-D) LABELS THIS AS CORBIN/SELTICE/MONTROSE WHICH APPEARS TO BE A TYPO

INDUSTRIAL LS REQUIRES 14" INSTEAD OF 12"; FISHER REQUIRES 12" INSTEAD OF 10"

FROM EAST AND WEST CENTENNIAL TRAIL FM FROM IDAHLINE LS AND/OR 3RD AVE LS AND/OR 4TH AVE LS, AND/OR MCGUIRE LS, AND/OR PLANT DRAIN NEAR SCUM PIT

M-101-D OF 12th AVE PLANS LABEL THIS AS 12TH AVE LS - INCOMPLETE/MISSING LS THAT FEED THIS PIPE.

WOULDN'T THIS ALSO NEED A PINCH VALVE/CONTROL VALVE IF THAT IS WHAT IS BEING USED TO PROVIDE CONSTANT HEAD TO 12TH AVE LS?

EXISTING 14" PRESSURE SEWER RATHDRUM

EXISTING 14" PRESSURE SEWER POST FALLS "A"

EXISTING GRADE @ 6" PIPE

EXISTING WATER

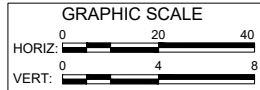
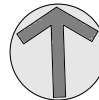
EXISTING 8" GRAVITY SEWER

EXISTING 14" PRESSURE SEWER

DOESN'T MATCH THE LABELING ON M-101-D

10/2/23- CITY DOES NOT BELIEVE THESE CROSS.

J-U-B UNABLE TO VERIFY HOW THIS WAS CONSTRUCTED/WHICH PIPE IS TO THE NORTH. SEE NOTES ON NEXT PAGE REGARDING CONFLICTING INFORMATION.



GENERAL SHEET NOTES

- EXISTING PIPELINES SHOWN ARE ESTABLISHED FROM RECORD DRAWINGS AND TOPOGRAPHICAL SURVEY. CONTRACTOR TO FIELD VERIFY LOCATIONS, PIPE SIZES, AND ELEVATIONS PRIOR TO PURCHASING CONNECTING PARTS
- PRIOR TO CONSTRUCTION CONTRACTOR TO POTHOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH. WHERE EXISTING UTILITIES WILL BE ENCOUNTERED IT'S RECOMMENDED THAT THE CONTRACTOR HAND DIG OR VACUUM TRUCK EXCAVATE FOR MATERIAL EXCAVATION IN THESE AREAS.
- PROVIDE CONCRETE THRUST RESTRAINT AT EACH VERTICAL OR HORIZONTAL CHANGE IN DIRECTION.
- FURNISH MATERIALS WHERE INSTALL, PLACE OR CONSTRUCT IS REQUIRED UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL OVER EXCAVATE TO ACHIEVE VERTICAL CLEARANCE OF POTENTIALLY CONFLICTING UTILITIES AND TO MAINTAIN POSITIVE UPWARD SLOPES TOWARD AIR RELEASE FACILITIES.

SHEET KEYNOTES

MISSING KEYED NOTES

IRRIGATION BOXES

NOTE: THIS FIGURE INTENDED TO SHOW NORMAL FLOW PATHS AS WELL AS DISCREPANCIES DISCOVERED BETWEEN 12TH AVE PLANS, CITY GIS, AND OTHER RECORD DRAWINGS.

FIGURE B.9

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Coeur d'Alene, Idaho 83814
(208) 813-7603

PROFESSIONAL ENGINEER
KYLE MESCHKO
STATE OF IDAHO
6/11/2020

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12TH AVENUE COLLECTION PROJECT
PHASE 2

10+00 TO 14+20 (SELTICE WAY)

DRAWN: SMC CHECK: KJM
VERIFY SCALE: Scales based on 22"x34" prints.
PROJECT NO. 218169-000
SHEET NO. C-201

STARTING POINT - ALL PIPES THAT THEORETICALLY MAY NEED TO BE ROUTED TO THE WRF; APPROXIMATELY MATCHES 12TH AVE PLANS (WITH REQUIRED EDITS FOR SIZING)

Per meeting with City (11/16/23): retain space for 12" FM from North Regional (original master plan) and 16" from Pleasant View (Keller Pleasant View Corridor Study). It is very likely that these pipes could be downsized, or could be combined into a single pipe depending on how the LS basins have been redrawn. Final sizing to be coordinated in future.

16" (FM) FROM RATHDRUM TO WRF
16" (FM) FROM PLEASANT VIEW LS TO WRF
12" (FM) FROM NORTH REGIONAL LS TO WRF
12"-14" (FM) FROM INDUSTRIAL LS TO WRF
16" (FM) FROM INDUSTRIAL LS TO WRF

12" (FM) FROM CORBIN LS TO WRF
8" (FM) FROM RATHDRUM TO WRF

16" 12" (FM) FROM FISHER
LS TO WRF

10" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF
12" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF
16" (FM) FROM 12TH AVE LS TO WRF
14" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF

UTILIZING A PIPED
MANIFOLD: WOULD
NEED TO BE 36" TO
KEEP VELOCITIES
BELOW 5 FPS.

PER WCD DURING CONSTRUCTION OF 20-13-050 PROJECT: THIS IS A 36" PENETRATION WITH 24" BRANCHES; HDPE SDR 11 CONSTRUCTION.



MULTIPLE ELECTRICAL
UNDERGROUND CONDUCTORS

FIGURE B.10

WEST SELTICE REGIONAL LS/COMBINED FORCEMAINS FROM WEST

12" (FM) FROM FISHER
LS TO WRF

COULD BE ROUTED TO
REGIONAL LS OR
COMBINED
FORCEMAINS TO
ELIMINATE NEED FOR
ADDITIONAL TIE-IN AT
THE WRF

16" (FM) FROM RATHDRUM TO WRF
18" (FM) FROM REGIONAL LS TO WRF
20" (FM) FROM REGIONAL LS TO WRF

12" (FM) FROM CORBIN LS TO WRF
8" (FM) FROM RATHDRUM TO WRF

COULD BE
ABANDONED IN PLACE
IF CORBIN LS
DISCHARGE ROUTED
TO REGIONAL LS

REQUIRES 36" PIPE TO
KEEP FLOWS BELOW 5
FPS.

10" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF
12" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF

16" (FM) FROM 12TH AVE LS TO WRF
14" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF

MULTIPLE ELECTRICAL
UNDERGROUND CONDUCTORS

FIGURE C.1

WEST SELTICE REGIONAL LS/COMBINED FORCEMAINS FROM WEST WITH DEDICATED 12" FM FROM 12TH AVE LS TO WRF

COULD BE ROUTED TO REGIONAL LS OR COMBINED FORCEMAINS TO ELIMINATE NEED FOR ADDITIONAL TIE-IN AT THE WRF

12" (FM) FROM FISHER LS TO WRF

16" (FM) FROM RATHDRUM TO WRF
18" (FM) FROM REGIONAL LS TO WRF
20" (FM) FROM REGIONAL LS TO WRF

12" (FM) FROM CORBIN LS TO WRF
8" (FM) FROM RATHDRUM TO WRF

COULD BE ABANDONED IN PLACE IF CORBIN LS DISCHARGE ROUTED TO REGIONAL LS

10" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF
12" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF

16" (FM) FROM 12TH AVE LS TO WRF
14" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF
12" (FM) FROM 12TH AVE LS TO WRF

PER THE CITY (12/18/23), THEY MAY WANT TO ROUTE THE 12" FM FROM 12TH AVE ALL THE WAY TO THE WRF FOR REDUNDANCY. ROUTE ASSUMED TO FOLLOW 16" FM ROUTING, BUT THIS WILL NEED ADDITIONAL COORDINATION.

CONTROL VALVE VAULT WOULD NEED RELOCATED EAST

REQUIRES 36" PIPE TO KEEP FLOWS BELOW 5 FPS.

MULTIPLE ELECTRICAL UNDERGROUND CONDUCTORS

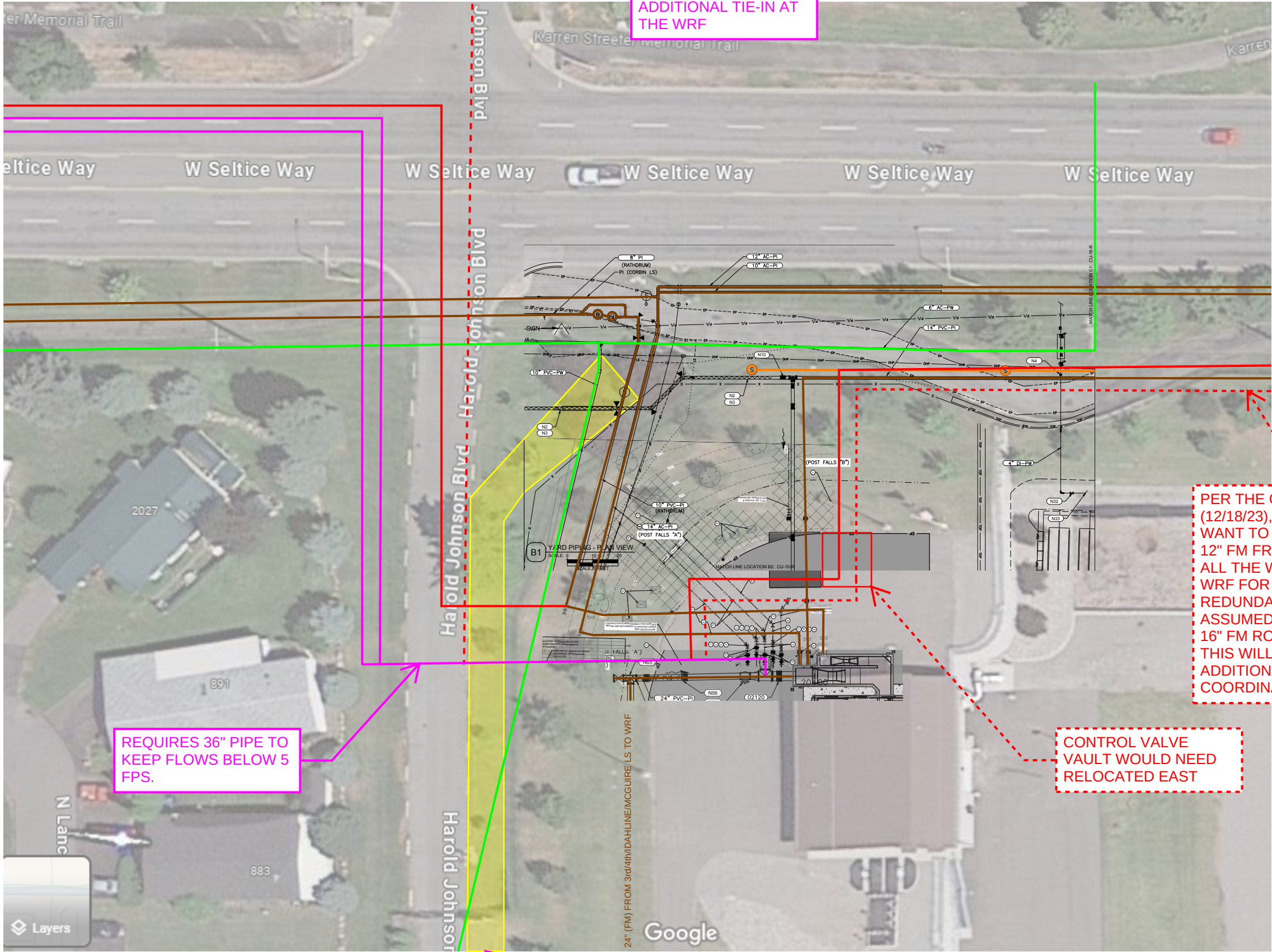


FIGURE C.1.1

WEST REGIONAL LIFT STATION
OPTION W/ CURRENT ROUTING
OF 12TH AVE LS DISCHARGE
OR
COMBINED FMs FROM WEST
AND CURRENT 12THE AVE
ROUTING FROM EAST
OR
COMBINE FMs FROM WEST,
CURRENT 12TH AVE ROUTING
FROM EAST, AND
DECOMMISSION SELTICE LS
AND REPLACE WITH GRAVITY
TO CORBIN



WEST REGIONAL LIFT STATION
OPTION W/ CURRENT ROUTING
OF 12TH AVE LS DISCHARGE
OR
COMBINED FMs FROM WEST
AND CURRENT 12TH AVE
ROUTING FROM EAST
OR
COMBINE FMs FROM WEST,
CURRENT 12TH AVE ROUTING
FROM EAST, AND
DECOMMISSION SELTICE LS
AND REPLACE WITH GRAVITY
TO CORBIN
AND
ALTERNATE ROUTE FOR
12-INCH FM DISCHARGE FROM
12TH AVE LS



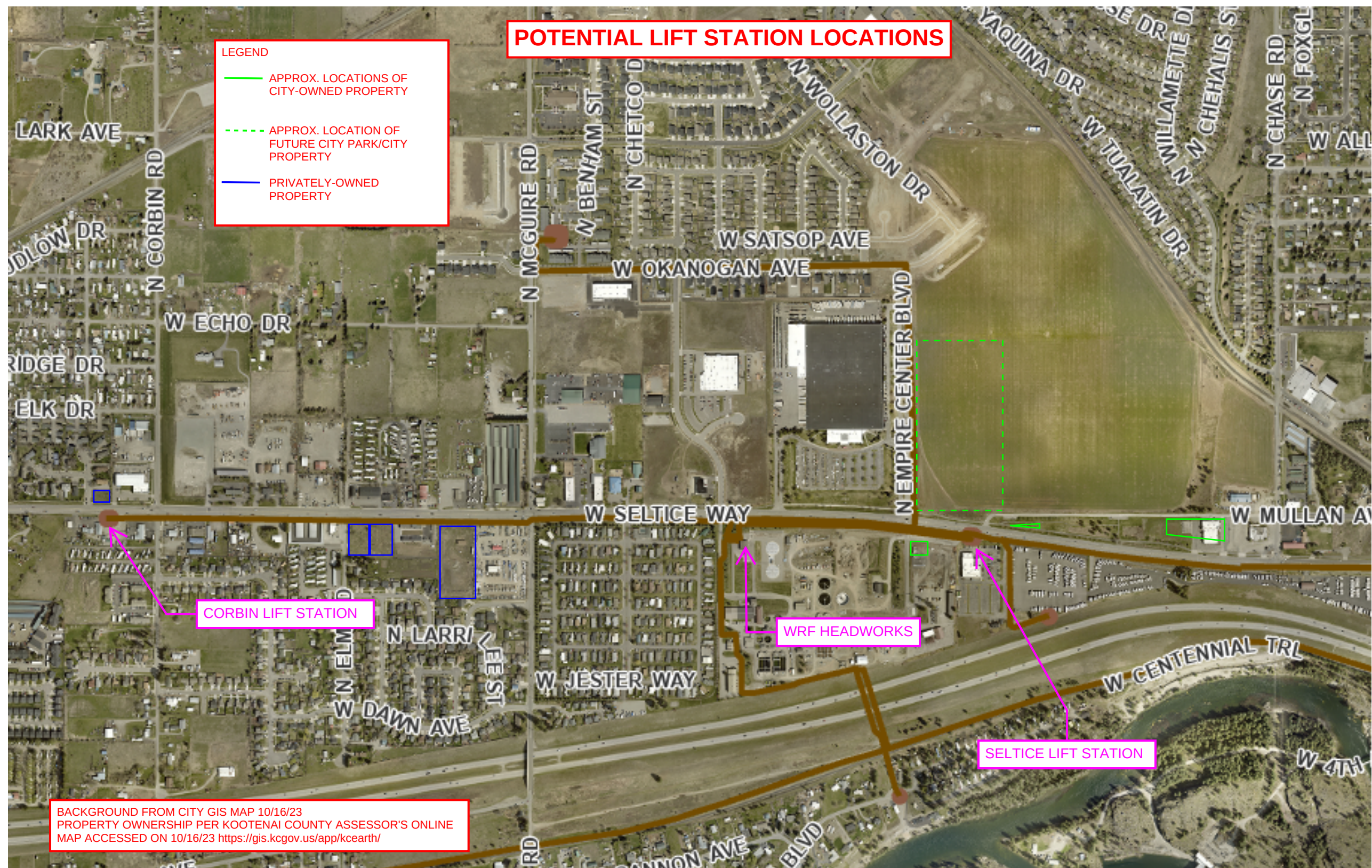


FIGURE D.1

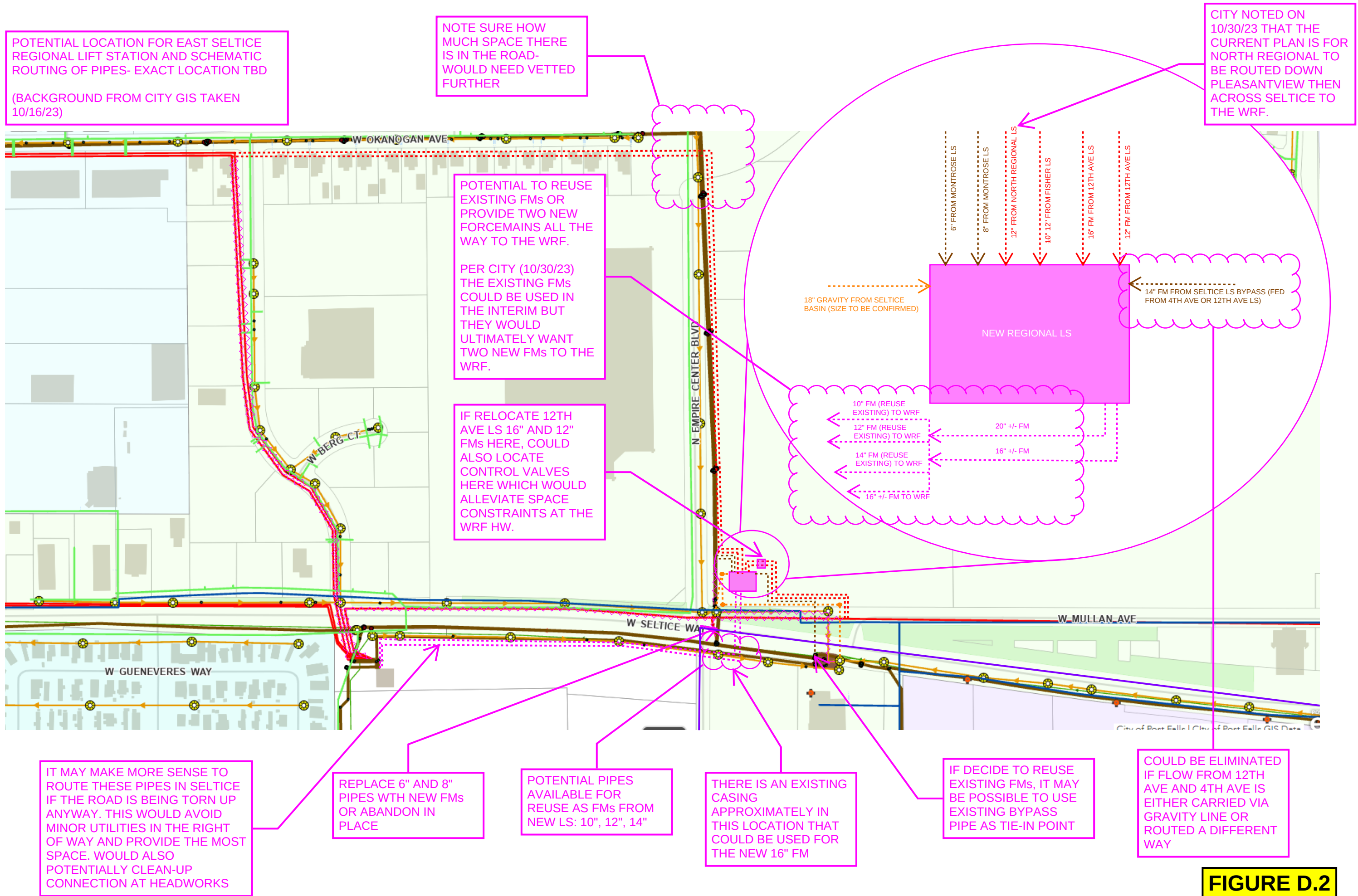
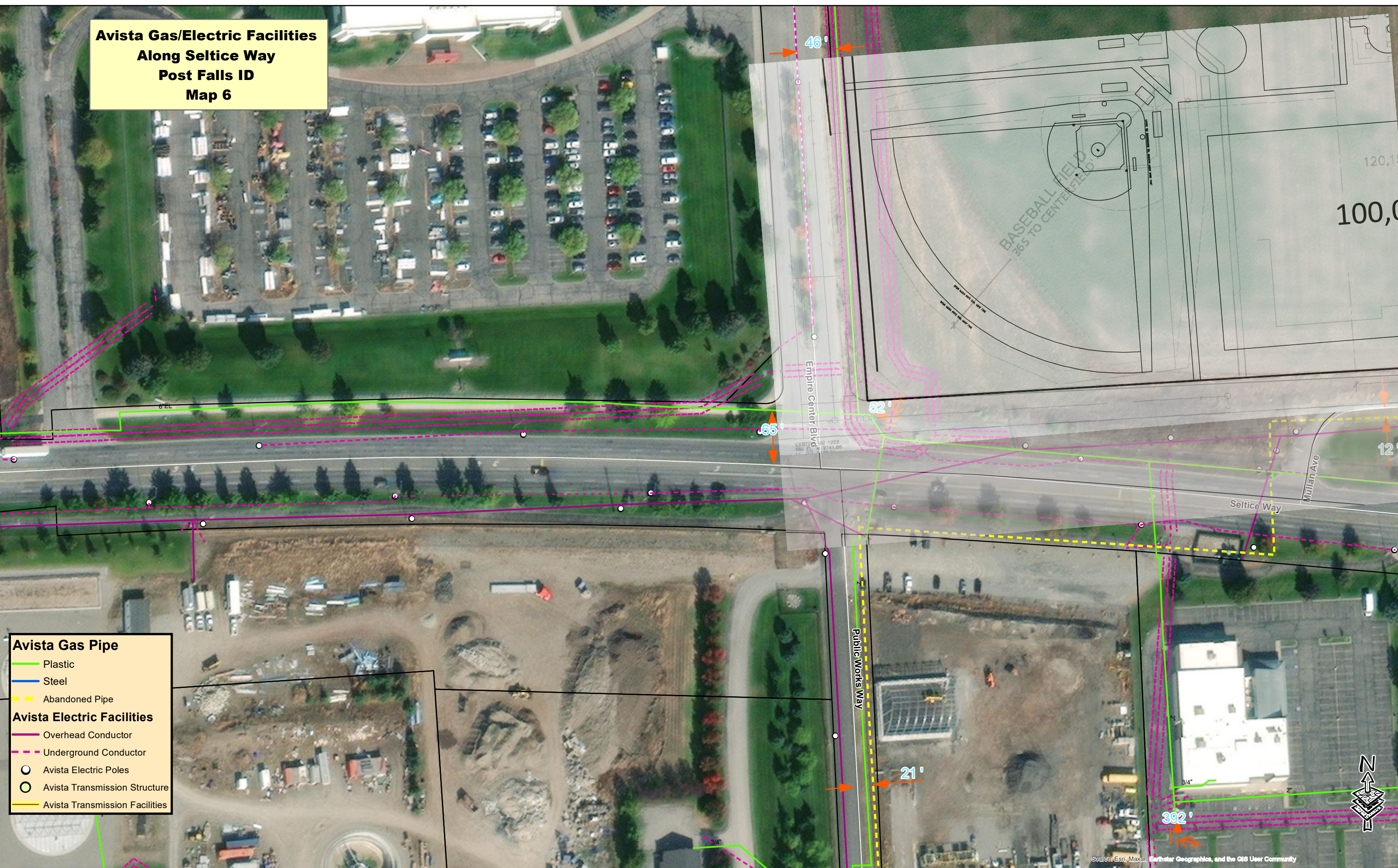


FIGURE D.2

**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 6**



Avista Gas Pipe

- Plastic
- Steel
- Abandoned Pipe

Avista Electric Facilities

- Overhead Conductor
- Underground Conductor
- Avista Electric Poles
- Avista Transmission Structure
- Avista Transmission Facilities



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FIGURE D.3

**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 7**

120,150sf
100,000 sf

- Avista Gas Pipe**
- Plastic
 - Steel
 - Abandoned Pipe
- Avista Electric Facilities**
- Overhead Conductor
 - Underground Conductor
 - Avista Electric Poles
 - Avista Transmission Structure
 - Avista Transmission Facilities

Mullan Ave

Seltice Way



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



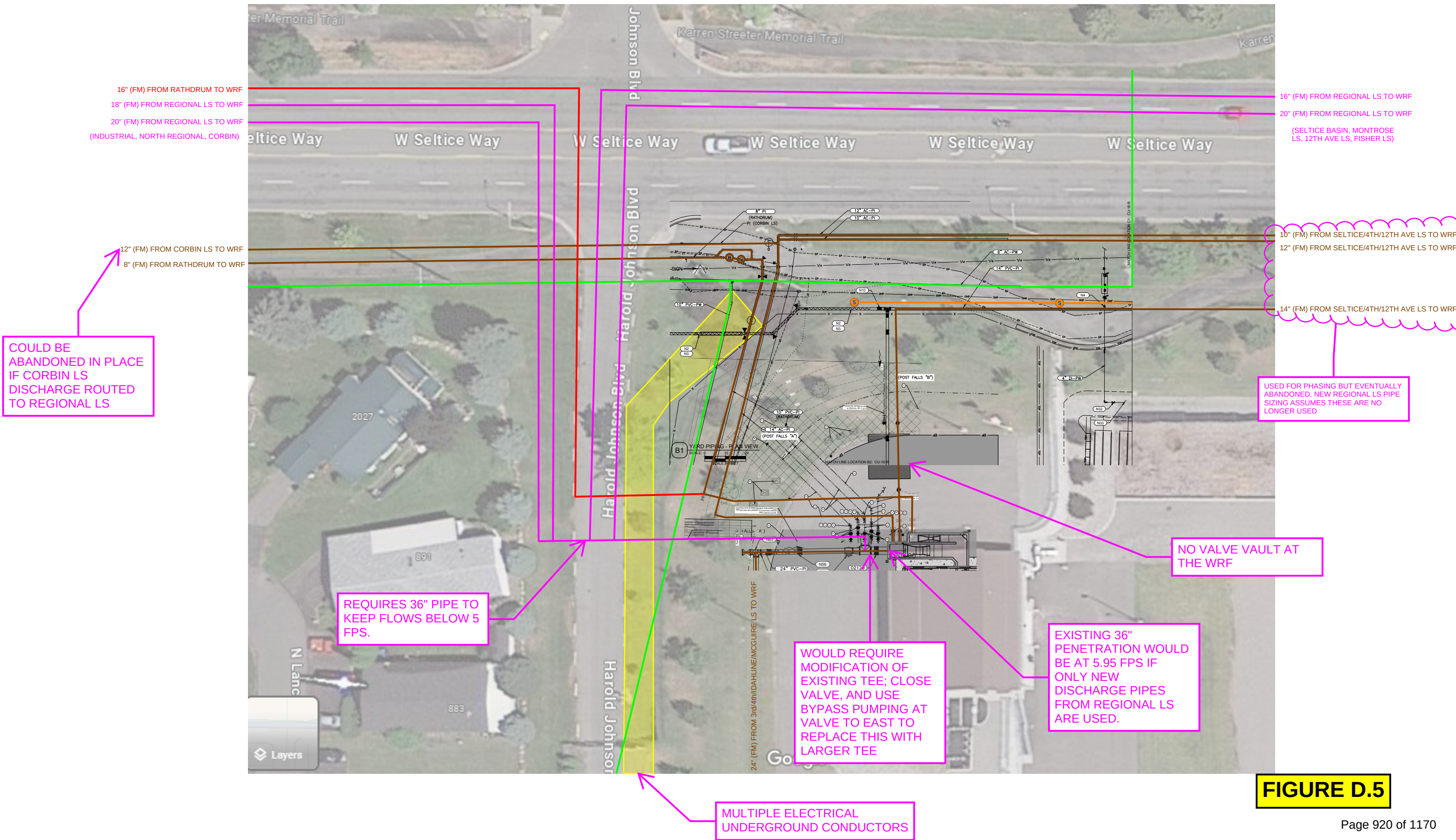
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FIGURE D.4
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EAST AND WEST SELTICE REGIONAL LSS



EAST SELTICE REGIONAL LS

16" (FM) FROM RATHDRUM TO WRF
16" (FM) FROM PLEASANT VIEW LS TO WRF
12" (FM) FROM NORTH REGIONAL LS TO WRF
12"-14" (FM) FROM INDUSTRIAL LS TO WRF
16" (FM) FROM INDUSTRIAL LS TO WRF

12" (FM) FROM CORBIN LS TO WRF
8" (FM) FROM RATHDRUM TO WRF

16" (FM) FROM REGIONAL LS TO WRF
20" (FM) FROM REGIONAL LS TO WRF
(SELTICE BASIN, MONTROSE
LS, 12TH AVE LS, FISHER LS)

10" (FM) FROM REGIONAL LS TO WRF
12" (FM) FROM REGIONAL LS TO WRF

14" (FM) FROM REGIONAL LS TO WRF

USED FOR PHASING
BUT EVENTUALLY
ABANDONED. NEW
REGIONAL LS PIPE
SIZING ASSUMES
THESE ARE NO
LONGER USED

NO VALVE VAULT AT
THE WRF

WOULD REQUIRE
MODIFICATION OF
EXISTING TEE; CLOSE
VALVE, AND USE
BYPASS PUMPING AT
VALVE TO EAST TO
REPLACE THIS WITH
LARGER TEE

EXISTING 36"
PENETRATION WOULD
BE AT 5.95 FPS IF
ONLY NEW
DISCHARGE PIPES
FROM REGIONAL LS
ARE USED.

REQUIRES 36" PIPE

MULTIPLE ELECTRICAL
UNDERGROUND CONDUCTORS

FIGURE D.7

WEST SELTICE REGIONAL LS/COMBINED FORCEMAINS FROM WEST AND DECOMMISSION SELTICE LS

18" (FM) FROM FISHER
LS TO WRF

COULD BE ROUTED TO
REGIONAL LS TO
ELIMINATE NEED FOR
ADDITIONAL TIE-IN AT
THE WRF

POTENTIAL
ALTERNATE ROUTE
FOR SELTICE BASIN
GRAVITY TO CORBIN
LS

16" (FM) FROM RATHDRUM TO WRF
18" (FM) FROM REGIONAL LS TO WRF
20" (FM) FROM REGIONAL LS TO WRF

12" (FM) FROM CORBIN LS TO WRF
8" (FM) FROM RATHDRUM TO WRF

COULD BE
ABANDONED IN PLACE
IF CORBIN LS
DISCHARGE ROUTED
TO REGIONAL LS

12" (G) FROM SELTICE BASIN
10" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF
12" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF
12" (G) FROM SELTICE BASIN
16" (FM) FROM 12TH AVE LS TO WRF
14" (FM) FROM SELTICE/4TH/12TH AVE LS TO WRF

REQUIRES 36" PIPE TO
KEEP FLOWS BELOW 5
FPS.

MULTIPLE ELECTRICAL
UNDERGROUND CONDUCTORS

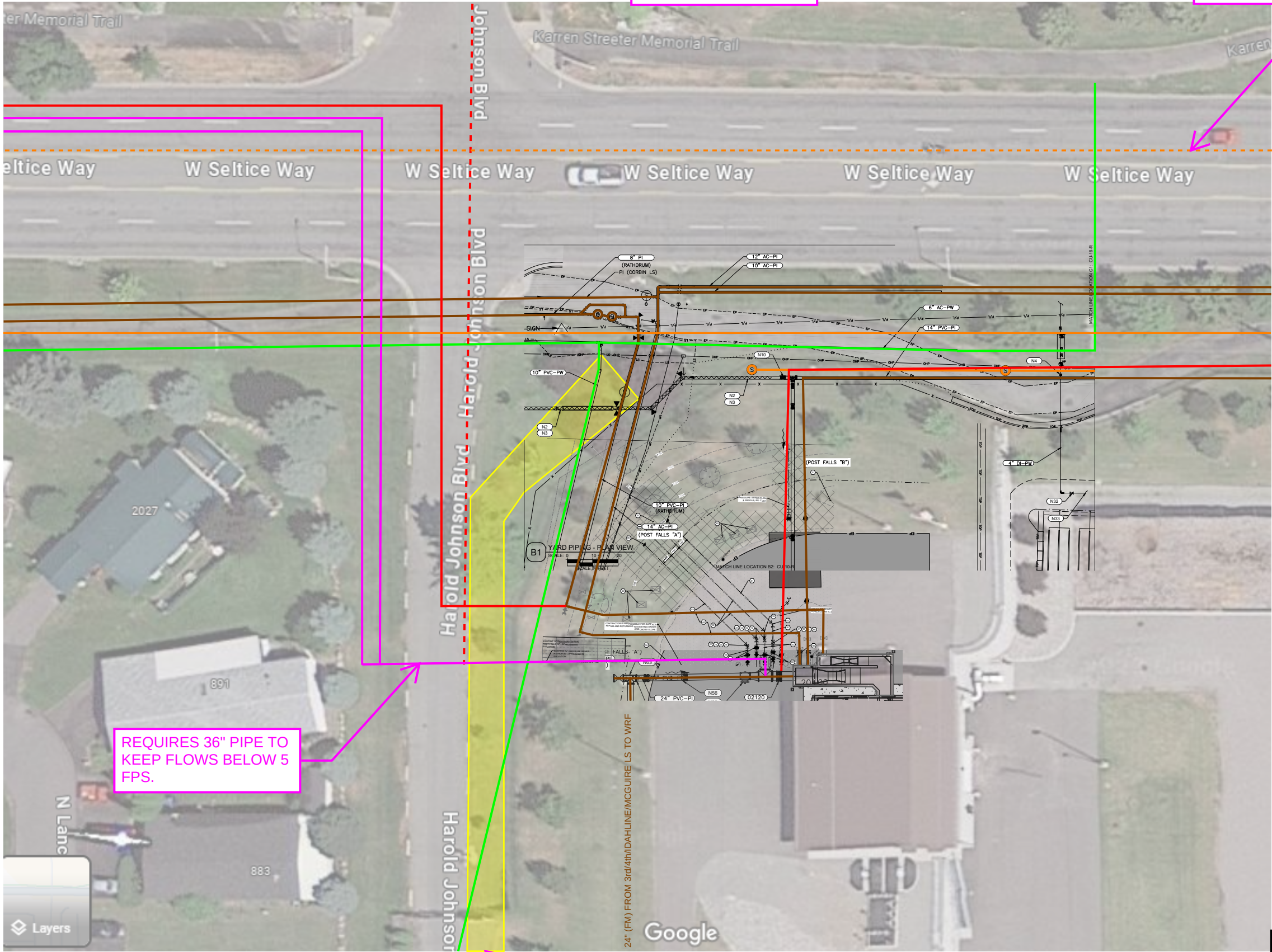
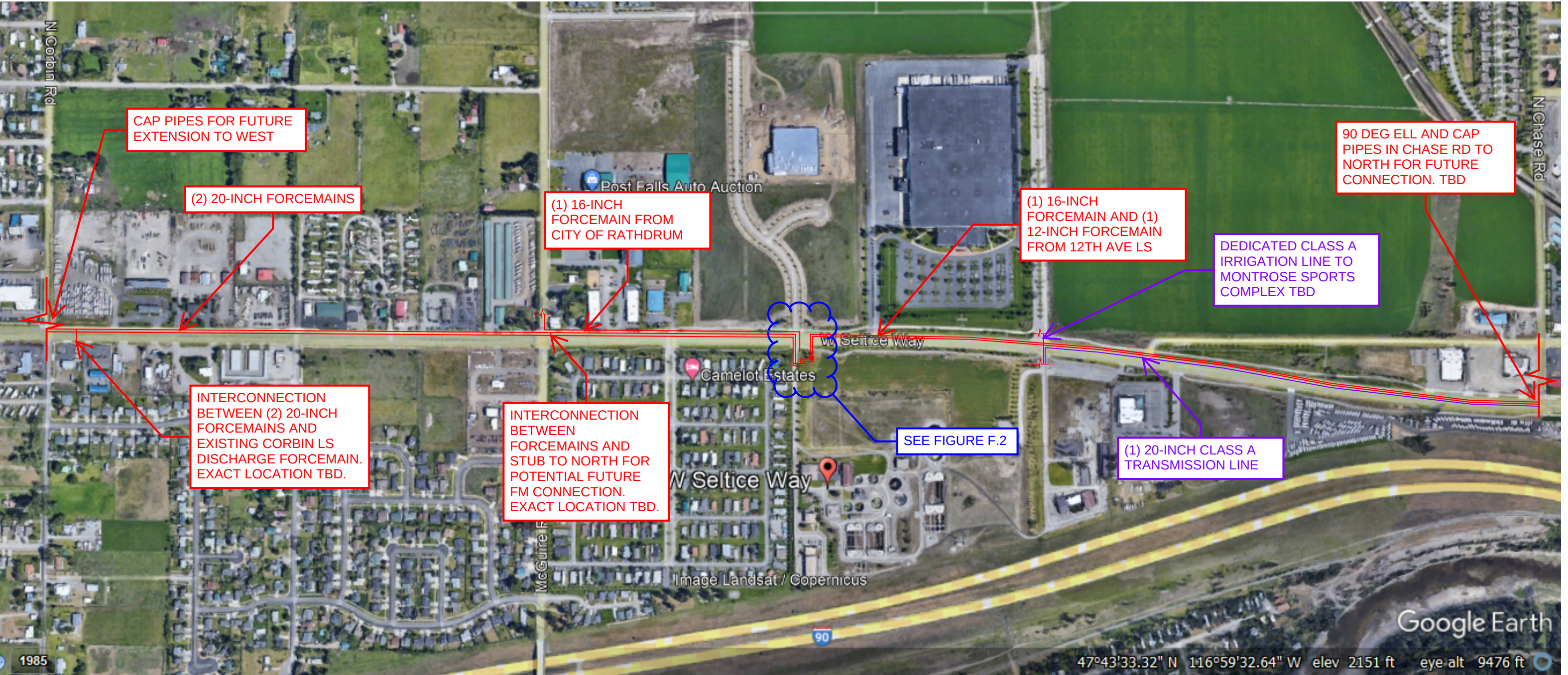


FIGURE E.1

SELECTED ALTERNATIVES FROM CORBIN RD TO CHASE RD

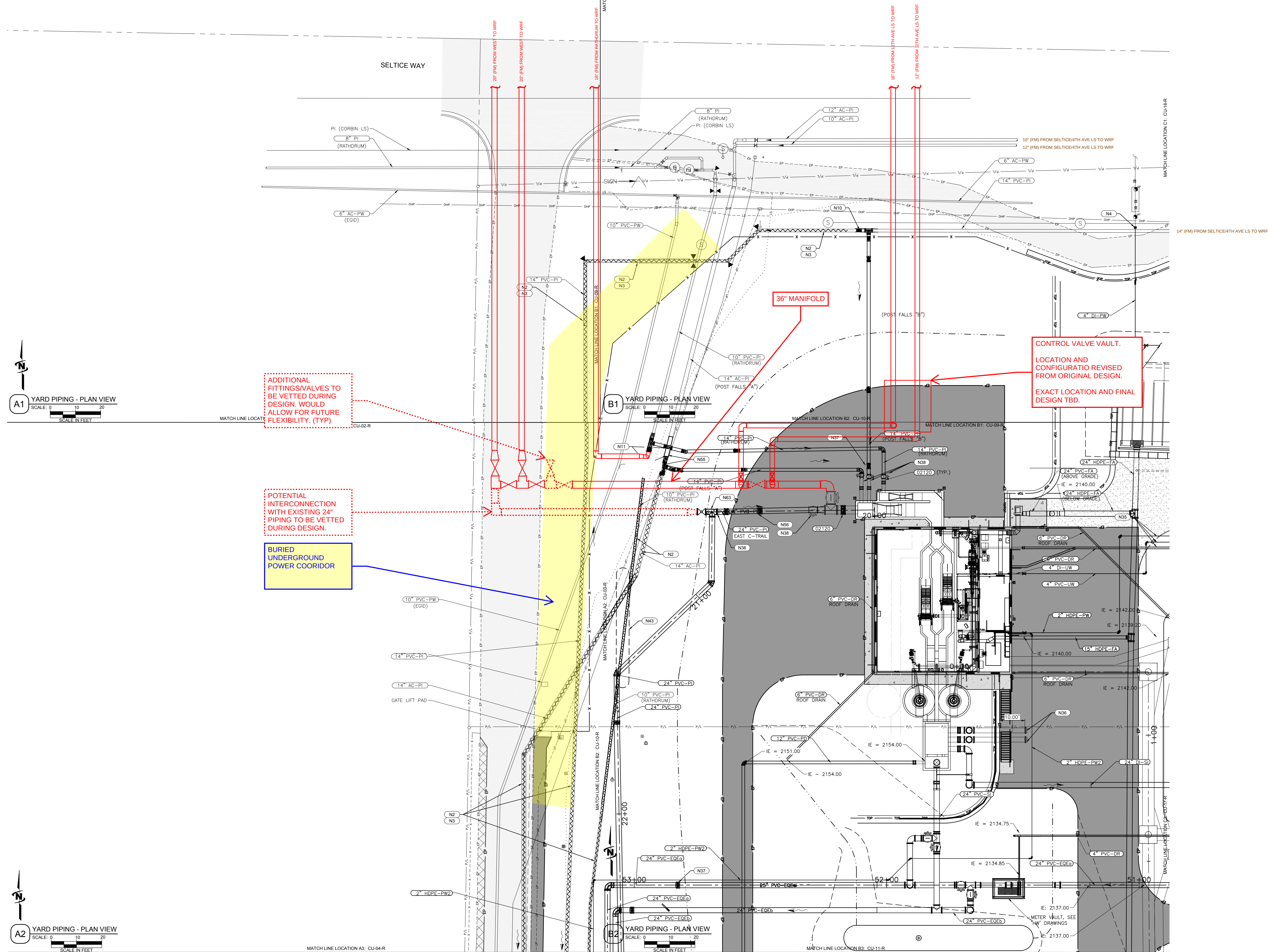


GENERAL NOTES:
1. THE DUAL 20-INCH FORCEMAINS FROM THE WEST WERE SIZED TO ACCOMMODATE THE BUILDOUT FLOWS FOR THE FOLLOWING LIFT STATIONS:
CORBIN LS: 292 GPM
INDUSTRIAL 1 LS: 2884 GPM
INDUSTRIAL 2 LS: 711 GPM
FISHER LS: 1259 GPM
NORTH REGIONAL LS: 1463 GPM
PLEASANT VIEW LS: 1515 GPM
2. HYDRAULICS THROUGH THE 16-INCH RATHDRUM FORCEMAIN WERE NOT EVALUATED AS PART OF THIS ANALYSIS. ROUTING IS PRELIMINARY AND BASED ON THE 2008 CITY OF RATHDRUM SANITARY SEWER FORCE MAIN PHASING OVERVIEW SCHEMATIC AS PROVIDED BY THE CITY OF POST FALLS. HYDRAULICS AND FINAL ROUTING TO BE COORDINATED DURING DESIGN.
3. EXACT LOCATION/ROUTING/ELEVATIONS OF ALL PIPES AND CONTROL VALVE VAULT TO BE DETERMINED DURING DESIGN.

FIGURE F.1

SELECTED ALTERNATIVES FROM CORBIN RD TO CHASE RD

GENERAL NOTES:
1. THE DUAL 20-INCH FORCEMAINS FROM THE WEST WERE SIZED TO ACCOMMODATE THE BUILDOUT FLOWS FOR THE FOLLOWING LIFT STATIONS:
CORBIN LS: 292 GPM
INDUSTRIAL 1 LS: 2884 GPM
INDUSTRIAL 2 LS: 775 GPM
FISHER LS: 1259 GPM
NORTH REGIONAL LS: 1463 GPM
PLEASANT VIEW LS: 1516 GPM
2. HYDRAULICS THROUGH THE 16-INCH RATHDRUM FORCEMAIN WERE NOT EVALUATED AS PART OF THIS ANALYSIS. ROUTING IS PRELIMINARY AND BASED ON THE 2008 CITY OF RATHDRUM SANITARY SEWER FORCE MAIN SYSTEM OVERVIEW SCHEMATIC AS PROVIDED BY THE CITY OF POST FALLS. HYDRAULICS AND FINAL ROUTING TO BE COORDINATED DURING DESIGN.
3. THE LOCATION/ROUTING/ELEVATIONS OF ALL PIPES AND CONTROL VALVE VALVE TO BE DETERMINED DURING DESIGN.
4. BACKGROUND FROM 20-13-050 RECORD DRAWINGS.

**FIGURE F.2**

Utility Maps from Avista

**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 1**



- Avista Gas Pipe**
- Plastic
 - Steel
 - Abandoned Pipe
- Avista Electric Facilities**
- Overhead Conductor
 - Underground Conductor
 - Avista Electric Poles
 - Avista Transmission Structure
 - Avista Transmission Facilities

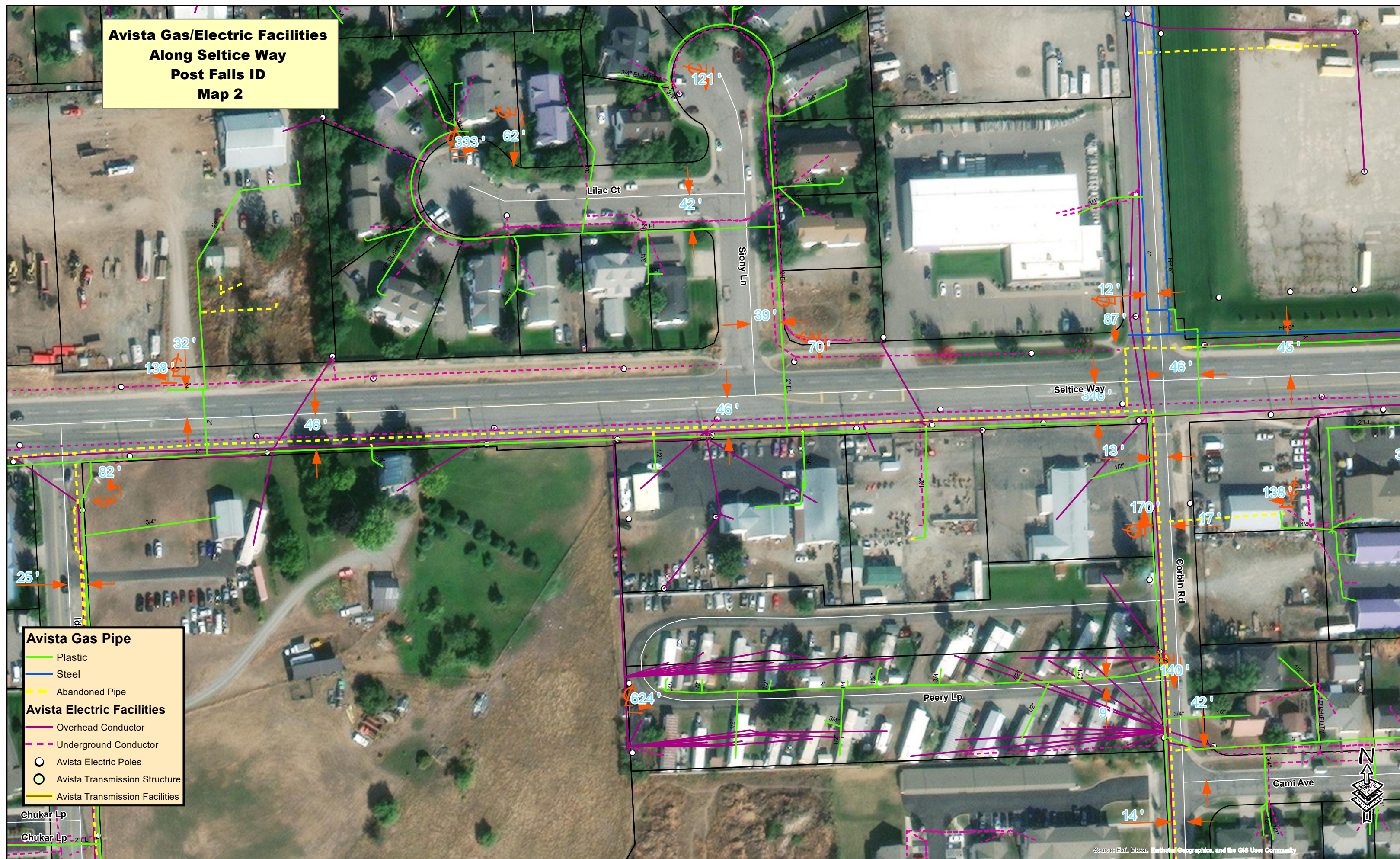


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Print Date: 10-03-2023 1 inch = 100 feet

**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 2**



**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 3**

- Avista Gas Pipe

 - Plastic
 - Steel
 - Abandoned Pipe
- Avista Electric Facilities

 - Overhead Conductor
 - Underground Conductor
 - Avista Electric Poles
 - Avista Transmission Structure
 - Avista Transmission Facilities

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**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 4**

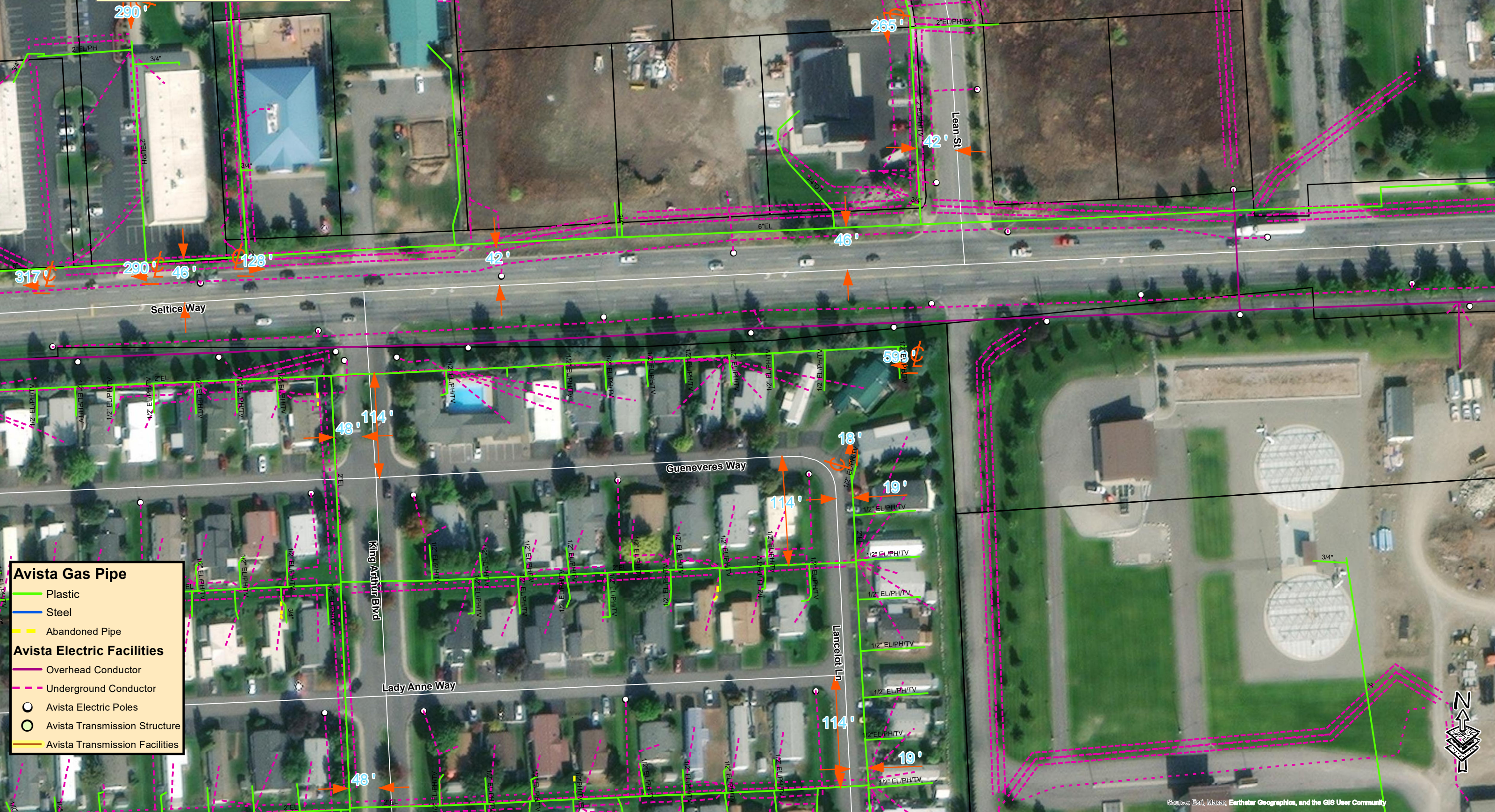
- Avista Gas Pipe**
- Plastic
 - Steel
 - Abandoned Pipe
- Avista Electric Facilities**
- Overhead Conductor
 - Underground Conductor
 - Avista Electric Poles
 - Avista Transmission Structure
 - Avista Transmission Facilities

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**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 5**



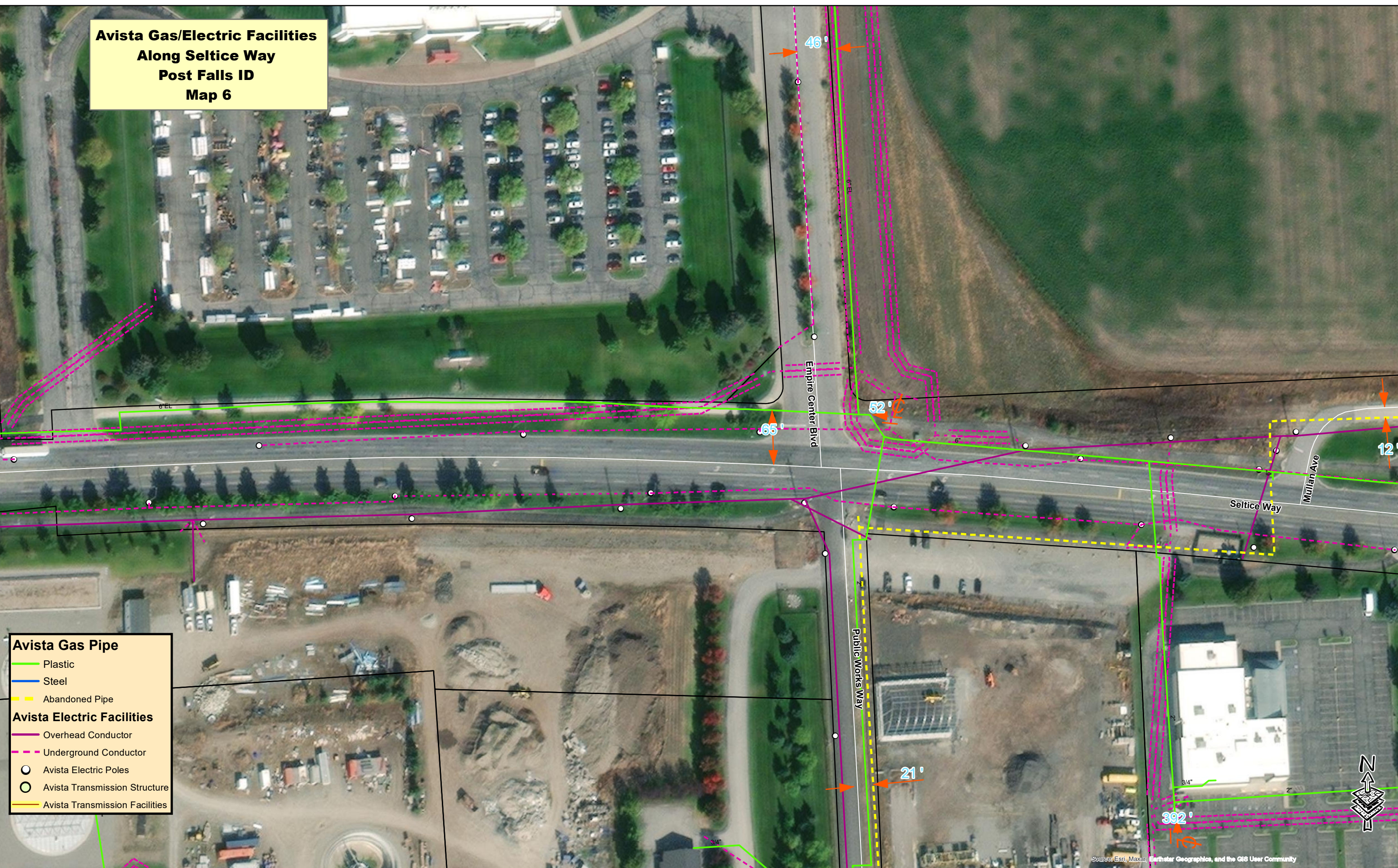
Avista Gas Pipe

- Plastic
- Steel
- Abandoned Pipe

Avista Electric Facilities

- Overhead Conductor
- Underground Conductor
- Avista Electric Poles
- Avista Transmission Structure
- Avista Transmission Facilities

**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 6**



Avista Gas Pipe

- Plastic
- Steel
- Abandoned Pipe

Avista Electric Facilities

- Overhead Conductor
- Underground Conductor
- Avista Electric Poles
- Avista Transmission Structure
- Avista Transmission Facilities

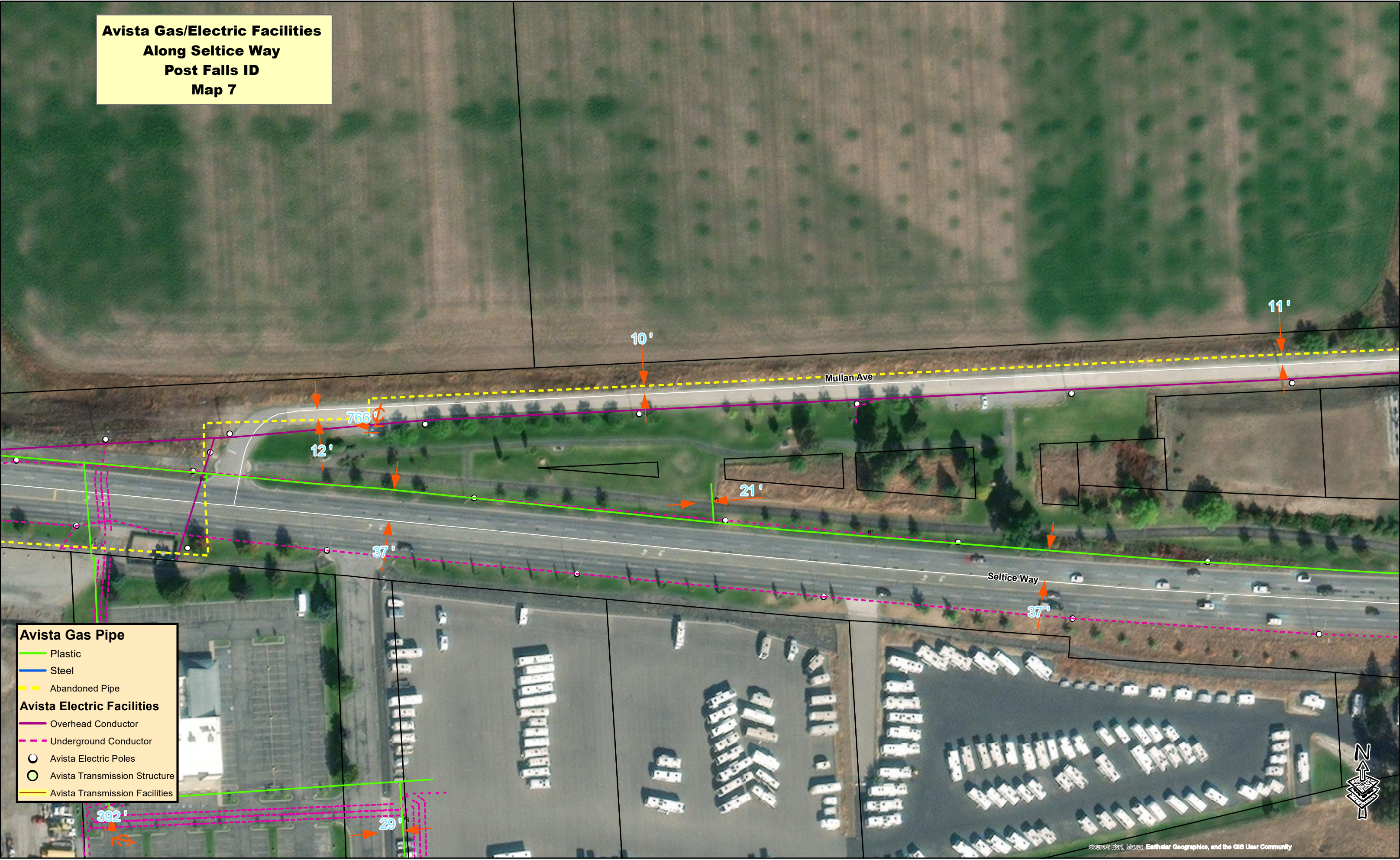


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**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 7**



- Avista Gas Pipe**
- Plastic
 - Steel
 - Abandoned Pipe
- Avista Electric Facilities**
- Overhead Conductor
 - Underground Conductor
 - Avista Electric Poles
 - Avista Transmission Structure
 - Avista Transmission Facilities

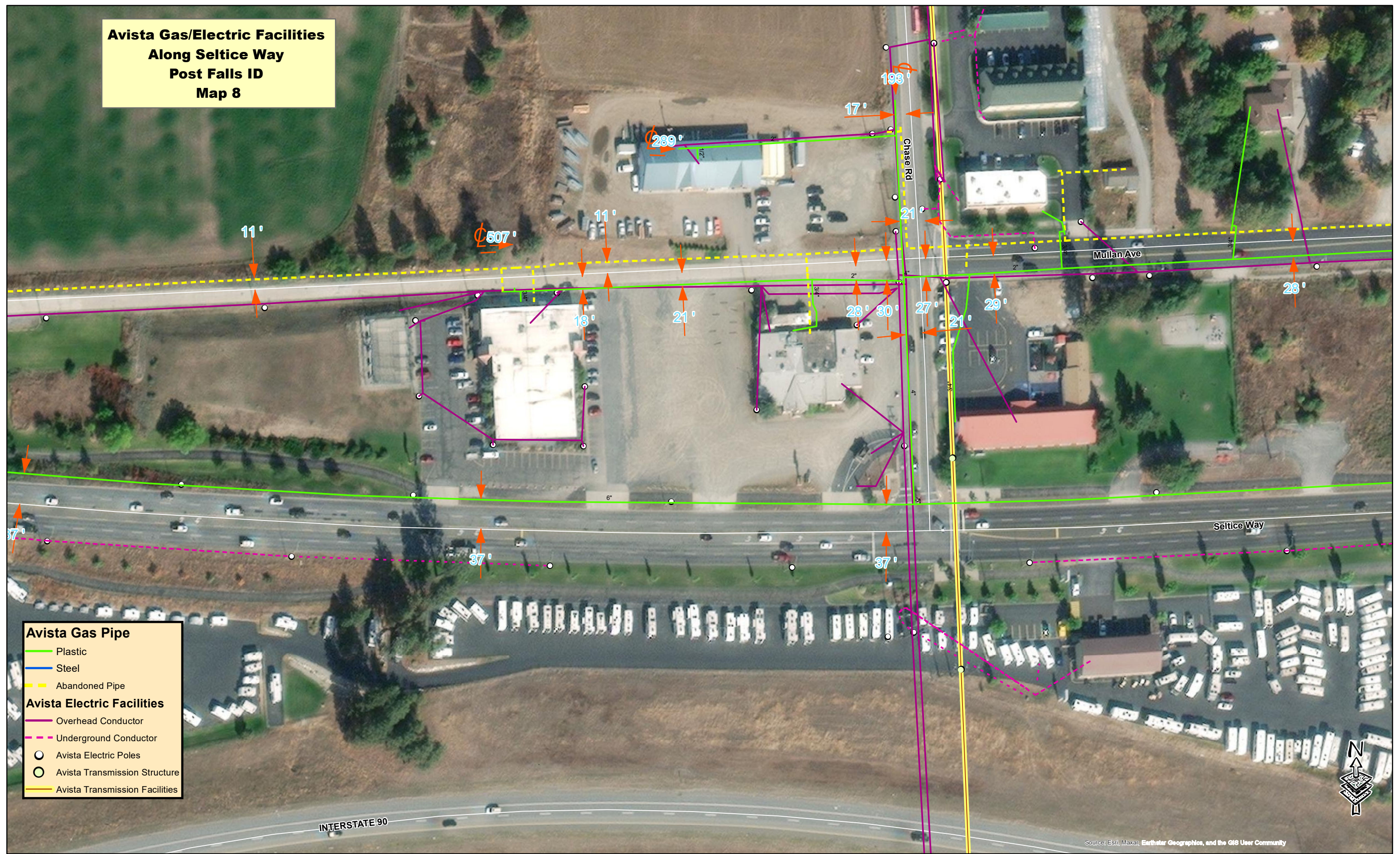


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**Avista Gas/Electric Facilities
Along Seltice Way
Post Falls ID
Map 8**



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Print Date: 10-03-2023 1 inch = 100 feet

Flow Rate Data

		2017 - Existing		2022 - 5 Year		2027 - 10 year		Buildout		
	Calculated Firm Capacity (gpm)	Model Max Inflow (gpm)	% of Firm Capacity	Model Max Inflow (gpm)	% of Firm Capacity	Model Max Inflow (gpm)	% of Firm Capacity	Model Max Inflow (gpm)	% of Firm Capacity	Comments
3RD AVE	2,650	1,826	69%	2,540	96%	2,214	84%	4,223	159%	Monitor; Divert upstream discharges from 12th LS as capacity is approached and optimize EQ basin operations at 12th Ave LS to extend capacity for 10+ years.
4TH AVE	2,280	1,281	56%	881	39%	855	38%	1,090	48%	When replaced, replace existing pumps with slightly pumps that provide slightly higher flows
BENTLEY	182	13	7%	23	13%	27	15%	42	23%	
CORBIN	790	112	14%	160	20%	180	23%	292	37%	
CRIMSON KING	450	266	59%	Replaced/Upgraded with 12th Ave Lift Station (see below)						
FISHER	205	90	44%	191	93%	481	235%	1,259	614%	Upgrade in phases to Regional LS
GRAYLING	12	8	70%	Displaced						
GREENSFERRY	1,375	931	68%	941	68%	830	60%	110	8%	
GUY ROAD	363	53	15%	135	37%	Displaced				Eventually gravity displace
HIGHLANDS	113	114	101%	118	104%	121	107%	123	109%	Monitor; confirm existing peaks; upgrade capacity with planned pump replacement
HOWELL	265	250	94%	Displaced						City already moving forward with displacement
IDAHLINE	1,400	467	33%	502	36%	557	40%	1,184	85%	If Corbin LS is displaced, may need to upsize pumps or redirect Jacklin LS flow.
JACKLIN	900	100	11%	50	6%	53	6%	393	44%	
MAZDA	378	14	4%	21	5%	40	10%	82	22%	
MCGUIRE	220	6	3%	9	4%	9	4%	15	7%	
MONTROSE	548	36	7%	500	91%	924	169%	612	112%	City moving forward with upgarades now. Should size for higher interim flows conditions.
OHIO MATCH	124	18	15%	58	46%	70	57%	Displaced		
PIONEER RIDGE	435	164	38%	Displaced						
PONDEROSA	1,270	899	71%	990	78%	810	64%	1,757	138%	Monitor; Divert upstream discharges from 12th LS as capacity is approached in short-term. Note 5-year peak inflows could be mitigated by EQ basin operations.
PRAIRIE FALLS II	88	20	23%	Displaced						
PRAIRIE FALLS I	94	13	14%	17	18%	17	18%	17	18%	
RIVERBEND	256	19	7%	20	8%	20	8%	122	48%	Relocate lift station when required
RIVERSIDE	500	226	45%	369	74%	283	57%	258	52%	Capacity reflects planned improvements per PER; Buildout flows from Ohio Match diverted away from this basin.
SELTICE	365	586	161%	155	42%	194	53%	392	107%	Existing flow include all Montrose which will be diverted from Seltice in near future.
SHOREPINES	110	3	3%	3	3%	2	2%	2	2%	
STATELINE	331	16	5%	17	5%	27	8%	Displaced		Displace with gravity flow to Industry LS
SYSCO	413	4	1%	6	1%	10	2%	63	15%	
TULLAMORE	750	121	16%	396	53%	659	88%	785	105%	City moving forward with upgarades now. Should size for higher interim flows conditions.
WIDE RIVER	34	2	6%	3	10%	4	11%	4	11%	
FUTURE LIFT STATIONS:										
12TH AVENUE (REGIONAL)	3,700			871	24%	1,724	47%	3,143	85%	
INDUSTRY 1 (REGIONAL)	5,430			1,285	24%	1,913	35%	4,608	85%	
INDUSTRY 2	930					434	47%	783	84%	
POLELINE	35							23	65%	
MAPLEWOOD	720							610	85%	
NE QUAD_NORTH	600					168	28%	503	84%	
LINDY	10							3	25%	
HAYDEN	400							318	80%	
NORTH REGIONAL (Rathdrum)	1,500							1,275	85%	
KILLDEER	50							37	74%	

WASTEWATER FLOWS

Once sewer basins were refined, wastewater flow projections could be estimated. Wastewater flow projections were estimated based on the WCMP loadings, peaking factors, zoning, and input from City staff. Specific areas were identified by the City for future residential, industrial, and commercial development, as well as a new high school. The following flow allocations were utilized from the WCMP to determine sewer basins peak hour flows.

- Industrial wastewater flow of 2,000 gallons per acre per day (1.39 gpm/acre)
- Residential wastewater flow of 1,491 gallons per acre per day (1.04 gpm/acre)
- Commercial wastewater flow of 25.4 gallons per employee per day (0.018 gpm/employee)

In order to keep consistent evaluation and comparisons with the WCMP, planning years were assumed to be consistent with those used in the WCMP. For the purposes of this study, commercial wastewater flow allocations were not utilized because a more conservative (higher) projection would be realized if residential development occurred in these areas. Therefore, the residential loadings were assumed to apply to commercial areas.

Buildout flows were estimated for 2040 conditions. For phasing purposes, we assumed 10% and 25% of the development were to occur by 2022 and 2027, respectively. A summary of the revised sewer basin flows shown in **Tables 1, 2, 3, and 4.**

TABLE 1: #3 NORTH REGIONAL LIFT STATION, SEWER BASIN FLOWS

WASTEWATER FLOWS – PEAK HOUR (GPM)			
YEAR	RESIDENTIAL	INDUSTRIAL / COMMERCIAL	TOTAL
2017	0	0	0
2022*	101	45	146
2027*	254	111	365
2040	1018	445	1,463

*Projections of sewer flows were estimated using 10% of 2040 flows for year 2022 and 25% of 2040 flows for year 2027.

TABLE 2: PLEASANT VIEW LIFT STATION, SEWER BASIN FLOWS

WASTEWATER FLOWS – PEAK HOUR (GPM)			
YEAR	RESIDENTIAL	INDUSTRIAL / COMMERCIAL	TOTAL
2017	0	0	0
2022*	40	111	151
2027*	100	279	379
2040	400	1,115	1,515

*Projections of sewer flows in these basins were estimated using 10% of 2040 flows for year 2022 and 25% of 2040 flows for year 2027. Flow projections do not include potential upstream contributions from the Northwest Regional Lift Station.

Tables 3 and 4 show updated flow projections for Industry 1 and 2 Lift Stations.

TABLE 3: INDUSTRY 1 LIFT STATION, SEWER BASIN FLOWS

WASTEWATER FLOWS – PEAK HOUR (GPM)			
YEAR	RESIDENTIAL	INDUSTRIAL / COMMERCIAL	TOTAL
2017	0	0	0
2022	0	0	0
2027*	10	707	717
2040	54	2830	2884

*Projections of sewer flows in this were estimated using 25% of 2040 flows for year 2027. No flow is anticipated prior to 2027.

TABLE 4: INDUSTRY 2 LIFT STATION, SEWER BASIN FLOWS

WASTEWATER FLOWS – PEAK HOUR (GPM)			
YEAR	RESIDENTIAL	INDUSTRIAL / COMMERCIAL	TOTAL
2017	0	0	0
2022	0	0	0
2027*	0	178	178
2040	0	711	711

*Projections of sewer flows in this were estimated using 25% of 2040 flows for year 2027. No flow is anticipated prior to 2027.

In the 2019 WCMP, the 2040 peak hour flows for Industry 1 and Industry 2 Lift Stations were 5,430 gpm and 930 gpm, respectively. Industry 1's model maximum inflow for buildout flows was anticipated to be 4,608 gpm, 85% of its calculated firm capacity. Similarly, Industry 2's model maximum inflow for buildout flows was anticipated to be 783 gpm, 85% of its Firm capacity. Flows are largely the same as previously planned for Industry 2 lift station at 711 gpm in year 2040, however, Industry 1 flows have been reduced by 1,724 gpm as a result of the upstream diversion of flows from the Pleasant View lift station. Industry 1 Lift Station Basin was reduced from 2,578 acres to 1,719 acres due to the split of the Pleasant View Basin (1,052 acres). This is why estimated flows differ from the WCMP.

COLLECTION SYSTEM PLANNING CRITERIA

In developing the updated collection system concept plan for the study area, the following planning assumptions were incorporated:

- The wastewater collection trunklines were upsized one nominal pipe size due to unknown buildout conditions and for flexibility for future growth.
- Trunklines were assumed full when d/D was 0.75.
- Trunklines were also developed based on not exceeding a 30-foot depth for short segments or a 25-foot depth for extended lengths.
- Gravity sewer slopes are at or above the minimum 10 state standards for pipe slopes.
- Gravity sewer lines stemming from trunklines kept a minimum of 8 feet of cover. Forcemains sizing assumed peak hour design flows not exceeding 5 feet per second. In many instances there is anticipation of low startup flows, so dual forcemains were selected to better handle the range of anticipated flows.

Cost Opinions

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Headworks Influent Fe

PROJECT:		DATE: 11/13/2023			
City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis					
PROJECT DESCRIPTION:					
12th Ave Collections Project Phase 2 Plans Alternative					
CLIENT:					
City of Post Falls					
P/N: 20-22-019					
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	INFLUENT BOX AND FM EXTENSION WITHIN WRF				
2	Excavation and Backfill				
3	Mass Excavation	465	CY	\$25	\$11,625
4	Materials Processing	153	CY	\$5	\$767
5	Backfill	153	CY	\$25	\$3,836
6	Export Excess Materials Offsite	312	CY	\$15	\$4,673
7	Structural				
8	Floor	7	CY	\$600	\$4,200
9	Walls	21	CY	\$1,250	\$26,250
10	Grating	109	SF	\$60	\$6,540
11	Bollards (assuming new required)	2	EA	\$1,000	\$2,000
12	Demo part of existing wall/patch/repair	1	LS	\$2,500	\$2,500
13	Process Mechanical				
14	Demo Existing 24"/36"Piping	1	LS	\$7,500	\$7,500
15	16" Industrial LS FM (to extents shown on C-110 of Keller Plans)				
16	16" DI Pipe	5	LF	\$985	\$4,925
17	16" PVC C-900 Pipe	67	LF	\$150	\$10,050
18	90-deg bends	2	EA	\$3,375	\$6,750
19	45-deg bends	0	EA	\$2,700	\$0
20	Plug Valve	1	EA	\$10,000	\$10,000
21	Flex Coupling	1	EA	\$3,500	\$3,500
22	Penetration at Influent Box	1	EA	\$900	\$900
23	MJ Cap	1	EA	\$1,100	\$1,100
24	Flanges	2	EA	\$2,000	\$4,000
25	Megalug Thrust Restraints	4	EA	\$2,500	\$10,000
26	12" 14" Industrial LS FM (to extents shown on C-110 of Keller Plans)				
27	14" DI Pipe	7	LF	\$860	\$6,020
28	14" PVC C-900 Pipe	68	LF	\$150	\$10,200
29	90-deg bends	2	EA	\$2,650	\$5,300
30	45-deg bends	0	EA	\$2,200	\$0
31	Plug Valve	1	EA	\$10,000	\$10,000
32	Flex Coupling	1	EA	\$3,500	\$3,500
33	Penetration at Influent Box	1	EA	\$750	\$750
34	MJ Cap	1	EA	\$1,000	\$1,000
35	Flanges	2	EA	\$1,700	\$3,400
36	Megalug Thrust Restraints	4	EA	\$2,500	\$10,000
37	12" North Regional LS FM (to extents shown on C-110 of Keller Plans)				
38	12" DI Pipe	5	LF	\$670	\$3,350
39	12" PVC C-900 Pipe	73	LF	\$125	\$9,125
40	90-deg bends	2	EA	\$1,500	\$3,000
41	45-deg bends	1	EA	\$1,275	\$1,275
42	Plug Valve	1	EA	\$7,500	\$7,500
43	Flex Coupling	1	EA	\$2,500	\$2,500
44	Penetration at Influent Box	1	EA	\$615	\$615
45	MJ Cap	1	EA	\$375	\$375
46	Flanges	2	EA	\$990	\$1,980
47	Megalug Thrust Restraints	6	EA	\$2,500	\$15,000
48	16" Pleasant View LS FM (assume similar extents to those shown on C-110 of Keller Plans)				
49	16" DI Pipe	5	LF	\$985	\$4,925

50	16" PVC C-900 Pipe	67	LF	\$150	\$10,050
51	90-deg bends	2	EA	\$3,375	\$6,750
52	45-deg bends	0	EA	\$2,700	\$0
53	Plug Valve	1	EA	\$10,000	\$10,000
54	Flex Coupling	1	EA	\$3,500	\$3,500
55	Penetration at Influent Box	1	EA	\$900	\$900
56	MJ Cap	1	EA	\$1,100	\$1,100
57	Flanges	2	EA	\$2,000	\$4,000
58	Megalug Thrust Restraints	4	EA	\$2,500	\$10,000
59	40" 12" Fisher LS FM (to extents shown on C-110 of Keller Plans)				
60	12" DI Pipe	6	LF	\$670	\$4,020
61	12" PVC C-900 Pipe	74	LF	\$125	\$9,250
62	90-deg bends	2	EA	\$1,500	\$3,000
63	45-deg bends	1	EA	\$1,275	\$1,275
64	Plug Valve	1	EA	\$7,500	\$7,500
65	Flex Coupling	1	EA	\$2,500	\$2,500
66	Penetration at Influent Box	1	EA	\$615	\$615
67	MJ Cap	1	EA	\$375	\$375
68	Flanges	2	EA	\$990	\$1,980
69	Megalug Thrust Restraints	6	EA	\$2,500	\$15,000
70	16" 12th Ave LS FM (to extents shown on C-110 of Keller Plans, not including valve vault components, or pipe north of valve vault)				
71	16" DI Pipe	5	LF	\$985	\$4,925
72	16" PVC C-900 Pipe	21	LF	\$150	\$3,150
73	90-deg bends	2	EA	\$3,375	\$6,750
74	45-deg bends	2	EA	\$2,700	\$5,400
75	Plug Valve	1	EA	\$10,000	\$10,000
76	Flex Coupling	1	EA	\$3,500	\$3,500
77	Penetration at Influent Box	1	EA	\$900	\$900
78	MJ Cap	0	EA	\$1,100	\$0
79	Flanges	0	EA	\$2,000	\$0
80	Megalug Thrust Restraints	8	EA	\$2,500	\$20,000
81	Site Grading				
82	Surface Repair/Asphalt Patching	1	LS	\$20,000	\$20,000
83	Constructability				
84	Bypass Pumping (3 months?)	1	LS	\$100,000	\$100,000
85	Trenching/Bedding	403	LF	\$50	\$20,150
86	Shoring	1	LS	\$25,000	\$25,000
87	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
88					
89					
	FM EXTENSION FROM CORBIN RD / CHASE RD TO WRF				
90	16" Industrial LS FM				
91	16" PVC C-900 Pipe	4,500	LF	\$150	\$675,000
92	90-deg bends	1	EA	\$3,375	\$3,375
93	45-deg bends	17	EA	\$2,700	\$45,900
94	Couplings	4	EA	\$3,500	\$14,000
95	Megalug Thrust Restraints	36	EA	\$2,500	\$90,000
96	Trenching/Bedding	4,500	LF	\$50	\$225,000
97	Traffic Control	1	LS	\$50,000	\$50,000
98	Asphalt Demolition/Concrete Removal	7,750	SY	\$12	\$93,000
99	Asphalt Repair	7,750	SY	\$39	\$302,250
100	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
101	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
102	42" 14" Industrial LS FM				
103	14" PVC C-900 Pipe	4,500	LF	\$150	\$675,000
104	90-deg bends	1	EA	\$2,650	\$2,650
105	45-deg bends	17	EA	\$2,200	\$37,400
106	Couplings	4	EA	\$3,500	\$14,000
107	Megalug Thrust Restraints	36	EA	\$2,500	\$90,000
108	Trenching/Bedding	4,500	LF	\$50	\$225,000
109	Traffic Control	1	LS	\$50,000	\$50,000
110	Asphalt Demolition/Concrete Removal	7,750	SY	\$12	\$93,000

111	Asphalt Repair	7,750	SY	\$39	\$302,250
112	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
113	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
114	12" North Regional LS FM				
115	12" PVC C-900 Pipe	4,500	LF	\$125	\$562,500
116	90-deg bends	1	EA	\$1,500	\$1,500
117	45-deg bends	17	EA	\$1,275	\$21,675
118	Couplings	4	EA	\$3,500	\$14,000
119	Megalug Thrust Restraints	36	EA	\$2,500	\$90,000
120	Trenching/Bedding	4,500	LF	\$50	\$225,000
121	Traffic Control	1	LS	\$50,000	\$50,000
122	Asphalt Demolition/Concrete Removal	7,750	SY	\$12	\$93,000
123	Asphalt Repair	7,750	SY	\$39	\$302,250
124	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
125	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
126	16" Pleasant View LS FM				
127	16" PVC C-900 Pipe	4,500	LF	\$150	\$675,000
128	90-deg bends	1	EA	\$3,375	\$3,375
129	45-deg bends	17	EA	\$2,700	\$45,900
130	Couplings	4	EA	\$3,500	\$14,000
131	Megalug Thrust Restraints	36	EA	\$2,500	\$90,000
132	Trenching/Bedding	4,500	LF	\$50	\$225,000
133	Traffic Control	1	LS	\$50,000	\$50,000
134	Asphalt Demolition/Concrete Removal	7,750	SY	\$12	\$93,000
135	Asphalt Repair	7,750	SY	\$39	\$302,250
136	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
137	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
138	40" 12" Fisher LS FM (McGuire Intersection to WRF)				
139	12" PVC C-900 Pipe	1,750	LF	\$125	\$218,750
140	90-deg bends	1	EA	\$1,500	\$1,500
141	45-deg bends	13	EA	\$1,275	\$16,575
142	Couplings	4	EA	\$3,500	\$14,000
143	Megalug Thrust Restraints	28	EA	\$2,500	\$70,000
144	Trenching/Bedding	1,750	LF	\$50	\$87,500
145	Traffic Control	1	LS	\$50,000	\$50,000
146	Asphalt Demolition/Concrete Removal	3,014	SY	\$12	\$36,168
147	Asphalt Repair	3,014	SY	\$39	\$117,546
148	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
149	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
150	16" 12th Ave LS FM (from valve vault to Chase)				
151	16" PVC C-900 Pipe	4,500	LF	\$150	\$675,000
152	90-deg bends	1	EA	\$3,375	\$3,375
153	45-deg bends	7	EA	\$2,700	\$18,900
154	Couplings	5	EA	\$3,500	\$17,500
155	Megalug Thrust Restraints	16	EA	\$2,500	\$40,000
156	Trenching/Bedding	4,500	LF	\$50	\$225,000
157	Traffic Control	1	LS	\$50,000	\$50,000
158	Asphalt Demolition	7,750	SY	\$6	\$46,500
159	Asphalt Repair	7,750	SY	\$39	\$302,250
160	Concrete Removal (Seltice only)	138	SY	\$6	\$828
161	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
162	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
163	Existing Sewer Abandonment/Demolition	1	LS	\$50,000	\$50,000
164	Fence/Surface Repair	1	LS	\$10,000	\$10,000
165					
166	CONTROL VALVE VAULT (12th AVE FMs)				
167	Excavation and Backfill				
168	Mass Excavation	512	CY	\$25	\$12,800
169	Materials Processing	169	CY	\$5	\$845
170	Backfill	169	CY	\$25	\$4,224
171	Export Excess Materials Offsite	343	CY	\$15	\$5,146
172	Structural (below grade)				
173	Floor	22	CY	\$600	\$13,200

174	Walls	25	CY	\$1,250	\$31,250
175	Top Slab	14	CY	\$1,500	\$21,000
176	Hatches	2	EA	\$2,500	\$5,000
177	Ladders	2	EA	\$750	\$1,500
178	Process Mechanical				
179	Pothole Existing 14" FM/confirm elevations	1	LS	\$2,500	\$2,500
180	16" DI Pipe (New 12th Ave LS FM)	30	LF	\$985	\$29,550
181	Plug Valves	2	EA	\$10,000	\$20,000
182	Pinch Valve	1	EA	\$15,000	\$15,000
183	Air Release Valve	1	EA	\$5,000	\$5,000
184	Dismantling Joint	1	EA	\$2,500	\$2,500
185	Flex Coupling	2	EA	\$2,500	\$5,000
186	Tap and Drain Valve Assembly	1	EA	\$500	\$500
187	90-degree Bend	2	EA	\$3,375	\$6,750
188	Tee	1	EA	\$5,300	\$5,300
189	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
190	Wall/Floor Penetration	2	EA	\$1,005	\$2,010
191	Reducers (not shown, but likely needed)	1	EA	\$2,750	\$2,750
192	Pipe Supports	3	EA	\$1,000	\$3,000
193	14" DI Pipe (Post Falls B FM Modifications)	30	LF	\$860	\$25,800
194	Plug Valves	2	EA	\$10,000	\$20,000
195	Pinch Valve	1	EA	\$15,000	\$15,000
196	Air Release Valve	0	EA	\$5,000	\$0
197	Dismantling Joint	1	EA	\$2,500	\$2,500
198	Flex Coupling	2	EA	\$2,500	\$5,000
199	Tap and Drain Valve Assembly	1	EA	\$500	\$500
200	90-degree Bend	0	EA	\$2,650	\$0
201	Tee	1	EA	\$4,500	\$4,500
202	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
203	Wall/Floor Penetration	2	EA	\$750	\$1,500
204	Reducers	0	EA	\$0	\$0
205	Pipe Supports	3	EA	\$1,000	\$3,000
206	Site Grading				
207	Surface Repair/Asphalt Patching	1	LS	\$20,000	\$20,000
208	Bollards (not shown, but likely required)	2	EA	\$1,000	\$2,000
209	Electrical				
210	Percentage of Valve Vault Process Mechanical Work			35%	\$65,681
211					
212					
213					
214					
215					
216					
217					-
218	Additional Elements (estimated % of above)				-
219	Contractor mobilization and administration			10.0%	\$906,000
220	Yard Piping			0.0%	\$0
221	Site Civil			0.0%	\$0
222	Electrical and instrumentation			0.0%	\$0
223	Bonding			4.0%	\$362,000
224	Contractor overhead and profit			10.0%	\$906,000
				SUBTOTAL	\$ 11,229,000
				Construction Contingency: 30%	\$ 3,369,000
				Geotechnical/Site Stabilization: N/A	-
				Prevailing Wages: 7.5%	\$ 1,095,000
				State Sales Tax: N/A	-
				Design / CMS: 20%	\$ 3,139,000
				Legal and Administrative:1%	\$ 157,000
				Escalation Allowance:%	\$ -
				TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)	\$ 18,989,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Headworks Influent Fe

PROJECT:		DATE: 12/21/2023			
City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis					
PROJECT DESCRIPTION:					
ADDER: Cost to route 12" FM for 12th Ave LS from Chase to WRF (as opposed to planned tie-in at Chase)					
CLIENT:					
City of Post Falls					
P/N: 20-22-019					
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	FM EXTENSION FROM CORBIN RD / CHASE RD TO WRF				
2	12" 12th Ave LS FM (from valve vault to Chase)				
3	12" PVC C-900 Pipe	4,500	LF	\$125	\$562,500
4	90-deg bends	1	EA	\$1,500	\$1,500
5	45-deg bends	7	EA	\$1,275	\$8,925
6	Couplings	5	EA	\$2,500	\$12,500
7	Megalug Thrust Restraints	16	EA	\$3,500	\$56,000
8	Trenching/Bedding	4,500	LF	\$50	\$225,000
9	Traffic Control (included with 16" FM)	0	LS	\$50,000	\$0
10	Surface Demo	7,750	SY	\$6	\$46,500
11	Surface Repair	7,750	SY	\$39	\$302,250
12	Concrete Removal (Seltice only)	138	SY	\$6	\$828
13	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
14	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
15	Existing Sewer Abandonment/Demolition	1	LS	\$50,000	\$50,000
16	Fence/Surface Repair	1	LS	\$10,000	\$10,000
17					
18	CONTROL VALVE VAULT (12th AVE FMs)				
19	Process Mechanical				
20	Credit for reduced piping size (14" to 12")	1	LS	(\$5,000)	-\$5,000
21					
22	TIE-IN AT 36" MANIFOLD				
23	36" Additional Manifold Components Required				
24	Tees	1	EA	\$48,000	\$48,000
25	Plug Valve	1	EA	\$25,000	\$25,000
26	Flex Coupling	1	EA	\$10,000	\$10,000
27	Flanges	2	EA	\$18,000	\$36,000
28	Megalug Thrust Restraints	2	EA	\$10,000	\$20,000
29	Reducers	1	EA	\$30,000	\$30,000
30	12" Piping Between Manifold and Valve Vault				
31	12" DI Pipe	0	LF	\$670	\$0
32	12" PVC C-900 Pipe	75	LF	\$125	\$9,375
33	90-deg bends	3	EA	\$1,500	\$4,500
34					-
35	Additional Elements (estimated % of above)				-
36	Contractor mobilization and administration			10.0%	\$149,000
37	Yard Piping			0.0%	\$0
38	Site Civil			0.0%	\$0
39	Electrical and instrumentation			0.0%	\$0
40	Bonding			4.0%	\$60,000
41	Contractor overhead and profit			10.0%	\$149,000
SUBTOTAL				\$	1,852,000
Construction Contingency: 30%				\$	556,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%				\$	181,000
State Sales Tax: N/A					-
Design / CMS: 20%				\$	518,000
Legal and Administrative:1%				\$	26,000
Escalation Allowance:%				\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)				\$	3,133,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Headworks Influent Fe

PROJECT: City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis **DATE:** 11/13/2023

PROJECT DESCRIPTION:
Combine FM from West, 12th Ave Collections Project Phase 2 from East

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	12th Ave FM EXTENSION WITHIN WRF				
2	Process Mechanical				
3	16" 12th Ave LS FM (to extents shown on C-110 of Keller Plans, not including valve vault components, or pipe north of valve vault)				
4	16" DI Pipe	5	LF	\$985	\$4,925
5	16" PVC C-900 Pipe	21	LF	\$150	\$3,150
6	90-deg bends	3	EA	\$3,375	\$10,125
7	45-deg bends	0	EA	\$2,700	\$0
8	Plug Valve	0	EA	\$10,000	\$0
9	Flex Coupling	0	EA	\$3,500	\$0
10	Penetration at Influent Box	0	EA	\$900	\$0
11	MJ Cap	0	EA	\$1,100	\$0
12	Flanges	0	EA	\$2,000	\$0
13	Megalug Thrust Restraints	6	EA	\$2,500	\$15,000
14	Site Grading				
15	Surface Repair/Asphalt Patching	1	LS	\$10,000	\$10,000
16	Constructability				
17	Bypass Pumping (3 months?)	1	LS	\$100,000	\$100,000
18	Trenching/Bedding	26	LF	\$50	\$1,300
19	Shoring	1	LS	\$10,000	\$10,000
20	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
21					
22	FM EXTENSION FROM CHASE RD TO WRF				
23	16" 12th Ave LS FM (from valve vault to Chase)				
24	16" PVC C-900 Pipe	4,500	LF	\$150	\$675,000
25	90-deg bends	1	EA	\$3,375	\$3,375
26	45-deg bends	7	EA	\$2,700	\$18,900
27	Couplings	5	EA	\$2,500	\$12,500
28	Megalug Thrust Restraints	16	EA	\$2,500	\$40,000
29	Trenching/Bedding	4,500	LF	\$50	\$225,000
30	Traffic Control	1	LS	\$50,000	\$50,000
31	Asphalt Demolition	7,750	SY	\$6	\$46,500
32	Asphalt Repair	7,750	SY	\$39	\$302,250
33	Concrete Removal (Seltice only)	138	SY	\$6	\$828
34	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
35	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
36	Existing Sewer Abandonment/Demolition	1	LS	\$50,000	\$50,000
37	Fence/Surface Repair	1	LS	\$10,000	\$10,000
38					
39	COMBINED FMs FROM CORBIN RD TO WRF				
40	20" FM to WRF				
41	20" DI Pipe	0	LF	\$1,302	\$0
42	20" PVC C-900 Pipe	4,500	LF	\$200	\$900,000
43	90-deg bends	2	EA	\$10,000	\$20,000
44	45-deg bends	17	EA	\$5,500	\$93,500
45	Plug Valve	0	EA	\$15,000	\$0
46	Flex Coupling	4	EA	\$5,000	\$20,000
47	Flanges	0	EA	\$2,900	\$0
48	Megalug Thrust Restraints	38	EA	\$5,000	\$190,000
49	Asphalt Demolition	7,750	SY	\$12	\$93,000
50	Asphalt Repair	7,750	SY	\$39	\$302,250

Combine FM from West

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51	Traffic Control	1	LS	\$50,000	\$50,000
52	18" FM to WRF				
53	18" DI Pipe	0	LF	\$1,555	\$0
54	18" PVC C-900 Pipe	4,500	LF	\$175	\$787,500
55	90-deg bends	2	EA	\$3,500	\$7,000
56	45-deg bends	17	EA	\$2,800	\$47,600
57	Plug Valve	0	EA	\$12,500	\$0
58	Flex Coupling	4	EA	\$2,500	\$10,000
59	Flanges	0	EA	\$2,350	\$0
60	Megalug Thrust Restraints	38	EA	\$2,500	\$95,000
61	Asphalt Demolition	7,750	SY	\$12	\$93,000
62	Asphalt Repair	7,750	SY	\$39	\$302,250
63	Traffic Control	1	LS	\$50,000	\$50,000
64					
65	MANIFOLD AT WRF				
66	36" DI Pipe	20	LF	\$3,015	\$60,300
67	36" PVC C-900 Pipe	135	LF	\$300	\$40,500
68	90-deg bends	2	EA	\$39,000	\$78,000
69	45-deg bends	0	EA	\$32,000	\$0
70	Tees	2		\$48,000	\$96,000
71	Plug Valve	6	EA	\$25,000	\$150,000
72	Flex Coupling	4	EA	\$10,000	\$40,000
73	Flanges	12	EA	\$18,000	\$216,000
74	Megalug Thrust Restraints	8	EA	\$10,000	\$80,000
75	Reducers	4		\$30,000	\$120,000
76	Asphalt Demolition	50	SY	\$6	\$300
77	Asphalt Repair	50	SY	\$39	\$1,950
78	Utility Coordination/Relocation	1	LS	\$10,000	\$10,000
79	Landscape/Surface Repair in WRF	1	LS	\$15,000	\$15,000
80					
81	CONTROL VALVE VAULT (12th AVE FMs)				
82	Excavation and Backfill				
83	Mass Excavation	512	CY	\$25	\$12,800
84	Materials Processing	169	CY	\$5	\$845
85	Backfill	169	CY	\$25	\$4,224
86	Export Excess Materials Offsite	343	CY	\$15	\$5,146
87	Structural (below grade)				
88	Floor	22	CY	\$600	\$13,200
89	Walls	25	CY	\$1,250	\$31,250
90	Top Slab	14	CY	\$1,500	\$21,000
91	Hatches	2	EA	\$2,500	\$5,000
92	Ladders	2	EA	\$750	\$1,500
93	Process Mechanical				
94	Pothole Existing 14" FM/confirm elevations	1	LS	\$2,500	\$2,500
95	16" DI Pipe (New 12th Ave LS FM)	30	LF	\$985	\$29,550
96	Plug Valves	2	EA	\$10,000	\$20,000
97	Pinch Valve	1	EA	\$15,000	\$15,000
98	Air Release Valve	1	EA	\$5,000	\$5,000
99	Dismantling Joint	1	EA	\$2,500	\$2,500
100	Flex Coupling	2	EA	\$2,500	\$5,000
101	Tap and Drain Valve Assembly	1	EA	\$500	\$500
102	90-degree Bend	2	EA	\$3,375	\$6,750
103	Tee	1	EA	\$5,300	\$5,300
104	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
105	Wall/Floor Penetration	2	EA	\$1,005	\$2,010
106	Reducers (not shown, but likely needed)	1	EA	\$2,750	\$2,750
107	Pipe Supports	3	EA	\$1,000	\$3,000
108	14" DI Pipe (Post Falls B FM Modifications)	30	LF	\$860	\$25,800
109	Plug Valves	2	EA	\$10,000	\$20,000
110	Pinch Valve	1	EA	\$15,000	\$15,000
111	Air Release Valve	0	EA	\$5,000	\$0
112	Dismantling Joint	1	EA	\$2,500	\$2,500
113	Flex Coupling	2	EA	\$2,500	\$5,000
114	Tap and Drain Valve Assembly	1	EA	\$500	\$500
115	90-degree Bend	0	EA	\$2,650	\$0
116	Tee	1	EA	\$4,500	\$4,500

117	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
118	Wall/Floor Penetration	2	EA	\$750	\$1,500
119	Reducers	0	EA	\$0	\$0
120	Pipe Supports	3	EA	\$1,000	\$3,000
121	Site Grading				
122	Surface Repair/Asphalt Patching	1	LS	\$20,000	\$20,000
123	Bollards (not shown, but likely required)	2	EA	\$1,000	\$2,000
124	Electrical				
125	Percentage of Valve Vault Process Mechanical Work			35%	\$65,681
126					
127					
128					
129					
130					
131					
132					-
133	Additional Elements (estimated % of above)				-
134	Contractor mobilization and administration			10.0%	\$598,000
135	Yard Piping			0.0%	\$0
136	Site Civil			0.0%	\$0
137	Electrical and instrumentation			0.0%	\$0
138	Bonding			4.0%	\$239,000
139	Contractor overhead and profit			10.0%	\$598,000
				SUBTOTAL	\$ 7,418,000
				Construction Contingency: 30%	\$ 2,225,000
				Geotechnical/Site Stabilization: N/A	-
				Prevailing Wages: 7.5%	\$ 723,000
				State Sales Tax: N/A	-
				Design / CMS: 20%	\$ 2,073,000
				Legal and Administrative:1%	\$ 104,000
				Escalation Allowance:%	\$ -
				TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)	\$ 12,543,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Headworks Influent Fe

PROJECT: City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis **DATE:** 11/13/2023

PROJECT DESCRIPTION:
DUAL 20" Combine FM from West, 12th Ave Collections Project Phase 2 from East

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	12th Ave FM EXTENSION WITHIN WRF				
2	Process Mechanical				
3	16" 12th Ave LS FM (to extents shown on C-110 of Keller Plans, not including valve vault components, or pipe north of valve vault)				
4	16" DI Pipe	5	LF	\$985	\$4,925
5	16" PVC C-900 Pipe	21	LF	\$150	\$3,150
6	90-deg bends	3	EA	\$3,375	\$10,125
7	45-deg bends	0	EA	\$2,700	\$0
8	Plug Valve	0	EA	\$10,000	\$0
9	Flex Coupling	0	EA	\$3,500	\$0
10	Penetration at Influent Box	0	EA	\$900	\$0
11	MJ Cap	0	EA	\$1,100	\$0
12	Flanges	0	EA	\$2,000	\$0
13	Megalug Thrust Restraints	6	EA	\$2,500	\$15,000
14	Site Grading				
15	Surface Repair/Asphalt Patching	1	LS	\$10,000	\$10,000
16	Constructability				
17	Bypass Pumping (3 months?)	1	LS	\$100,000	\$100,000
18	Trenching/Bedding	26	LF	\$50	\$1,300
19	Shoring	1	LS	\$10,000	\$10,000
20	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
21					
22	FM EXTENSION FROM CHASE RD TO WRF				
23	16" 12th Ave LS FM (from valve vault to Chase)				
24	16" PVC C-900 Pipe	4,500	LF	\$150	\$675,000
25	90-deg bends	1	EA	\$3,375	\$3,375
26	45-deg bends	7	EA	\$2,700	\$18,900
27	Couplings	5	EA	\$2,500	\$12,500
28	Megalug Thrust Restraints	16	EA	\$2,500	\$40,000
29	Trenching/Bedding	4,500	LF	\$50	\$225,000
30	Traffic Control	1	LS	\$50,000	\$50,000
31	Asphalt Demolition	7,750	SY	\$6	\$46,500
32	Asphalt Repair	7,750	SY	\$39	\$302,250
33	Concrete Removal (Seltice only)	138	SY	\$6	\$828
34	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
35	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
36	Existing Sewer Abandonment/Demolition	1	LS	\$50,000	\$50,000
37	Fence/Surface Repair	1	LS	\$10,000	\$10,000
38					
39	COMBINED FMs FROM CORBIN RD TO WRF				
40	20" FM to WRF				
41	20" DI Pipe	0	LF	\$1,302	\$0
42	20" PVC C-900 Pipe	4,500	LF	\$200	\$900,000
43	90-deg bends	2	EA	\$10,000	\$20,000
44	45-deg bends	17	EA	\$5,500	\$93,500
45	Plug Valve	0	EA	\$15,000	\$0
46	Flex Coupling	4	EA	\$5,000	\$20,000
47	Flanges	0	EA	\$2,900	\$0
48	Megalug Thrust Restraints	38	EA	\$5,000	\$190,000
49	Asphalt Demolition	7,750	SY	\$12	\$93,000
50	Asphalt Repair	7,750	SY	\$39	\$302,250

51	Traffic Control	1	LS	\$50,000	\$50,000
52	20" FM to WRF				
53	20" DI Pipe	0	LF	\$1,302	\$0
54	20" PVC C-900 Pipe	4,500	LF	\$200	\$900,000
55	90-deg bends	2	EA	\$10,000	\$20,000
56	45-deg bends	17	EA	\$5,500	\$93,500
57	Plug Valve	0	EA	\$15,000	\$0
58	Flex Coupling	4	EA	\$5,000	\$20,000
59	Flanges	0	EA	\$2,900	\$0
60	Megalug Thrust Restraints	38	EA	\$5,000	\$190,000
61	Asphalt Demolition	7,750	SY	\$12	\$93,000
62	Asphalt Repair	7,750	SY	\$39	\$302,250
63	Traffic Control	1	LS	\$50,000	\$50,000
64					
65	MANIFOLD AT WRF				
66	36" DI Pipe	20	LF	\$3,015	\$60,300
67	36" PVC C-900 Pipe	135	LF	\$300	\$40,500
68	90-deg bends	2	EA	\$39,000	\$78,000
69	45-deg bends	0	EA	\$32,000	\$0
70	Tees	2		\$48,000	\$96,000
71	Plug Valve	6	EA	\$25,000	\$150,000
72	Flex Coupling	4	EA	\$10,000	\$40,000
73	Flanges	12	EA	\$18,000	\$216,000
74	Megalug Thrust Restraints	8	EA	\$10,000	\$80,000
75	Reducers	4		\$30,000	\$120,000
76	Asphalt Demolition	50	SY	\$6	\$300
77	Asphalt Repair	50	SY	\$39	\$1,950
78	Utility Coordination/Relocation	1	LS	\$10,000	\$10,000
79	Landscape/Surface Repair in WRF	1	LS	\$15,000	\$15,000
80					
81	CONTROL VALVE VAULT (12th AVE FMs)				
82	Excavation and Backfill				
83	Mass Excavation	512	CY	\$25	\$12,800
84	Materials Processing	169	CY	\$5	\$845
85	Backfill	169	CY	\$25	\$4,224
86	Export Excess Materials Offsite	343	CY	\$15	\$5,146
87	Structural (below grade)				
88	Floor	22	CY	\$600	\$13,200
89	Walls	25	CY	\$1,250	\$31,250
90	Top Slab	14	CY	\$1,500	\$21,000
91	Hatches	2	EA	\$2,500	\$5,000
92	Ladders	2	EA	\$750	\$1,500
93	Process Mechanical				
94	Pothole Existing 14" FM/confirm elevations	1	LS	\$2,500	\$2,500
95	16" DI Pipe (New 12th Ave LS FM)	30	LF	\$985	\$29,550
96	Plug Valves	2	EA	\$10,000	\$20,000
97	Pinch Valve	1	EA	\$15,000	\$15,000
98	Air Release Valve	1	EA	\$5,000	\$5,000
99	Dismantling Joint	1	EA	\$2,500	\$2,500
100	Flex Coupling	2	EA	\$2,500	\$5,000
101	Tap and Drain Valve Assembly	1	EA	\$500	\$500
102	90-degree Bend	2	EA	\$3,375	\$6,750
103	Tee	1	EA	\$5,300	\$5,300
104	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
105	Wall/Floor Penetration	2	EA	\$1,005	\$2,010
106	Reducers (not shown, but likely needed)	1	EA	\$2,750	\$2,750
107	Pipe Supports	3	EA	\$1,000	\$3,000
108	14" DI Pipe (Post Falls B FM Modifications)	30	LF	\$860	\$25,800
109	Plug Valves	2	EA	\$10,000	\$20,000
110	Pinch Valve	1	EA	\$15,000	\$15,000
111	Air Release Valve	0	EA	\$5,000	\$0
112	Dismantling Joint	1	EA	\$2,500	\$2,500
113	Flex Coupling	2	EA	\$2,500	\$5,000
114	Tap and Drain Valve Assembly	1	EA	\$500	\$500
115	90-degree Bend	0	EA	\$2,650	\$0
116	Tee	1	EA	\$4,500	\$4,500

117	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
118	Wall/Floor Penetration	2	EA	\$750	\$1,500
119	Reducers	0	EA	\$0	\$0
120	Pipe Supports	3	EA	\$1,000	\$3,000
121	Site Grading				
122	Surface Repair/Asphalt Patching	1	LS	\$20,000	\$20,000
123	Bollards (not shown, but likely required)	2	EA	\$1,000	\$2,000
124	Electrical				
125	Percentage of Valve Vault Process Mechanical Work			35%	\$65,681
126					
127					
128					
129					
130					
131					
132					-
133	Additional Elements (estimated % of above)				-
134	Contractor mobilization and administration			10.0%	\$626,000
135	Yard Piping			0.0%	\$0
136	Site Civil			0.0%	\$0
137	Electrical and instrumentation			0.0%	\$0
138	Bonding			4.0%	\$250,000
139	Contractor overhead and profit			10.0%	\$626,000
				SUBTOTAL	\$ 7,762,000
				Construction Contingency: 30%	\$ 2,329,000
				Geotechnical/Site Stabilization: N/A	-
				Prevailing Wages: 7.5%	\$ 757,000
				State Sales Tax: N/A	-
				Design / CMS: 20%	\$ 2,170,000
				Legal and Administrative:1%	\$ 108,000
				Escalation Allowance:%	\$ -
				TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)	\$ 13,126,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Headworks Influent Fe

PROJECT:		DATE: 11/13/2023			
City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis					
PROJECT DESCRIPTION:					
East Regional LS w/ Combined FM from West					
CLIENT:					
City of Post Falls					
P/N: 20-22-019					
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	REGIONAL LIFT STATION				
2	Land Purchase (N/A, @ Montrose Sports Complex)	0	LS	\$250,000	\$0
3	Excavation and Backfill				
4	Mass Excavation	8,584	CY	\$10	\$85,840
5	Materials Processing	2,833	CY	\$5	\$14,164
6	Backfill	2,833	CY	\$25	\$70,818
7	Export Excess Materials Offsite	5,751	CY	\$15	\$86,269
8	Structural (below grade)				
9	Floor	420	CY	\$600	\$252,000
10	Walls	568	CY	\$1,000	\$568,000
11	Top Slab	375	CY	\$1,750	\$656,250
12	Staircase	1	LS	\$25,000	\$25,000
13	Hatches	2	EA	\$2,500	\$5,000
14	Monorail and Hoist	1	LS	\$15,000	\$15,000
15	Structural (above grade)				
16		2,640	SF	\$250	
	CMU Building (vestibule and electrical room, 48 ft x 55ft)				\$660,000
17	HVAC Equipment	1	LS	\$50,000	\$50,000
18	Process Mechanical				
19	Pumps (4 duty, 1 standby, 60 HP each, \$1500/HP))	300	HP	\$1,500	\$450,000
20	Installation and Markup			25%	\$112,500
21	Plug Valves (3 per pump: 1 suction, 1 discharge, 1 extra)	15	EA	\$10,000	\$150,000
22	Check Valves (1 per pump)	5	EA	\$7,500	\$37,500
23	Pressure Assemblies (1 per pump)	5	EA	\$3,000	\$15,000
24	Flow Meter	1	EA	\$12,500	\$12,500
25	16" Piping (assumed suction/discharge size)	70	LF	\$850	\$59,500
26	30" Piping (assumed discharge manifold size)	30	LF	\$1,750	\$52,500
27	HVAC Equipment	1	LS	\$50,000	\$50,000
28	Odor Control Equipment	1	LS	\$100,000	\$100,000
29	Gates (from Overflow Basin to Wet Well)	2	EA	\$17,500	\$35,000
30	Site Grading				
31	Landscaping/Asphalt Paving/Access Road/Stormwater	1	LS	\$50,000	
	Grading				\$50,000
32	Utility Coordination/Relocation	1	LS	\$35,000	\$35,000
33	Generator	1	LS	\$125,000	\$125,000
34					
35					
	CONTROL VALVE VAULT AT REGIONAL LS (12th AVE FMs)				
36	Excavation and Backfill				
37	Mass Excavation	512	CY	\$10	\$5,120
38	Materials Processing	169	CY	\$5	\$845
39	Backfill	169	CY	\$25	\$4,224
40	Export Excess Materials Offsite	343	CY	\$15	\$5,146
41	Structural (below grade)				
42	Floor	22	CY	\$600	\$13,200
43	Walls	25	CY	\$1,250	\$31,250
44	Top Slab	14	CY	\$1,500	\$21,000
45	Hatches	2	EA	\$2,500	\$5,000
46	Ladders	2	EA	\$750	\$1,500
47	Process Mechanical				
48	16" DI Pipe (New 12th Ave LS FM)	30	LF	\$985	\$29,550
49	Plug Valves	2	EA	\$10,000	\$20,000
50	Pinch Valve	1	EA	\$15,000	\$15,000

51	Air Release Valve	1	EA	\$5,000	\$5,000
52	Dismantling Joint	1	EA	\$2,500	\$2,500
53	Flex Coupling	2	EA	\$2,500	\$5,000
54	Tap and Drain Valve Assembly	1	EA	\$500	\$500
55	90-degree Bend	2	EA	\$3,375	\$6,750
56	Tee	1	EA	\$5,300	\$5,300
57	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
58	Wall/Floor Penetration	2	EA	\$1,005	\$2,010
59	Reducers (not shown, but likely needed)	1	EA	\$2,750	\$2,750
60	Pipe Supports	3	EA	\$1,000	\$3,000
61	12" DI Pipe (New 12th Ave LS FM)	30	LF	\$670	\$20,100
62	Plug Valves	2	EA	\$7,500	\$15,000
63	Pinch Valve	1	EA	\$12,500	\$12,500
64	Air Release Valve	0	EA	\$5,000	\$0
65	Dismantling Joint	1	EA	\$2,500	\$2,500
66	Flex Coupling	2	EA	\$2,500	\$5,000
67	Tap and Drain Valve Assembly	1	EA	\$500	\$500
68	90-degree Bend	0	EA	\$2,650	\$0
69	Tee	1	EA	\$6,000	\$6,000
70	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
71	Wall/Floor Penetration	2	EA	\$750	\$1,500
72	Reducers	0	EA	\$0	\$0
73	Pipe Supports	3	EA	\$1,000	\$3,000
74					
75	TRAFFIC CONTROL	1	LS	\$50,000	\$50,000
76					
77	FM/G EXTENSION FEEDING REGIONAL LS				
78	14" FM from Seltice LS Bypass to LS				
79	14" DI Pipe	20	LF	\$860	\$17,200
80	14" PVC C-900 Pipe	650	LF	\$150	\$97,500
81	90-deg bends	3	EA	\$2,650	\$7,950
82	45-deg bends	4	EA	\$2,200	\$8,800
83	Plug Valve	1	EA	\$10,000	\$10,000
84	Flex Coupling	2	EA	\$3,500	\$7,000
85	Penetration at Wet Well	1	EA	\$750	\$750
86	Flanges	2	EA	\$1,700	\$3,400
87	Megalug Thrust Restraints	14	EA	\$2,500	\$35,000
88	Asphalt Demolition/Concrete Removal	138	SY	\$12	\$1,656
89	Asphalt Repair	138	SY	\$39	\$5,382
90	12" FM from 12th Ave to LS (not including piping inside control vault)				
91	12" DI Pipe	20	LF	\$670	\$13,400
92	12" PVC C-900 Pipe	2,700	LF	\$125	\$337,500
93	90-deg bends	5	EA	\$1,500	\$7,500
94	45-deg bends	4	EA	\$1,275	\$5,100
95	Plug Valve	1	EA	\$7,500	\$7,500
96	Flex Coupling	2	EA	\$2,500	\$5,000
97	Penetration at Wet Well	1	EA	\$615	\$615
98	Flanges	2	EA	\$990	\$1,980
99	Megalug Thrust Restraints	18	EA	\$2,500	\$45,000
100	Asphalt Demolition	3,488	SY	\$6	\$20,928
101	Asphalt Repair	3,488	SY	\$39	\$136,032
102					
	16" 12th Ave LS FM (not including piping inside control vault)				
103	16" DI Pipe	20	LF	\$985	\$19,700
104	16" PVC C-900 Pipe	2,700	LF	\$150	\$405,000
105	90-deg bends	5	EA	\$3,375	\$16,875
106	45-deg bends	4	EA	\$2,700	\$10,800
107	Plug Valve	1	EA	\$10,000	\$10,000
108	Flex Coupling	2	EA	\$3,500	\$7,000
109	Penetration at Influent Box	1	EA	\$900	\$900
110	Flanges	2	EA	\$2,000	\$4,000
111	Megalug Thrust Restraints	18	EA	\$2,500	\$45,000
112	Asphalt Demolition	3,488	SY	\$6	\$20,928
113	Asphalt Repair	3,488	SY	\$39	\$136,032

114	40" 12" Fisher LS FM (piping at LS only)				
115	12" DI Pipe	20	LF	\$670	\$13,400
116	12" PVC C-900 Pipe	100	LF	\$125	\$12,500
117	90-deg bends	2	EA	\$1,500	\$3,000
118	45-deg bends	0	EA	\$1,275	\$0
119	Plug Valve	1	EA	\$7,500	\$7,500
120	Flex Coupling	1	EA	\$2,500	\$2,500
121	Penetration at Influent Box	1	EA	\$615	\$615
122	MJ Cap	1	EA	\$375	\$375
123	Flanges	2	EA	\$990	\$1,980
124	Megalug Thrust Restraints	4	EA	\$2,500	\$10,000
125	Asphalt Demolition	0	SY	\$6	\$0
126	Asphalt Repair	0	SY	\$39	\$0
127	12" North Regional LS FM				
128	12" DI Pipe	20	LF	\$670	\$13,400
129	12" PVC C-900 Pipe	6,100	LF	\$125	\$762,500
130	90-deg bends	3	EA	\$1,500	\$4,500
131	45-deg bends	12	EA	\$1,275	\$15,300
132	Plug Valve	1	EA	\$7,500	\$7,500
133	Flex Coupling	1	EA	\$2,500	\$2,500
134	Penetration at Influent Box	1	EA	\$615	\$615
135	MJ Cap	1	EA	\$375	\$375
136	Flanges	2	EA	\$990	\$1,980
137	Megalug Thrust Restraints	30	EA	\$2,500	\$75,000
138	Asphalt Demolition	9,903	SY	\$12	\$118,836
139	Asphalt Repair	9,903	SY	\$39	\$386,217
140	8" Montrose LS FM (intertie at Embire BLVD to LS)				
141	8" DI Pipe	20	LF	\$438	\$8,760
142	8" PVC C-900 Pipe	350	LF	\$100	\$35,000
143	90-deg bends	3	EA	\$1,315	\$3,945
144	45-deg bends	0	EA	\$1,115	\$0
145	Plug Valve	1	EA	\$5,000	\$5,000
146	Flex Coupling	1	EA	\$2,500	\$2,500
147	Penetration at Influent Box	1	EA	\$423	\$423
148	MJ Cap	0	EA	\$155	\$0
149	Flanges	2	EA	\$461	\$922
150	Megalug Thrust Restraints	6	EA	\$2,500	\$15,000
151	Asphalt Demolition	35	SY	\$6	\$210
152	Asphalt Repair	35	SY	\$39	\$1,365
153	6" Montrose LS FM (intertie at Embire BLVD to LS)				
154	6" DI Pipe	20	LF		\$0
155	6" PVC C-900 Pipe	350	LF	\$100	\$35,000
156	90-deg bends	3	EA	\$781	\$2,343
157	45-deg bends	0	EA	\$714	\$0
158	Plug Valve	1	EA	\$5,000	\$5,000
159	Flex Coupling	1	EA	\$2,500	\$2,500
160	Penetration at Influent Box	1	EA	\$333	\$333
161	MJ Cap	0	EA	\$100	\$0
162	Flanges	2	EA	\$461	\$922
163	Megalug Thrust Restraints	6	EA	\$293	\$1,758
164	Asphalt Demolition	35	SY	\$6	\$210
165	Asphalt Repair	35	SY	\$39	\$1,365
166	18" Seltice Basin Gravity (intertie at MH-879 to LS)				
167	18" Gravity Sewer	750	LF	\$175	\$131,250
168	Manholes	3	EA	\$5,000	\$15,000
169	Flex Coupling	1	EA	\$2,500	\$2,500
170	Penetration at Influent Box	1	EA	\$1,005	\$1,005
171	Core/Connect at Existing Manhole	1	LS	\$5,000	\$5,000
172	Asphalt Demolition	138	SY	\$12	\$1,656
173	Asphalt Repair	138	SY	\$39	\$5,382
174	12" Seltice Basin Gravity (intertie at MH-986 to LS)				
175	12" Gravity Sewer	230	LF	\$125	\$28,750
176	Manholes	1	EA	\$5,000	\$5,000
177	Flex Coupling	1	EA	\$2,500	\$2,500
178	Penetration at Influent Box	1	EA	\$1,005	\$1,005
179	Core/Connect at Existing Manhole	1	LS	\$5,000	\$5,000

180	Asphalt Demolition	0	SY	\$12	\$0
181	Asphalt Repair	0	SY	\$39	\$0
182	Utility Coordination	1	LS	\$5,000	\$5,000
183					
184					
185	FM EXTENSION FROM REGIONAL LS TO WRF				
186	16" FM to WRF				
187	16" DI Pipe	20	LF	\$985	\$19,700
188	16" PVC C-900 Pipe	2,100	LF	\$150	\$315,000
189	90-deg bends	1	EA	\$3,375	\$3,375
190	45-deg bends	8	EA	\$2,700	\$21,600
191	Plug Valve	0	EA	\$10,000	\$0
192	Flex Coupling	1	EA	\$3,500	\$3,500
193	Penetration out of structure	1	EA	\$900	\$900
194	Flanges	12	EA	\$2,000	\$24,000
195	Megalug Thrust Restraints	18	EA	\$2,500	\$45,000
196	Asphalt Demolition	3,316	SY	\$12	\$39,792
197	Asphalt Repair	3,316	SY	\$39	\$129,324
198	Intertie w/ Existing FMs				
199	16" DI Pipe	20	LF	\$985	\$19,700
200	16" PVC C-900 Pipe	50	LF	\$150	\$7,500
201	Reducers	3	EA	\$3,000	\$9,000
202	Tees	3	EA	\$8,000	\$24,000
203	Plug Valve	6	EA	\$10,000	\$60,000
204	Flex Coupling	1	EA	\$3,500	\$3,500
205	Flanges	12	EA	\$2,000	\$24,000
206	Megalug Thrust Restraints	12	EA	\$2,500	\$30,000
207	20" FM to WRF				
208	20" DI Pipe	20	LF	\$1,302	\$26,040
209	20" PVC C-900 Pipe	2,100	LF	\$200	\$420,000
210	90-deg bends	1	EA	\$10,000	\$10,000
211	45-deg bends	8	EA	\$5,500	\$44,000
212	Plug Valve	0	EA	\$15,000	\$0
213	Flex Coupling	1	EA	\$5,000	\$5,000
214	Penetration out of structure	1	EA	\$1,200	\$1,200
215	Flanges	12	EA	\$2,900	\$34,800
216	Megalug Thrust Restraints	18	EA	\$5,000	\$90,000
217	Asphalt Demolition	3,316	SY	\$12	\$39,792
218	Asphalt Repair	3,316	SY	\$39	\$129,324
219	Intertie w/ Existing FMs				
220	20" DI Pipe	20	LF	\$1,302	\$26,040
221	20" PVC C-900 Pipe	50	LF	\$200	\$10,000
222	Reducers	3	EA	\$7,500	\$22,500
223	Tees	3	EA	\$18,000	\$54,000
224	Plug Valve	6	EA	\$15,000	\$90,000
225	Flex Coupling	1	EA	\$5,000	\$5,000
226	Flanges	12	EA	\$2,900	\$34,800
227	Megalug Thrust Restraints	12	EA	\$5,000	\$60,000
228					
229	COMBINED FMs FROM CORBIN RD TO WRF				
230	20" FM to WRF				
231	20" DI Pipe	0	LF	\$1,302	\$0
232	20" PVC C-900 Pipe	4,500	LF	\$200	\$900,000
233	90-deg bends	2	EA	\$10,000	\$20,000
234	45-deg bends	17	EA	\$5,500	\$93,500
235	Plug Valve	0	EA	\$15,000	\$0
236	Flex Coupling	4	EA	\$5,000	\$20,000
237	Flanges	0	EA	\$2,900	\$0
238	Megalug Thrust Restraints	38	EA	\$5,000	\$190,000
239	Asphalt Demolition	7,750	SY	\$12	\$93,000
240	Asphalt Repair	7,750	SY	\$39	\$302,250
241	Traffic Control	1	LS	\$50,000	\$50,000
242	18" FM to WRF				
243	18" DI Pipe	0	LF	\$1,555	\$0
244	18" PVC C-900 Pipe	4,500	LF	\$175	\$787,500
245	90-deg bends	2	EA	\$3,500	\$7,000

246	45-deg bends	17	EA	\$2,800	\$47,600
247	Plug Valve	0	EA	\$12,500	\$0
248	Flex Coupling	4	EA	\$2,500	\$10,000
249	Flanges	0	EA	\$2,350	\$0
250	Megalug Thrust Restraints	38	EA	\$2,500	\$95,000
251	Asphalt Demolition	7,750	SY	\$12	\$93,000
252	Asphalt Repair	7,750	SY	\$39	\$302,250
253	Traffic Control	1	LS	\$50,000	\$50,000
254					
255	MANIFOLD AT WRF				
256	36" DI Pipe	20	LF	\$3,015	\$60,300
257	36" PVC C-900 Pipe	135	LF	\$300	\$40,500
258	90-deg bends	2	EA	\$39,000	\$78,000
259	45-deg bends	0	EA	\$32,000	\$0
260	Tees	4		\$48,000	\$192,000
261	Plug Valve	8	EA	\$25,000	\$200,000
262	Flex Coupling	5	EA	\$10,000	\$50,000
263	Flanges	16	EA	\$18,000	\$288,000
264	Megalug Thrust Restraints	12	EA	\$10,000	\$120,000
265	Reducers	4		\$30,000	\$120,000
266	Asphalt Demolition	50	SY	\$6	\$300
267	Asphalt Repair	50	SY	\$39	\$1,950
268	Utility Coordination/Relocation	1	LS	\$10,000	\$10,000
269	Landscape/Surface Repair in WRF	1	LS	\$15,000	\$15,000
270					
271	O&M - See separate spreadsheet				
272					
273	DECOMMISSION SELTICE LS	1	LS	\$25,000	\$25,000
274					
275					
276					
277					
278					
279					-
280	Additional Elements (estimated % of above)				-
281	Contractor mobilization and administration			10.0%	\$1,345,000
282	Yard Piping			5.0%	\$204,000
283	Site Civil			5.0%	\$204,000
284	Electrical and instrumentation			35.0%	\$1,429,000
285	Bonding			4.0%	\$538,000
286	Contractor overhead and profit			10.0%	\$1,345,000
				SUBTOTAL	\$ 18,517,000
				Construction Contingency: 30%	\$ 5,555,000
				Geotechnical/Site Stabilization: N/A	-
				Prevailing Wages: 7.5%	\$ 1,805,000
				State Sales Tax: N/A	-
				Design / CMS: 20%	\$ 5,175,000
				Legal and Administrative: 1%	\$ 259,000
				Escalation Allowance: %	\$ -
				TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)	\$ 31,311,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

PROJECT: City of Post Falls WRF Facility Plan - Headworks Feasibility										DATE: 11/13/2023		
PROJECT DESCRIPTION: O&M Cost for East Regional LS Option												
CLIENT: City of Post Falls												
P/N: 20-22-019												
	Equipment Maintenance		Labor		Electrical Use - Heat		Electrical Use - Pumping		Other		Present Worth	
	Capital Cost Eqpt	\$338,750	Hours per day	2	Year 1 Kw-hr demand	150	Year 1 HP demand	75	Year 1 Cost	\$0		
	Maintenance / yr	2.0%	Cost per hour	\$50	Cost per kW-hr	\$0.11	Cost per kW-hr	\$0.11				
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	1.50%	Discount Rate	
					Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%	2.5%	
Year	Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Total by Year	Present Worth
1		\$6,775		\$26,000		\$3,036		\$26,946		\$0	\$62,757	\$62,757
2		\$7,114		\$26,780		\$3,333		\$29,583		\$0	\$66,810	\$65,181
3		\$7,469		\$27,583		\$3,659		\$32,479		\$0	\$71,191	\$67,761
4		\$7,843		\$28,411		\$4,018		\$35,658		\$0	\$75,929	\$70,508
5		\$8,235		\$29,263		\$4,411		\$39,148		\$0	\$81,057	\$73,434
6		\$8,647		\$30,141		\$4,843		\$42,980		\$0	\$86,611	\$76,551
7		\$9,079		\$31,045		\$5,317		\$47,187		\$0	\$92,628	\$79,873
8		\$9,533		\$31,977		\$5,837		\$51,806		\$0	\$99,152	\$83,413
9		\$10,010		\$32,936		\$6,408		\$56,876		\$0	\$106,230	\$87,188
10		\$10,510		\$33,924		\$7,036		\$62,443		\$0	\$113,913	\$91,214
11		\$11,036		\$34,942		\$7,724		\$68,555		\$0	\$122,257	\$95,507
12		\$11,588		\$35,990		\$8,480		\$75,265		\$0	\$131,323	\$100,087
13		\$12,167		\$37,070		\$9,310		\$82,632		\$0	\$141,179	\$104,975
14		\$12,775		\$38,182		\$10,222		\$90,721		\$0	\$151,899	\$110,191
15		\$13,414		\$39,327		\$11,222		\$99,600		\$0	\$163,564	\$115,758
16		\$14,085		\$40,507		\$12,320		\$109,349		\$0	\$176,261	\$121,702
17		\$14,789		\$41,722		\$13,526		\$120,052		\$0	\$190,090	\$128,049
18		\$15,528		\$42,974		\$14,850		\$131,803		\$0	\$205,156	\$134,827
19		\$16,305		\$44,263		\$16,304		\$144,704		\$0	\$221,576	\$142,067
20		\$17,120		\$45,591		\$17,900		\$158,867		\$0	\$239,478	\$149,800
NET PRESENT WORTH - PROBABLE O&M COSTS (2023 DOLLARS)												\$ 1,961,000

equivalent yearly cost = \$123,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Headworks Influent Fe

PROJECT: City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis **DATE:** 11/13/2023

PROJECT DESCRIPTION:
Decommission Seltice LS and Gravity to Corbin LS w/ Combined FM from West

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	DECOMMISSION SELTICE LS	1	LS	\$25,000	\$25,000
2					
3	GRAVITY SEWER FROM SELTICE LS TO CORBIN LS				
4	12" Gravity Sewer ASTM D3034	6,800	LF	\$75	\$510,000
5	48" Manhole	16	EA	\$10,000	\$160,000
6	Trenching/Bedding	6,800	LF	\$75	\$510,000
7	Shoring	6,800	LF	\$25	\$170,000
8	Utility Coordination/Relocation	1	LS	\$100,000	\$100,000
9	Asphalt Demolition	22,666	SY	\$12	\$271,992
10	Surface Repair	22,666	SY	\$39	\$883,974
11	Core/Connect at Existing Manhole	2	LS	\$5,000	\$10,000
12	Coordination with Property Owners/Temp Access	1	LS	\$75,000	\$75,000
13					
14					
15	CONTROL VALVE VAULT (12th AVE FMs)				
16	Excavation and Backfill				
17	Mass Excavation	512	CY	\$10	\$5,120
18	Materials Processing	169	CY	\$5	\$845
19	Backfill	169	CY	\$25	\$4,224
20	Export Excess Materials Offsite	343	CY	\$15	\$5,146
21	Structural (below grade)				
22	Floor	22	CY	\$600	\$13,200
23	Walls	25	CY	\$1,250	\$31,250
24	Top Slab	14	CY	\$1,500	\$21,000
25	Hatches	2	EA	\$2,500	\$5,000
26	Ladders	2	EA	\$750	\$1,500
27	Process Mechanical				
28	Pothole Existing 14" FM/confirm elevations	1	LS	\$2,500	\$2,500
29	16" DI Pipe (New 12th Ave LS FM)	30	LF	\$985	\$29,550
30	Plug Valves	2	EA	\$10,000	\$20,000
31	Pinch Valve	1	EA	\$15,000	\$15,000
32	Air Release Valve	1	EA	\$5,000	\$5,000
33	Dismantling Joint	1	EA	\$2,500	\$2,500
34	Flex Coupling	2	EA	\$2,500	\$5,000
35	Tap and Drain Valve Assembly	1	EA	\$500	\$500
36	90-degree Bend	2	EA	\$3,375	\$6,750
37	Tee	1	EA	\$5,300	\$5,300
38	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
39	Wall/Floor Penetration	2	EA	\$1,005	\$2,010
40	Reducers (not shown, but likely needed)	1	EA	\$2,750	\$2,750
41	Pipe Supports	3	EA	\$1,000	\$3,000
42	14" DI Pipe (Post Falls B FM Modifications)	30	LF	\$860	\$25,800
43	Plug Valves	2	EA	\$10,000	\$20,000
44	Pinch Valve	1	EA	\$15,000	\$15,000
45	Air Release Valve	0	EA	\$5,000	\$0
46	Dismantling Joint	1	EA	\$2,500	\$2,500
47	Flex Coupling	2	EA	\$2,500	\$5,000
48	Tap and Drain Valve Assembly	1	EA	\$500	\$500
49	90-degree Bend	0	EA	\$2,650	\$0
50	Tee	1	EA	\$4,500	\$4,500
51	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
52	Wall/Floor Penetration	2	EA	\$750	\$1,500

53	Reducers	0	EA	\$0	\$0
54	Pipe Supports	3	EA	\$1,000	\$3,000
55	Site Grading				
56	Surface Repair/Asphalt Patching	1	LS	\$5,000	\$5,000
57	Bollards (not shown, but likely required)	2	EA	\$1,000	\$2,000
58	Electrical				
59	Percentage of Valve Vault Process Mechanical Work			35%	\$65,681
60					
61	FM EXTENSION FROM CHASE RD TO WRF				
62	16" 12th Ave LS FM (from valve vault to Chase)				
63	16" PVC C-900 Pipe	4,500	LF	\$150	\$675,000
64	90-deg bends	1	EA	\$3,375	\$3,375
65	45-deg bends	7	EA	\$2,700	\$18,900
66	Couplings	5	EA	\$3,500	\$17,500
67	Megalug Thrust Restraints	16	EA	\$2,500	\$40,000
68	Trenching/Bedding	4,500	LF	\$50	\$225,000
69	Traffic Control	1	LS	\$50,000	\$50,000
70	Asphalt Demolition	7,750	SY	\$6	\$46,500
71	Asphalt Repair	7,750	SY	\$39	\$302,250
72	Concrete Removal (Seltice only)	138	SY	\$6	\$828
73	Shoring at WRF FM crossing	1	LS	\$25,000	\$25,000
74	Utility Coordination/Relocation	1	LS	\$15,000	\$15,000
75	Existing Sewer Abandonment/Demolition	1	LS	\$50,000	\$50,000
76	Fence/Surface Repair	1	LS	\$10,000	\$10,000
77					
78	COMBINED FMs FROM CORBIN RD TO WRF				
79	20" FM to WRF				
80	20" DI Pipe	0	LF	\$1,302	\$0
81	20" PVC C-900 Pipe	4,500	LF	\$200	\$900,000
82	90-deg bends	2	EA	\$10,000	\$20,000
83	45-deg bends	17	EA	\$5,500	\$93,500
84	Plug Valve	0	EA	\$15,000	\$0
85	Flex Coupling	4	EA	\$5,000	\$20,000
86	Flanges	0	EA	\$2,900	\$0
87	Megalug Thrust Restraints	38	EA	\$5,000	\$190,000
88	Asphalt Demolition	7,750	SY	\$12	\$93,000
89	Asphalt Repair	7,750	SY	\$39	\$302,250
90	Traffic Control	1	LS	\$50,000	\$50,000
91	18" FM to WRF				
92	18" DI Pipe	0	LF	\$1,555	\$0
93	18" PVC C-900 Pipe	4,500	LF	\$175	\$787,500
94	90-deg bends	2	EA	\$3,500	\$7,000
95	45-deg bends	17	EA	\$2,800	\$47,600
96	Plug Valve	0	EA	\$12,500	\$0
97	Flex Coupling	4	EA	\$2,500	\$10,000
98	Flanges	0	EA	\$2,350	\$0
99	Megalug Thrust Restraints	38	EA	\$2,500	\$95,000
100	Asphalt Demolition	7,750	SY	\$12	\$93,000
101	Asphalt Repair	7,750	SY	\$39	\$302,250
102	Traffic Control	1	LS	\$50,000	\$50,000
103					
104	MANIFOLD AT WRF				
105	36" DI Pipe	20	LF	\$3,015	\$60,300
106	36" PVC C-900 Pipe	135	LF	\$300	\$40,500
107	90-deg bends	2	EA	\$39,000	\$78,000
108	45-deg bends	0	EA	\$32,000	\$0
109	Tees	2	EA	\$48,000	\$96,000
110	Plug Valve	6	EA	\$25,000	\$150,000
111	Flex Coupling	4	EA	\$10,000	\$40,000
112	Flanges	12	EA	\$18,000	\$216,000
113	Megalug Thrust Restraints	8	EA	\$10,000	\$80,000
114	Reducers	4		\$30,000	\$120,000
115	Asphalt Demolition	50	SY	\$6	\$300
116	Asphalt Repair	50	SY	\$39	\$1,950
117	Utility Coordination/Relocation	1	LS	\$10,000	\$10,000
118	Landscape/Surface Repair in WRF	1	LS	\$15,000	\$15,000

119					
120					
121					
122					-
123	Additional Elements (estimated % of above)				-
124	Contractor mobilization and administration			10.0%	\$851,000
125	Yard Piping			0.0%	\$0
126	Site Civil			0.0%	\$0
127	Electrical and instrumentation			0.0%	\$0
128	Bonding			4.0%	\$340,000
129	Contractor overhead and profit			10.0%	\$851,000
SUBTOTAL					\$ 10,554,000
Construction Contingency: 30%					\$ 3,166,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 1,029,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 2,950,000
Legal and Administrative:1%					\$ 147,000
Escalation Allowance:%					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 17,846,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

PROJECT: City of Post Falls WRF Facility Plan - Headworks Feasibility											DATE: 11/13/2023	
PROJECT DESCRIPTION: O&M Cost for Existing Seltice LS Option (Deduct if Decommissioned)												
CLIENT: City of Post Falls												
P/N: 20-22-019												
	Equipment Maintenance		Labor		Electrical Use - Heat		Electrical Use - Pumping		Other		Present Worth	
	Capital Cost Eqpt	\$165,000	Hours per day	1	Year 1 Kw-hr demand	0	Year 1 HP demand	30	Year 1 Cost	\$0		
	Maintenance / yr	2.0%	Cost per hour	\$50	Cost per kW-hr	\$0.11	Cost per kW-hr	\$0.11				
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	1.50%	Discount Rate	
					Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%	2.5%	
Year	Cost in Year i		Cost in Year i		Cost in Year i		Cost in Year i		Cost in Year i		Total by Year	Present Worth
1		\$3,300		\$13,000		\$0		\$10,778		\$0	\$27,078	\$27,078
2		\$3,465		\$13,390		\$0		\$11,833		\$0	\$28,688	\$27,989
3		\$3,638		\$13,792		\$0		\$12,992		\$0	\$30,422	\$28,956
4		\$3,820		\$14,205		\$0		\$14,263		\$0	\$32,289	\$29,983
5		\$4,011		\$14,632		\$0		\$15,659		\$0	\$34,302	\$31,076
6		\$4,212		\$15,071		\$0		\$17,192		\$0	\$36,474	\$32,238
7		\$4,422		\$15,523		\$0		\$18,875		\$0	\$38,820	\$33,474
8		\$4,643		\$15,988		\$0		\$20,722		\$0	\$41,354	\$34,790
9		\$4,876		\$16,468		\$0		\$22,751		\$0	\$44,094	\$36,190
10		\$5,119		\$16,962		\$0		\$24,977		\$0	\$47,059	\$37,681
11		\$5,375		\$17,471		\$0		\$27,422		\$0	\$50,268	\$39,270
12		\$5,644		\$17,995		\$0		\$30,106		\$0	\$53,745	\$40,962
13		\$5,926		\$18,535		\$0		\$33,053		\$0	\$57,514	\$42,765
14		\$6,223		\$19,091		\$0		\$36,288		\$0	\$61,602	\$44,687
15		\$6,534		\$19,664		\$0		\$39,840		\$0	\$66,038	\$46,737
16		\$6,860		\$20,254		\$0		\$43,740		\$0	\$70,854	\$48,922
17		\$7,203		\$20,861		\$0		\$48,021		\$0	\$76,086	\$51,253
18		\$7,564		\$21,487		\$0		\$52,721		\$0	\$81,772	\$53,740
19		\$7,942		\$22,132		\$0		\$57,882		\$0	\$87,955	\$56,394
20		\$8,339		\$22,796		\$0		\$63,547		\$0	\$94,681	\$59,226
NET PRESENT WORTH - PROBABLE O&M COSTS (2023 DOLLARS)											\$	803,000

equivalent yearly cost = \$50,000

Opinion of Probable Cost for Headworks and Influent Piping Modifications Selected Alternative

Note:

The costs for these projects are revisions to the previous Collection System Master plan costs and are reflected in the updated overall Collection System Capital Improvement Plan (CIP), contained herein.

These costs were prepared following the Headworks Analysis TM to separate the identified scope of work for the projects to be located in the Seltice Way WRF frontage corridor directly connecting into the WRF.

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

PROJECT:		DATE: 1/1/2024			
City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis					
PROJECT DESCRIPTION:					
DUAL 20" Combine FM from West (WRF TO MCGUIRE)					
CLIENT:					
City of Post Falls					
P/N: 20-22-019					
ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	COMBINED FMs FROM CORBIN RD TO WRF				
3	20" FM to WRF				
4	20" DI Pipe (at intertie	5	LF	\$1,302	\$6,510
5	20" PVC C-900 Pipe	1,800	LF	\$200	\$360,000
6	90-deg bends	2	EA	\$10,000	\$20,000
7	45-deg bends	8	EA	\$5,500	\$44,000
8	Plug Valve	0	EA	\$15,000	\$0
9	Flex Coupling	4	EA	\$5,000	\$20,000
10	Flanges	0	EA	\$2,900	\$0
11	Megalug Thrust Restraints	20	EA	\$2,500	\$50,000
12	Trenching/Bedding	1,800	LF	\$65	\$117,000
13	20" FM to WRF				
14	20" DI Pipe	5	LF	\$1,302	\$6,510
15	20" PVC C-900 Pipe	1,800	LF	\$200	\$360,000
16	90-deg bends	2	EA	\$10,000	\$20,000
17	45-deg bends	8	EA	\$5,500	\$44,000
18	Plug Valve	0	EA	\$15,000	\$0
19	Flex Coupling	4	EA	\$5,000	\$20,000
20	Flanges	0	EA	\$2,900	\$0
21	Megalug Thrust Restraints	20	EA	\$2,500	\$50,000
22	Trenching/Bedding	1,800	LF	\$65	\$117,000
23	SURFACE REPAIR				
24	Asphalt Demolition	4,800	SY	\$10	\$48,000
25	Asphalt Repair	4,800	SY	\$40	\$192,000
26	Traffic Control	1	LS	\$50,000	\$50,000
27					
28	MANIFOLD AT WRF				
29	36" Pipe				
30	36" DI Pipe	20	LF	\$3,000	\$60,000
31	36" PVC C-900 Pipe	135	LF	\$300	\$40,500
32	90-deg bends	1	EA	\$25,000	\$25,000
33	11.25 to 45-deg bends	2	EA	\$15,000	\$30,000
34	Tees	3	EA	\$30,000	\$90,000
35	Plug Valve (36")	3	EA	\$25,000	\$75,000
36	Plug Valve (branch)	4	EA	\$15,000	\$60,000
37	Flex Coupling	4	EA	\$10,000	\$40,000
38	FCA	2	EA	\$18,000	\$36,000
39	Megalug Thrust Restraints	12	EA	\$10,000	\$120,000
40	Reducers	4	EA	\$7,500	\$30,000
41	24" Pipe				
42	24" PVC interconnection Loop	100	LF	\$275	\$27,500
43	24" 90 ELL	2	EA	\$25,000	\$50,000
44	24" Coupling	1	EA	\$7,500	\$7,500
45	SURFACE REPAIR				
46	Asphalt Demolition	50	SY	\$10	\$500
47	Asphalt Repair	50	SY	\$40	\$2,000
48	Utility Coordination/Relocation	1	LS	\$10,000	\$10,000
49	Landscape/Surface Repair in WRF	1	LS	\$15,000	\$15,000
50					
51					
52	Additional Elements (estimated % of above)				-
53	Contractor mobilization and administration			10.0%	\$224,000

54	Yard Piping			0.0%	\$0
55	Site Civil			0.0%	\$0
56	Electrical and instrumentation			0.0%	\$0
57	Bonding			4.0%	\$90,000
58	Contractor overhead and profit			10.0%	\$224,000
SUBTOTAL					\$ 2,782,000
Construction Contingency: 30%					\$ 835,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 271,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 778,000
Legal and Administrative:1%					\$ 39,000
Escalation Allowance:%					-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 4,705,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

PROJECT: City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis **DATE:** 12/21/2023

PROJECT DESCRIPTION:
12th Ave FMs from Chase to WRF (as opposed to planned tie-in at Chase)

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	CONTROL VALVE VAULT (12th AVE FMs)				
2	Excavation and Backfill				
3	Mass Excavation	512	CY	\$25	\$12,800
4	Materials Processing	169	CY	\$5	\$845
5	Backfill	169	CY	\$25	\$4,224
6	Export Excess Materials Offsite	343	CY	\$15	\$5,146
7	Structural (below grade)				
8	Floor	22	CY	\$600	\$13,200
9	Walls	25	CY	\$1,250	\$31,250
10	Top Slab	14	CY	\$2,500	\$35,000
11	Hatches	2	EA	\$2,500	\$5,000
12	Ladders	2	EA	\$750	\$1,500
13	Process Mechanical (localized to vault)				
14	16" DI Pipe (New 12th Ave LS FM)	30	LF	\$985	\$29,550
15	Plug Valves	2	EA	\$10,000	\$20,000
16	Pinch Valve	1	EA	\$15,000	\$15,000
17	Air Release Valve	1	EA	\$5,000	\$5,000
18	Dismantling Joint	1	EA	\$2,500	\$2,500
19	Flex Coupling	2	EA	\$2,500	\$5,000
20	Tap and Drain Valve Assembly	1	EA	\$500	\$500
21	90-degree Bend	2	EA	\$3,375	\$6,750
22	Tee	1	EA	\$5,300	\$5,300
23	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
24	Wall/Floor Penetration	2	EA	\$1,005	\$2,010
25	Reducers (not shown, but likely needed)	1	EA	\$2,750	\$2,750
26	Pipe Supports	3	EA	\$1,000	\$3,000
27	12" DI Pipe (New 12th Ave LS FM)	30	LF	\$860	\$25,800
28	Plug Valves	2	EA	\$8,000	\$16,000
29	Pinch Valve	1	EA	\$12,000	\$12,000
30	Air Release Valve	0	EA	\$5,000	\$0
31	Dismantling Joint	1	EA	\$2,500	\$2,500
32	Flex Coupling	2	EA	\$2,500	\$5,000
33	Tap and Drain Valve Assembly	1	EA	\$500	\$500
34	90-degree Bend	0	EA	\$2,650	\$0
35	Tee	1	EA	\$4,500	\$4,500
36	Pressure Switch/Instrumentation	1	LS	\$5,000	\$5,000
37	Wall/Floor Penetration	2	EA	\$750	\$1,500
38	Reducers	0	EA	\$0	\$0
39	Pipe Supports	3	EA	\$1,000	\$3,000
40	Site Grading				
41	Surface Repair/Asphalt Patching	1	LS	\$20,000	\$20,000
42	Bollards (not shown, but likely required)	2	EA	\$1,000	\$2,000
43	Electrical				
44	Percentage of Valve Vault Process Mechanical Work			35%	\$62,356
45					
46	FMs FROM CHASE RD TO WRF				
47	12" 12th Ave LS FM (from valve vault to Chase)				
48	12" PVC C-900 Pipe	4,400	LF	\$120	\$528,000
49	90-deg bends	2	EA	\$1,500	\$3,000
50	45-deg bends	7	EA	\$1,275	\$8,925
51	Couplings	5	EA	\$2,500	\$12,500
52	Megalug Thrust Restraints	18	EA	\$3,500	\$63,000
53	Trenching/Bedding	4,400	LF	\$40	\$176,000

54	16" 12th Ave LS FM (from valve vault to Chase)				
55	12" PVC C-900 Pipe	4,400	LF	\$130	\$572,000
56	90-deg bends	2	EA	\$1,500	\$3,000
57	45-deg bends	7	EA	\$1,275	\$8,925
58	Couplings	5	EA	\$2,500	\$12,500
59	Megalug Thrust Restraints	18	EA	\$3,500	\$63,000
60	Trenching/Bedding	4,400	LF	\$50	\$220,000
61					
62	Shoring at WRF FM crossings	1	LS	\$25,000	\$25,000
63	Utility Coordination/Relocation	1	LS	\$50,000	\$50,000
64	Fence/Misc Surface Repair	1	LS	\$10,000	\$10,000
65	SURFACE REPAIR				
66	Traffic Control	1	LS	\$50,000	\$50,000
67	Surface Demo	11,733	SY	\$10	\$117,333
68	Surface Repair	11,733	SY	\$40	\$469,333
69					
70					
71	TIE-IN AT 36" MANIFOLD (MANIFOLD INCLUDED IN COST FROM WEST)				
72	36" Additional Manifold Components Required				
73	Tees	2	EA	\$30,000	\$60,000
74	Flex Coupling	1	EA	\$10,000	\$10,000
75	Flanges	2	EA	\$18,000	\$36,000
76	Megalug Thrust Restraints	2	EA	\$10,000	\$20,000
77	Reducers	2	EA	\$7,500	\$15,000
78	12" Piping Between Manifold and Valve Vault				
79	12" DI Pipe	5	LF	\$670	\$3,350
80	12" PVC C-900 Pipe	75	LF	\$125	\$9,375
81	90-deg bends	3	EA	\$1,500	\$4,500
82	Valve	1	EA	\$8,000	\$8,000
83	16" Piping Between Manifold and Valve Vault				
84	16" DI Pipe	5	LF	\$860	\$4,300
85	16" PVC C-900 Pipe	75	LF	\$150	\$11,250
86	90-deg bends	3	EA	\$2,250	\$6,750
87	Valve	1	EA	\$10,000	\$10,000
88					-
89	Additional Elements (estimated % of above)				-
90	Contractor mobilization and administration			10.0%	\$255,000
91	Yard Piping			0.0%	\$0
92	Site Civil			0.0%	\$0
93	Electrical and instrumentation			0.0%	\$0
94	Bonding			4.0%	\$117,000
95	Contractor overhead and profit			10.0%	\$292,000
				SUBTOTAL	\$ 3,627,000
				Construction Contingency: 30%	\$ 1,088,000
				Geotechnical/Site Stabilization: N/A	-
				Prevailing Wages: 7.5%	\$ 354,000
				State Sales Tax: N/A	-
				Design / CMS: 20%	\$ 1,014,000
				Legal and Administrative: 1%	\$ 51,000
				Escalation Allowance: %	\$ -
				TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)	\$ 6,134,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

PROJECT:			DATE:			1/1/2024		
City of Post Falls WRF Facility Plan - Headworks Feasibility Analysis								
PROJECT: 20" Reuse Line from Streets' Dept Road (PW Way) to Chase Rd.								
20								
CLIENT:								
City of Post Falls								
P/N: 20-22-019								
ITEM NO.	DESCRIPTION	QNTY	UNIT	UNIT PRICE	TOTAL COST			
1								
2	20" PVC C-900 Purple Pipe							
3	20" PVC C-900 Pipe	2,750	LF	\$200	\$550,000			
4	90-deg bends	2	EA	\$10,000	\$20,000			
5	45-deg bends	6	EA	\$5,500	\$33,000			
6	Megalug Thrust Restraints	16	EA	\$2,500	\$40,000			
7	8" PVC C-900 Purple Pipe (Seltice Crossing)							
8	8" PVC C-900 Pipe	150	LF	\$75	\$11,250			
9	90-deg bends	0	EA	\$2,500	\$0			
10	45-deg bends	0	EA	\$1,500	\$0			
11	Plug Valve	0	EA	\$3,000	\$0			
12	Flex Coupling	0	EA	\$1,500	\$0			
13	FCA	0	EA	\$1,500	\$0			
14	Megalug Thrust Restraints	2	EA	\$1,000	\$2,000			
15	Trenching/Bedding	2,750	LF	\$45	\$123,750			
16								
17								
18	SURFACE REPAIR							
19	Concrete Removal (Seltice Crossing only)	138	SY	\$6	\$828			
20	Asphalt Demolition	4,583	SY	\$10	\$45,833			
21	Asphalt Repair	4,583	SY	\$40	\$183,333			
22	Traffice Control	1	LS	\$25,000	\$25,000			
23								
24								
25	Additional Elements (estimated % of above)							
26	Contractor mobilization and administration			10.0%	\$103,000			
27	Yard Piping			0.0%	\$0			
28	Site Civil			0.0%	\$0			
29	Electrical and instrumentation			0.0%	\$0			
30	Bonding			4.0%	\$41,000			
31	Contractor overhead and profit			10.0%	\$103,000			
SUBTOTAL					\$	1,282,000		
Construction Contingency: 30%					\$	385,000		
Geotechnical/Site Stabilization: N/A						-		
Prevailing Wages: 7.5%					\$	125,000		
State Sales Tax: N/A						-		
Design / CMS: 20%					\$	358,000		
Legal and Administrative:1%					\$	18,000		
Escalation Allowance:%					\$	-		
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$	2,168,000		

CHAPTER 6

ALTERNATIVES TO MEET FACILITY GOALS: SOLIDS STREAM

City of Post Falls WRF Facility Plan

May 2024

Prepared by:



J·U·B ENGINEERS, INC.

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6 ALTERNATIVES TO MEET FACILITY GOALS: SOLIDS STREAM

6.1 Introduction

Biosolids management is a broad term that covers all aspects of handling, treatment, and ultimate disposal. A workshop was conducted in April 2023 with the planning team including engineers and various members from City management and WRF operations staff. Multiple biosolids treatment, handling, and disposal/reuse approaches were reviewed at a cursory level against the long term-planning goals of the City. From that workshop, a short-list of potentially viable alternatives with varying end-goals were developed for more detailed consideration and evaluation. The result was four primary biosolids management alternatives that were shortlisted for evaluation and are summarized below:

- **Alternative 1** looks at the current biosolids disposal option of Barr Tech with and without thickening and additional dewatering facilities through the planning period.
- **Alternative 2** reviews a Class B land application on City property with primary clarification, sludge thickening, mesophilic digestion, and additional dewatering.
- **Alternative 3** looks at Class A land application on City property using thickening, heat drying and additional dewatering.
- **Alternative 4** reviews Class A land application using composting and additional dewatering.

Each option is reviewed based on both monetary and non-monetary factors and given a weighted score. The alternatives are then ranked with the most favorable alternative having the highest score.

The existing solids handling facilities were described and evaluated in **Chapter 4**. For convenience, the information is again briefly summarized.

Excess sludge (WAS) is wasted from the secondary clarifiers and pumped into two aerated sludge holding tanks where it is held until it is dewatered. The WAS is not digested (i.e., volatile solids reduction). This is desirable from the standpoint of the biological phosphorus removal process, but it can result in odors problems if the dewatered sludge is stockpiled for even short periods of time. Soon, alum sludge from the Tertiary Clarifier will be pumped to the sludge storage tanks and mixed with the WAS. At 0.5% concentration, approximately 40,000 gpd of additional sludge will need to be disposed of.

The sludge is dewatered by two belt filter presses. The sludge is dewatered as soon as possible to minimize the release of phosphorus. Holding time before dewatering is typically less than 3 days. Currently sludge is dewatered 7 days per week. Sludge Storage could be used to allow a 5 day per week dewatering schedule.

The belt filter presses produce a sludge cake typically consisting of 15 percent solids. Dewatered sludge is stored in a loadout hopper or under a canopy cover until it is picked up by the disposal contractor.

The current disposal contractor operates a composting operation west of Spokane near Fishtrap, WA.

6.2 Design Criteria

Biosolids Characteristics

The projected annual WAS sludge production for the next 20-year design period is shown in **Table 6-1**. The projection was made using peak week WAS flows that are anticipated to grow through the planning period and adding 0.5 percent alum sludge flow. Alum sludge is anticipated to account for 40,000 gpd by 2042 and 0.8 percent WAS will account for 339,000 gpd in year 2042.

Historically, biological sludge that is held beyond 48 to 72 hours can begin to release phosphorus from the biosolids and can begin re-entering the biological system through the pressate/filtrate during dewatering. Targeting a shorter holding time of 1-day with another day of buffer (2-day total storage volume) allows for some flexibility in dewatering schedules.

It should be noted that alum sludge projections are based on anticipated operation of the tertiary clarification and membrane filtration systems that are not yet operational. Sludge production including anticipated solids concentration, volume, and changes impacted by chemical coagulant dose could be evaluated upon startup to improve anticipated solids handling design criteria.

In Alternative 2 only, two overarching assumptions were made for the analysis: approximately 20,000 gpd of 6% primary sludge will be generated from the implementation of primary clarifiers. The use of primary clarifiers is also assumed to reduce the WAS (mass) by 25 percent.

Table 6-1 – Annual WAS Flows

Year	Peak Week WAS Flow, gpd
2022	139,000
2023	145,338
2024	151,966
2025	158,895
2026	166,141
2027	173,717
2028	181,638
2029	189,921
2030	198,581

2031	207,637
2032	217,105
2033	227,005
2034	237,356
2035	248,180
2036	259,497
2037	271,330
2038	283,703
2039	296,639
2040	310,166
2041	324,310
2042	339,098

For biosolids to be beneficially used via land application, federal and state regulatory criteria must be met for metals concentrations, pathogen reduction, and vector attraction reduction (VAR).

Nine metals are regulated in biosolids that are land applied:

- arsenic
- cadmium
- copper
- lead
- mercury
- molybdenum
- nickel
- selenium
- zinc

If these metals are below specific threshold concentrations in 40 CFR 503.13 Table 3, it is not necessary to track metals loading rates at end-use sites, reference Part 503 requirements **(Appendix 6-A)**.

Biosolids that are publicly distributed or land-applied must also meet federal and state requirements for either Class A or Class B pathogen reduction; there are several methods to achieve and test for both. Class A requires additional testing for fecal coliform (FC), or Salmonella must be less than 3 MPN/4gon a dry weight basis. To meet pathogen reduction requirements, one of the EPA's six alternatives for treating the biosolids must be met.

To be considered Class B biosolids, the FC geometric mean of seven grab samples must be less than 2,000,000 MPN/g on a dry weight basis. IF FC concentrations are too high, Class B pathogen

reduction requirements can be met using one of five treatment processes to significantly reduce pathogens.

Class A biosolids qualify for public distribution and unrestricted use, while Class B biosolids are suitable only for land application requiring additional management practices. To meet pathogen limits, Post Falls will have to provide additional biosolids treatment to meet either Class A or Class B pathogen limits. The current biosolids at the plant are unclassified.

Class A or Class B biosolids that are publicly distributed or beneficially land applied must also meet VAR requirements, which is a determination of biosolids stability. Twelve options are available to determine if the biosolids meet the VAR requirement according to 40 CFR 503.33. If land application is selected, the City will have to provide additional biosolids treatment to meet VAR limits.

In addition to meeting criteria for metals, pathogen reduction, and VAR requirements, biosolids not publicly distributed that are beneficially used must be applied at agronomic rates so that plant available nutrient requirements for the crop or landscaping plants are not exceeded. If land application is the selected option, The IDEQ Guidance for Land Application of Municipal Biosolids requires the City to ensure the biosolids are land applied at nutrient agronomic rates.

6.3 Alternatives Descriptions

6.3.1 Alternatives 1 (A, B and C) - Barr Tech Disposal

This group of sub-alternatives is considered the baseline alternative because they are very similar to the current practice. WAS and alum sludge can be pumped to the two aerated holding tanks either thickened or unthickened. The storage tanks are sized based on an approximate 2-day detention time (to reduce biosolids phosphorus release) at 2042 peak week flows. The sludge is then pumped to dewatering. Dewatering is achieved using belt filter presses or centrifuges. Dewatered sludge would be hauled away and disposed of by a Contractor at a price of \$74.08 per wet ton (2023 cost). This alternative will not produce a Class A or B biosolids at the treatment plant. The potential for odors is high based on the short (young) sludge age; however, the facility attempts to control odors with aeration of liquid sludge holding tanks as well as dewatering while maintaining aerobic sludge conditions. Additionally, storage of pressed solids is contained within an enclosed facility with managed odor control systems.

6.3.2 Alternative 1A Holding Tanks with Unthickened Sludge, Dewatering, and Contract Hauling and Disposal

The existing two Holding Tanks do not have enough capacity to allow 5 day per week dewatering (i.e., 2 days minimum storage) through the design period. The existing No. 1 and 2 Holding Tanks have 120,000 and 220,000-gallon capacities respectively, making a total volume of 340,000 gallons. The future tank storage capacity must more than double the existing capacity to obtain a 2-day detention time (to reduce biosolids phosphorus release) at future peak week flows. The holding tanks must be aerated to prevent odors and mix the tanks. The aeration system and pumps would have to double in

size as well. Two days of storage is not enough capacity to provide time to maintain and repair the sludge dewatering equipment. Therefore, a spare dewatering unit is necessary.

At the future average WAS concentration of 8,000 mg/l, assuming 0.5% alum sludge, the required total tank volume would be 758,000 gallons. The smaller (Sludge Holding Tank 1) of the two existing tanks would be demolished and one new larger tank would be built in its place, matching Sludge Holding Tank 2. Additionally, Secondary Clarifiers No. 1 and No. 2 (no longer required) would be converted to Sludge Holding tanks, providing an additional 175,000 gallons of storage each. New aeration grids and blowers would be required. **Table 6-2** shows the Design Criteria for the Holding Tanks.

Table 6-2 – 2042 Holding Tank with Unthickened Sludge Design Criteria

Description	Number
Future Peak Week Flow, gpd	379,000
Hydraulic Detention Time, days	2
Number of Tanks	Demo and Replace SHT 1 with a new 220,000-gallon tank. Retain SHT 2, Convert SC 1 to SHT 3, Convert SC 2 to SHT 4
Tank volume, required, gals	758,000
Tank volume provided	~790,000 gallons
Effluent Pumps (dewatering system feed)	3@325 gpm, 3@250
Feed Solids, %	0.8
Feed Solids, lb/d total	25,317
Volatile solids fraction	78%
Volatile solids reduction, total	2546 lb/d
Oxygen reqd at 2.3 # O ₂ /lb VSR, total	5,855 lb/d
Air reqd at 2.3 # O ₂ /lb VSR, total	258 acfm
Mixing Air-20 scfm/1000cf, total	1497 scfm
Blowers	3@ 600scfm 3@475 scfm

Sludge Dewatering

Sludge dewatering is a physical operation used to reduce the moisture content of the sludge for the following reasons.

- to reduce the cost of trucking the sludge to the ultimate disposal site
- dewatering is required if further treatment processes after dewatering are to be used

The aerobic, undigested waste sludge at the Post Falls treatment plant does not dewater easily. The average total solids concentration achieved by the existing belt filter presses at Post Falls is 15 percent. This includes the gravity belt thickening and is typical for WAS sludge and aerobically digested sludge. The addition of the alum sludge will detract from performance slightly and is predicted to have a 1 percent drop in percent solids to 14 percent. Anaerobically digested sludge will increase the percent solids and is predicted to have a 2 percent increase in percent solids to 16 percent.

There are several methods or techniques available for dewatering. Three methods commonly used and evaluated here are the belt filter press, the screw press, and the centrifuge.

Belt filter Press

A belt filter press (BFP) is a continuously fed device that presses the sludge between two porous belts, allowing the water to be removed. It is a predominant method of sludge dewatering in the United States and is the method currently used at the Post Falls treatment plant.

Centrifuge

A centrifuge can be used to dewater sludge by centrifugal force typically 50 to 300 times that of gravity. The solid bowl scroll centrifuge is the most widely used type. It rotates along a horizontal axis and operates in a continuous feed mode. It consists of a rotating bowl having a cylindrical, conical shape and an internal screw conveyor. Sludge is introduced into the rotating bowl and the solids concentrate on the periphery. The screw conveyor spinning at a slightly different speed moves the solids to the discharge end.

Centrifuges generally perform very well on anaerobically digested sludge. Cake solids up to 20 percent are a reasonable expectation. Performance of 14 percent to 15 percent is typical for sludge that has been aerobically digested or that has not been digested. However, we have received a quote from Andritz, a centrifuge manufacturer, indicating their centrifuge could dewater WAS plus alum solids to 17 percent. Centrifuge performance is expected to have a 1-2% increase over belt filter press performance.

Screw Press

The screw press operates by blending polymer into the sludge in a flocculation reactor. Flocculated sludge then flows into the screw press that includes a conical wedge wire screen basket and a slowly rotating screw driven by a VFD. The sludge is driven through the center of the screen basket by the screw. Water drains by gravity through the screen basket. The screw flights have brushes for continuous internal cleaning of the screen basket and periodically the outside of the screen basket is cleaned with a water spray. The screw pushes dewatered sludge to the upper end of the basket where it is compressed against a pressure cone to maximize dewatering performance before being discharged. A screw press has a relatively slow feed rate.

The plant personnel are familiar with belt presses so they will be included in Alternatives 1A and 1B. Alternative 1C reviews centrifuges to determine if cost savings are available using centrifuges instead of belt presses.

The existing Andritz belt filter press has approached its design life and will be replaced by newer equipment. This option would require 3 duty belt filter presses and one standby. **Table 6-3** shows the Design Criteria for Dewatering.

Table 6-3 – Dewatering Design Criteria

Number of Belt Filter Presses	3/1
Daily Hours of belt operation (7d/wk)	5.5
Cake Solids, %	14
Year 1 Polymer Usage, #/d@12#/DT, ADF	36
Year 20 Polymer Usage, #/d @ 12#/DT, ADF	50
Year 1 cake production, wt/d, ADF	21
Year 20 cake production, wt/d, ADF	28

Contracting for Hauling and Disposal Services

This disposal method is currently used by the City. The City pays a Contractor (BarrTech) to pick up, haul away, and dispose of the sludge for \$74.08 per wet ton (2023 contract price). This disposal method is used whether or not the sludge is thickened, and regardless of dewatering method used.

This disposal method requires the following:

- The sludge provided to the Contractor meets the concentration limits for pollutants as required by the Part 503 rule.
- The sludge must meet the requirements for vector attraction reduction or pathogen reduction required by the Part 503 rule. The sludge produced by the WRF currently does not meet the requirements for vector attraction reduction or pathogen reduction at the treatment plant. It would be the Contractor's responsibility to meet the vector attraction reduction requirements and pathogen reduction methods listed in the Part 503 rule'.

For this alternative to be successful, the Contractor must recognize the potential for odors and have a plan and operation to minimize or treat them. The previous Contractor (prior to BarrTech) utilized by Post Falls could not successfully manage the odors. Their operation was suspended by the State and Post Falls was left in a difficult situation having no alternative option for sludge disposal.

Since the cost of disposal is based on a wet ton, this option is sensitive to the performance of the sludge dewatering.

Capital and O&M Costs are found in **Table 6-16** in **Section 6.4**. Detailed Cost Opinions are included in **Appendix 6-B**.

6.3.3 Alternative 1B Holding Tanks with Thickening and Belt Press Dewatering

The solids content of the waste activated sludge from the clarifiers is relatively dilute. The alum sludge will further dilute the WAS. Thickening is a procedure to increase the solids content of the sludge by removing some of the water fraction. The thickened sludge then requires less tank volume and is generally easier to further process and dewater.

Thickening the WAS to 4% reduces the required tank volume to obtain a 2-day detention using only Holding tank 2 over the 20-year period. Common methods of sludge thickening are gravity settling, flotation thickening, a rotary drum thickener, a centrifuge, and a gravity belt thickener.

Gravity settling is accomplished in a tank like a clarifier. This method was not evaluated because there is a potential for phosphorus to be released from the thickened sludge.

In flotation thickening, dissolved air is introduced into the sludge under pressure. When the solution is depressurized, the dissolved air is released as very fine bubbles that float the sludge solids to the top where they are skimmed off. Since this process is aerobic it is compatible with the BPR process. However, it is relatively complex and expensive compared to other options.

Rotary drum thickening works by filtering the biosolids through polyester clothes inside a rotating drum. It is mechanically simple, has a low capital cost, has a relatively small footprint, low power consumption, and is enclosed to control odors. This option is compatible with the BPR process.

Centrifuges rely on high rotating speeds to separate the biosolids from the water. Centrifuges are enclosed to minimize odor, have low operator attention requirements, lower polymer consumption, and low wash water requirements. Centrifuges are compatible with the BPR process. Centrifuges have high capital and O&M costs.

Gravity Belt thickeners work by passing sludge across a flat porous belt that allows the water to pass through to drain. The thickened solids are conveyed across the belt to a discharge hopper. Gravity belt thickeners are inexpensive, operators are familiar with this technology, relatively simple to operate, and has a low power consumption. However, belt thickeners can be sensitive to variation in sludge feed rates, grease and oils can cause blinding, require a hood for odor control, have high wash water requirements, and require a relatively large footprint. Gravity belt thickeners are also aerobic and would be compatible with the BPR process.

Of these methods, the Rotary Drum Thickener (RDT) was considered because it is the least expensive, requires less operation attention, and has the smallest footprint.

WAS is wasted at 30-minute intervals, 7 days a week. At 2042 peak week sludge flows, one duty and one standby RDT is needed to process the WAS and alum sludges. Sizing is based on a 24-hour, seven day a week schedule to match the sludge wasting schedule. A WAS storage tank with a 1-hour detention time is provided so that WAS feed to the thickeners is continuous. One duty, one standby Thickener feed pumps would feed the thickeners. Sludge would be thickened to 4 percent, then a TWAS pump would convey thickened sludge to Holding tank 2. Holding tank 1 would no longer be needed and could be taken out of service or converted to the WAS storage tank for equalization prior to thickening. Tank effluent pumps would be upsized and pump to dewatering. Blowers would be upsized for Tank 2. Three duty plus one standby belt presses would be required for dewatering. **Table 6-4** shows the Design Criteria for the Holding tanks with thickened sludge and Belt Filter Press dewatering.

Table 6-4 – 2042 Holding Tank with Thickened Sludge Design Criteria

Description	Number
Peak Week Flow, gpd	379,000
WAS Storage Tank	16,000 gal minimum
Thickener Feed Pumps	2@ 265 gpm
Rotary Drum thickener	1 duty, 1 standby
Operating Period	24 hours, 7 days per week
Thickened Sludge, % solids	4.0
TWAS Pumps	2 @ 75 gpm
Tank 2 Volume	220,000 gallons
Thickened Sludge Flow	71,500 gpd
Hydraulic Detention Time, days	3.0
Effluent Pumps	2 @ 275 gpm
Feed Solids, %	4.0
	24,052 dry lb/d
Oxygen reqd at 2.3 # O ₂ /lb VSR	3391 lb/d
Air reqd for VSR/Odor Control	150 acfm
Mixing Air-30 scfm/1000cf	900 scfm
Blowers	2@900 scfm
Number of Belt Presses, duty/standby	3/1
Daily Hours of belt operation (7d/wk)	5.6
Cake Solids, %	15
Year 1 Polymer Usage, #/d@12#/DT, ADF	41

Description	Number
Year 20 Polymer Usage, #/d@12#/DT, ADF	199
Year 1 cake production, wt/d, ADF	19
20 year cake production, wt/d, ADF	48

Costs

Capital and O&M Costs are found in **Table 6-16** in **Section 6.4**. Detailed Cost Opinions are included in **Appendix 6-B**.

Thickening and reusing the existing tanks is less expensive than not thickening and upsizing the holding tanks. In addition, without thickening, the 2-day detention time in the storage tanks will be exceeded if the combined sludge flows exceed 170,000 gpd. Current WAS peak week flow is 139,000 gpd. Adding 0.25 percent -0.5 percent alum sludge will exceed 170,000 gpd peak week flow in 0-3 years.

With the existing number of presses and anticipated alum sludge the solids handling system is hydraulically limited. Under future conditions, The total number of belt presses required for Alternative 1B (with thickening) is not significantly improved relative to Alternative 1A because the belt filter press dewatering system will be limited by solids loading rates, which doesn't change between alternatives.

We recommend thickening prior to storage to avoid a large capital expenditure for tankage, loss of plant footprint, and reduced costs. Preliminary design should evaluate alternatives to co-thicken alum and WAS sludges together or separately, however most facilities co-thicken sludges. Additionally, blending of thickened and unthickened sludge streams will be needed to achieve a maximum of a 2-day detention time in the holding tanks to reduce phosphorus release from the biosolids.

6.3.4 Alternative 1C Holding Tanks with Thickening and Centrifuge Dewatering

This option is the same as Alternative 1B - Holding Tanks with Thickening and Belt Press Dewatering except Centrifuges are used instead of Belt Filter Presses for comparative purposes. **Table 6-5** shows the Design Criteria for the Holding tanks with thickened sludge and Centrifuge Dewatering.

Table 6-5 – 2042 Holding Tank with Thickened Sludge and Centrifuge Dewatering Design Criteria

Description	Number
Peak Week Flow, gpd	379,000
WAS Storage, gals	16,000
Thickener Feed Pumps, gpm	2@ 265
Rotary Drum thickener	1 duty, 1 standby
Operating Period	24 hours, 7 days per week
TWAS Pumps, gpm	2 @ 75 gpm
Tank 2 Volume	220,000 gallons
Thickened Sludge flow, gpd	71,500
Hydraulic Detention Time, days	3.0
Effluent Pumps	2 @ 275 gpm
Feed Solids, %	4.0
	24,052 lb/d
Oxygen reqd at 2.3 # O ₂ /lb VSR	3391 lb/d
Air required for Odor Control	150 acfm
Mixing Air-30 scfm/1000cf	900 scfm
Blowers	2@900 scfm
Number of Centrifuges, duty/standby	2/1
Daily Hours of operation (7d/wk)	7.1
Cake Solids, %	16
Year 1 Polymer Usage, #/d@12#/DT, ADF	87
Year 20 Polymer Usage, #/d@12#/DT, ADF	213
Year 1 cake production, wt/d, ADF	22
Year 20 cake production, wt/d, ADF	55

Costs

Capital and O&M Costs are found in **Table 6-16** in **Section 6.4**. Detailed Cost Opinions are included in **Appendix 6-B**.

It appears belt filter presses are less expensive than centrifuges for dewatering, which is typical of a plant for this size and due to the added benefit of the existing equipment and facility layout. Thickening with Belt filter press dewatering will be used in the evaluation for Alternatives 2,3, and 4.

6.3.5 Alternative 2 Class B Land Application with Mesophilic Digestion

Mesophilic anaerobic digestion would be used to create a Class B biosolids by reducing the volatile solids by 38 percent, and with time and temperature treatment being between 15 days at 35° C to 55° C and 60 days at 20° C.

Primary clarifier sludge will be pumped directly to the digesters. Rotary Drum Thickeners (RDTs) would thicken WAS to 4 percent to reduce digester and holding tank volumes. Digested sludge would then be pumped to the Sludge Holding Tanks for a storage time of ~2 days. The Sludge Holding Tanks allow a 5 day per week dewatering schedule. Belt Filter Press dewatering will be used as it is more economical than centrifuges. The biosolids will either be trucked to and land applied on the City owned Prairie Reuse Property approximately 4 miles away or sent to a farmer's field within a 50-mile radius. Costs for farmer lease/land coordination and trucking to a site approximately 50-miles away were used for evaluation of this alternative.

Primary Clarifier

A single primary clarifier will produce primary sludge at 6 percent solids over the planning period. One sludge pump will convey this flow directly to the digesters. It is anticipated that 65 percent of the solids will be volatile. The addition of primary clarification is also anticipated a 25 percent removal of CBOD and a 15 percent removal of total nitrogen from the plant flow that would be fed to the downstream secondary BNR process.

The addition of a primary clarifier will likely require an inline lift station for the forward plant flow to increase the plant HGL to accommodate the added headloss through the system. It is possible to convert the existing equalization tanks to primary clarifiers, however their benefit to operate as equalization would be eliminated, resulting in peak flow impacts (i.e., reduced capacity) to downstream existing processes including tertiary clarification, filtration, and disinfection. This conversion alternative was therefore abandoned.

WAS Thickening

WAS is wasted at 30-minute intervals, 24 hours per day, 7 days a week. The WAS pumps will pump directly to the WAS wetwell (blend tank) and repumped to the sludge thickeners. Since WAS is wasted 24 hours per day, thickening will require a 24 hour per day operation. Rotary drum

thickeners (RDT) are used for thickening the solids because it is least expensive, requires less operation attention, and has the smallest footprint.

At 2042 peak week sludge flows, one duty and one standby RDTs are needed to process the WAS and alum sludges. Sizing is based on a 24 hour per day, 7 days per week operation. This allows the plant wasting operations to be unaffected. Two 75 gpm pumps, one duty, one standby, will convey the thickened sludge to the Mesophilic digesters. **Table 6-6** shows the Sludge thickening design criteria.

Table 6-6 – 2042 Primary Clarifier and Thickened Sludge Design Criteria

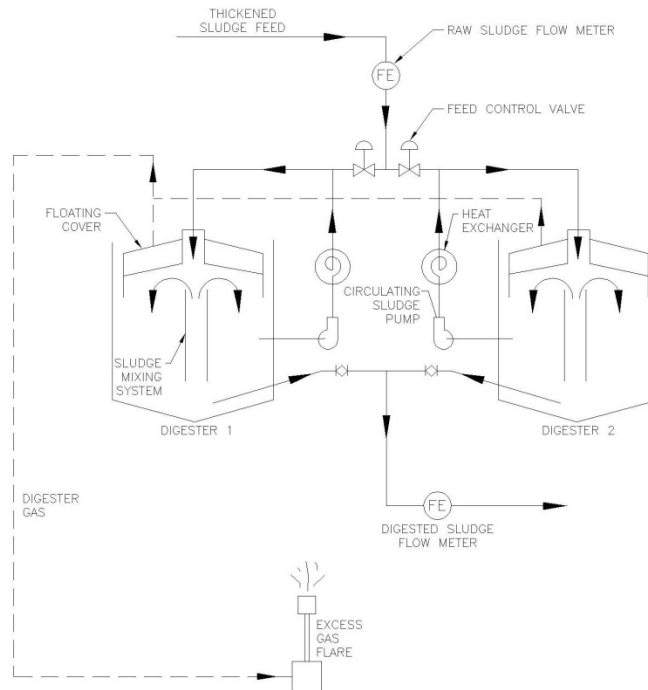
Description	Number
Peak Week WAS Flow, gpd	294,000
Rotary Drum thickeners	1 duty, 1 standby
Operating Period	24 hours, 7 days per week
TWAS Pumps	2 @ 75 gpm
Primary Clarifiers	1 duty, 1 standby
Primary Clarifier, diameter, ft	100
Sidewater depth, ft	14
Primary Clarifier Sludge Flows	19,160 gpd
Primary Clarifier Sludge Pumps	2 @ 60 gpm

Sludge Digestion

Digestion is a process that will further reduce the pathogens and volatile solids content of the waste sludge. Digested sludge is more stable, dewateres better, and is less likely to produce odors. Volatile solids typically are reduced by 60 to 75 percent, with final volatile matter contents of 40 to 50 percent. As the name implies, the process is performed in the absence of oxygen.

The two common process configurations are low-rate and high-rate processes. In the high rate process the solids' loading rate is much greater (up to 4 times), the retention period is lower (one-half), mixing capacity is greater and improved, and the sludge is heated to a typical operating temperature of 95° F. The high-rate system is better suited for Post Falls. Anaerobic digestion is known to release phosphorus back into solution which will return into the liquid stream via the dewatering process. Struvite scaling is a concern in treatment plants practicing anaerobic digestion and EBPR. It is especially prevalent downstream of digestion where digested sludge exits a digester and would be anticipated/expected with this alternative. A schematic design of the process is shown in the following figure.

Figure 6-1 – Sludge Digestion Process



The tank volume required to provide 15 days of solids retention time is approximately 1,531,000 gallons. While only 10 days is required by regulations, it is prudent to oversize the digesters to allow for grit accumulation and some buffer above the minimum SRT requirements. The digester is sized with a 25-foot sidewater depth with a 10-foot-high headspace to accommodate scum and gas storage.

The major equipment components are the tanks, the sludge heating system, sludge mixing system, cover (for gas collection) and gas flare system. Proven mixing systems include pump nozzle mixing, draft tube mixing, vortex ring mixing, and impeller mixing. Pump nozzle mixing is included in this plan. Design parameters are listed in **Table 6-7**.

Table 6-7 – Anaerobic Digestion Design Criteria

Description	Number
Feed solids	28,310 lbs/day
Feed solids concentration	46,000 mg/l
Volatile solids fraction	78%
Number of Digester Tanks	3
Diameter, ft	60
Sidewater Depth, ft	25
Total Height, ft	35
Operating temperature	95° F (35° C)
Minimum sludge age	15 days
Volatile Solids Destruction, %	56
Volatile Solids Loading factor, lb/cf-d	0.20
Total Gas Production, cfm	116
Pump mixing, gpm each tank	3700
Pump mixing, hp	60
Number of pumps, duty/standby each tank	1/1
Boilers, duty/standby	2/1
Boiler capacity, btu/hr	406,000
Heat Exchangers, duty/standby	3/0
Heat Exchanger capacity, btu/hr, ea	271,000
Water Pumps, duty/standby	3/1
Water Pump Capacity, gpm	350
Water Pump Horsepower	50
Sludge Heating Pumps, duty/standby	3/1
Sludge Heating Pump Capacity, gpm	350
Sludge Heating Pump Horsepower	50
Gas Flare, Number	1
Gas Flare, cfm	116

Holding tanks and Dewatering

Conceptually, the existing sludge holding tank 2 would receive digested solids and would operate similar to current operations feeding digested solids to the belt presses for dewatering. **Table 6-8** shows the Design Criteria for the Holding tanks with thickened sludge and Belt Filter Press dewatering. Mixing would likely need to change to pumped/mechanical mixing as aerated mixing will strip CO₂ and promote struvite formation and release odors. It may be possible to operate one of the digesters with a floating lid to allow variable depth and pump directly from the digester to dewatering.

Table 6-8 – 2042 Holding Tank with Thickened Sludge Design Criteria

Description	Number
Tank 2 Volume	220,000 gallons
Thickened/Digested Sludge Flow	73,900 gpd
Hydraulic Detention Time, days	2.98
Effluent Pumps	2@250 gpm
Feed Solids, %	2.1
	15,944 lb/d
Mixing	Equipment - TBD

Belt Press Dewatering

Table 6-9 shows the Design Criteria for Belt press dewatering following anaerobic digestion.

Table 6-9 – 2042 Belt Press Dewatering Design Criteria

Description	
Number of Belt Presses, duty/standby	2/1
Daily Hours of operation (7d/wk)	5.4
Cake Solids, %	17
Year 1 Polymer Usage, #/d@12#/DT	76
Year 20 Polymer Usage, #/d@12#/DT	152
Year 1 cake production, wt/d	19
20-year cake production, wt/d	32

Haul and Land Apply

The dewatered biosolids will either be trucked to and land applied on the City owned Prairie Reuse Property approximately 4 miles away or sent to a farmer's field within a 50-mile radius. Costs for farmer lease/land coordination and trucking to a site approximately 50-miles away were used for evaluation of this alternative as the land available at the reuse site is likely inadequate to accommodate the solids generated. The dried biosolids would then be spread on the property at a permitted rate.

All biosolids applied to the land must meet ceiling concentration limits for heavy metals and either pollutant concentration limits or cumulative pollutant loading rate limits plus annual pollutant loading rate limits.

The ceiling concentration limits are the maximum allowable concentrations of the pollutant(s) in the biosolids applied to land. Biosolids with pollutant concentrations higher than the ceiling concentration limits may not be applied to land.

The pollutant concentration limits are lower concentration limits that when achieved, exempts the biosolids from the cumulative and annual loading rate limits as well as from some record keeping requirements. Historically, biosolids from the Post Falls WRF have easily met the pollutant concentration limits. For this evaluation, it has been assumed that metals will not limit the maximum application rate. The maximum pollutant concentrations measured in the Post Falls biosolids are compared with the pollutant ceiling limits and concentration limits in **Table 6-10**.

Table 6-10 – Ceiling, Pollutant Concentration, and Loading Rate Limits for Land Applied Biosolids

	Post Falls Sludge ¹ (mg/kg)	Part 503 Rule Limits			
		Ceiling Concentration (mg/kg)	Pollutant Concentration (mg/kg)	Cumulative Pollutant Loading Rates (kg/ha)	Annual Pollutant Loading Rate (kg/ha/yr)
Arsenic	6.38	75	41	41	2.0
Cadmium	3.08	85	39	39	1.9
Copper	83.4	4,300	1,500	1,500	75
Lead	5.47	840	300	300	75
Mercury	0.308	57	17	17	0.85
Molybdenum	3.815	75	-	-	-
Nickel	4.805	420	420	420	21
Selenium	3.37	100	36	100	5.0
Zinc	452	7,500	2,800	2,800	140

(1) Maximum concentrations from quarterly sampling for 1st quarter 2022

Biosolids must also be applied at no more than the agronomic rate of the planted crop for nitrogen and phosphorus. Agronomic rates vary by type of crop planted. Typical application rates can vary between 5 and 20 dry tons per acre. Based on recent biosolids analysis, nitrogen will not be a limiting factor, but phosphorus will. Alfalfa was used to size land requirements. Biosolids will need to be stored over the winter months which limits the application season to 8 months per year. Storage can occur at the land application site per EPA guidelines. Odors may occur if the biosolids pile go anaerobic. They may need to be turned on occasion.

Table 6-11 shows the Land Application design criteria.

Table 6-11 – Land Application Design Criteria

Description	Number
Application Duration, days/yr.	240
2023 Biosolids Production, dt	840
Alfalfa Agronomic Rate, dt/acre	1.04
2023 land required assuming crop is alfalfa, acres	810
2023 offsite farmland needed, acres	210
2023 winter storage, acres	1.1
2042 Biosolids Production, dt	1414
2042 Land required assuming crop is alfalfa, acres	1365
2042 Offsite farmland needed, acres	765
2042 winter storage, acres	1.9

Ancillary Considerations for Anaerobic Digestion:

The conversion of the Post Falls WRF to anaerobic digestion would be a significant shift in current operations including gas handling and associated safety concerns but would present several potential benefits while creating several additional operational challenges to other processes. Space for primary clarifiers and the digesters could be accommodated within the current site but would limit the facility expansion beyond the 20-year planning period.

A few of these items are discussed further below:

Capacity Recovery in BNR System with Anaerobic Digestion:

Estimates without detailed evaluation are based on simplifications such as 25 percent removal of CBOD and 15 percent removal of total nitrogen in the primaries. This also relies on the previous assumptions for TKN based on influent ammonia data noted in Chapter 4, and thus follows the amount of organic-N in the influent. With those assumptions being considered, the operation of well-designed and well-operated primary clarifiers could potentially delay the need for increasing the BNR facilities approximately as follows:

- Current BNR capacity projected to run out for the w/o primary clarification option by 2028 ±, but with primary clarification, could be extended to about 2033.
- Then after OD7 is put in service – ALL current BNR capacity, plus OD7 capacity projected to run out: w/o primary clarification by 2036 ±, but with primary clarification could be extended to about 2040-2041. The capacity gain is limited by the expected low removal of ammonia in the primaries, and the minimum HRT for nitrification in cold weather through the secondary BNR system.
- Note the above capacity saving (extension of life) in the BNR did not explicitly account for the return stream nutrient content, since side stream treatment/equalization methods are not yet determined known.
- Reduction of rbCOD/BOD through the primaries could negatively impact EBPR and possibly denitrification as it would reduce available carbon to drive those processes.

Return Flows and Sidestreams with Anaerobic Digestion:

- Elements of sludge handling need to be compatible with BNR that might not necessarily be included in system that don't have to account for BNR – specifically,
 - There should be considerable flexibility incorporated into the design to adjust operations based on how the system is performing,
 - Provide consideration to minimize impacts of return streams on BNR,
 - Provide consideration to potentially take advantage of return streams (via introduction into the process) as the character of wastewater and sludge fluctuates annually.
- The need to account for the P and N released in the anaerobic digester. Up to 130 mg/l P and 1000 mg/l N may be in digester return stream. This could warrant special handling of this sidestream. At minimum, it would be equalization with controlled return OR side stream treatment of some kind.
- With the BNR system in place, struvite formation is likely, and thus must be considered in the design.
- WAS may need to be handled separately from primary sludge or at least partially through the process. For example, shorter storage times compared to primary sludge; aerated vs non-aerated storage, and when and how blending occurs. The goal is to minimize phosphorus release, and to remove phosphorus via the dewatered solids.
- Thickener and filtrate return stream – ability to go to anaerobic basins or primaries, or proportion based in VFA content of return flow with raw wastewater / primary effluent.
- Designs should consider incorporating the ability to step feed and bypass the anaerobic basins with the primary clarifier effluent, as VFA in the thickener return may be high enough for phosphorus accumulating organisms (PAOs) to function in the anaerobic basins without the primary effluent feed.
- Avoid returning WAS to primaries (as is done in some facilities) as this would likely encourage phosphorus-release.

The above items as they are elements likely to be needed or at least strongly considered, depending on type of thickening selected, dewatering selected, and sludge mix options considered with anaerobic digestion – so costs may be higher than “standard” anaerobic digestion system and facilities design if BNR is not a consideration.

Costs evaluated herein for this alternative have not explicitly accounted for specific sidestream treatment of nutrient-rich return flows nor has the beneficial impacts to BNR been accounted-for. These elements were beyond this scope of evaluation but should be considered if this alternative is pursued in further detail.

Costs

Capital and O&M Costs are found in **Table 6-16** in **Section 6.4**. Detailed Cost Opinions are included in **Appendix 6-B**.

6.3.6 Alternative 3 Class A Land Application with Drying

This alternative would include all provisions of Alternative 1B (sludge thickening and dewatering) with further treatment through a heat-drying process to produce a Class A biosolids to be land applied. The dewatered biosolids will either be trucked to and land applied on the City owned Prairie Reuse Property approximately 4 miles away or sent to a farmer's field within a 50-mile radius. Costs for farmer lease/land coordination and trucking to a site approximately 50-miles away were used for evaluation of this alternative. The dried biosolids would then be spread on the property at a permitted rate.

Holding Tanks with Thickening and Belt Press Dewatering

This section is similar to Alternative 1B. WAS is wasted at 30-minute intervals, 7-days a week. At 2042 peak week sludge flows, one duty and one standby RDTs are needed to process the WAS and alum sludges. Sizing is based on a 24-hour, seven day a week to match the sludge wasting schedule. A WAS storage tank with a 1-hour detention time is provided so that WAS feed to the thickeners is continuous. One duty, one standby Thickener feed pumps would feed the thickeners at a rate of 265 gpm. Sludge would be thickened to 3.3 percent, then a 75 gpm TWAS pump would convey thickened sludge to Holding tank 2. Holding tank 1 would no longer be needed and could be taken out of service. Tank effluent pumps would be upsized to 275 gpm and pump to dewatering. Blowers would be upsized to 600 scfm for Tank 2. Three duty plus one standby belt presses would be required for dewatering. **Table 6-12** shows the Design Criteria for the Holding tanks with thickened sludge and Belt Filter Press dewatering.

Table 6-12 – 2042 Sludge Thickening, Holding Tank, and Dewatering Design Criteria

Description	Number
Peak Week Flow, gpd	379,000
WAS Storage tank	16,000 gal
Thickener Feed Pumps	2@265 gpm
Rotary Drum thickener	1 duty, 1 standby
Operating Period	24 hours, 7 days per week
Thickened Sludge, % solids	4

Description	Number
TWAS Pumps	2@75 gpm
Tank 2 Volume	220,000 gallons
Thickened sludge flow	108,000 gpd
Hydraulic Detention Time, days	3.0
Effluent Pumps	2@250 gpm
Feed Solids, %	4.0
	24,052 dry lb/d
Oxygen reqd at 2.3 # O ₂ /lb VSR	3390 lb/d
Air reqd for VSR/Odor Control	149 acfm
Mixing Air-30 scfm/1000cf	900 scfm
Number of Belt Presses, duty/standby	3/1
Daily Hours of operation (7d/wk)	5.4
Cake Solids, %	15
Year 1 Polymer Usage, #/d@12#/DT	78
Year 20 Polymer Usage, #/d@12#/DT	199
Year 1 cake production, wt/d	3
20-year cake production, wt/d	8

Heat Drying

Heat drying is used to dry dewatered biosolids generated from the Belt Filter presses. Its main advantages are to dramatically reduce the volume of dried solids to be disposed of and produce a Class A Biosolid that can be publicly distributed or beneficially reused with little restrictions.

Heat drying is simply the evaporation of water from sewage sludge and several manufacturers market and sell various styles of heat drying equipment. It must be preceded by a dewatering process and in the end the final product must be disposed. It requires material handling and storage equipment, heat generation and transfer equipment, and air handling and air pollution control equipment.

Heat drying, is listed in the Part 503 Rule as an approved process to meet Class A pathogen reduction requirements and the vector attraction reduction requirements. Class A pathogen reduction requirements are met when the moisture content of the biosolids is reduced to 10 percent or lower and the temperature of the biosolids particles exceeds 80 degrees °C or the wet bulb

temperature of the gas in contact with the biosolids as the biosolids leave the dryer exceeds 80 degrees °C. The vector attraction reduction requirements are met when biosolids with unstabilized solids are dried to at least 90 percent solids.

There are both advantages and disadvantages to using heat drying to stabilize wastewater solids. Advantages include producing a Class A biosolid product that can be used as a soil conditioner, has a relatively small footprint, and greatly reduces the volume of material to be disposed. Disadvantages include high capital cost, significant energy requirement, complexity of operation and maintenance, and dust explosion safety concerns. Dryer off gas also requires odor control.

In this scenario the sludge would be dried at the treatment plant site. Once treated, the City would still need to dispose of the biosolids.

Table 6-13 – Heat Drying Design Criteria

Description	Number
Number of Dryers, duty/standby	2/0
Daily Hours of operation (7d/wk), hrs	9.2
First Year Feed Rate, wt/d	18
Cake Solids,%	15
First year production, wt/d	3
Dried Solids,%	90
2042 feed rate, wt/d	48
Cake Solids, %	15
20 year production, wt/d	8
Dried Solids,%	90
Dryer Temperature, °F	284
Heat Demand, MMBTU/hr	9.93
Electrical Consumption, kWh	160
Exhaust Airflow, cfm	29,400
Odor Control technology	Activated Carbon

Haul and Land Apply

The dewatered biosolids will either be trucked to and land applied on the City owned Prairie Reuse Property approximately 4 miles away or sent to a farmer's field within a 50-mile radius. Costs for farmer lease/land coordination and trucking to a site approximately 50-miles away were used for evaluation of this alternative as the land available at the reuse site is likely inadequate to

accommodate the solids generated. The dried biosolids would then be spread on the property at a permitted rate.

All biosolids applied to the land must meet ceiling concentration limits for heavy metals and either pollutant concentration limits or cumulative pollutant loading rate limits plus annual pollutant loading rate limits previously shown in **Table 6-8**. The ceiling concentration limits are the maximum allowable concentrations of the pollutant(s) in the biosolids applied to land. Biosolids with pollutant concentrations higher than the ceiling concentration limits may not be applied to land.

The pollutant concentration limits are lower concentration limits that when achieved, exempts the biosolids from the cumulative and annual loading rate limits as well as from some record keeping requirements. Historically, biosolids from the Post Falls WRF have easily met the pollutant concentration limits. Metals will not limit the maximum application rate.

Biosolids must also be applied at no more than the agronomic rate of the planted crop for nitrogen and phosphorus. Agronomic rates vary by type of crop planted. Typical application rates can vary between 5 and 20 dry tons per acre. Based on recent biosolids analysis, nitrogen will not be a limiting factor, but phosphorus will. Alfalfa was used to size land requirements. Biosolids will need to be stored over the winter months which limits the application season to 8 months per year.

Table 6-14 summarizes the land Application Design Criteria.

Table 6-14 – Land Application Design Criteria

Description	Number
Application Duration, days/yr	240
2023 Biosolids Production, dt	702
Alfalfa Agronomic Application Rate, dt/acre	1.04
2023 Land required assuming crop is alfalfa, acres	677
2023 Offsite farmland needed, acres	77
2023 Winter storage, acres	0.15
2042 Biosolids Production, dt	1872
2042 Land required assuming crop is alfalfa, acres	1807
2042 Offsite farmland needed, acres	1207
2042 winter storage, acres	0.4

Costs

Capital and O&M Costs are found in **Table 6-16** in **Section 6.4**. Detailed Cost Opinions are included in **Appendix 6-B**.

6.3.7 Alternative 4 Class A Land Application with Composting

This alternative is similar to Alternative 3 except composting is used to achieve Class A biosolids instead of a dryer. The thickening, holding tanks, and dewatering are the same as Alternative 3. Composting will be analyzed in lieu of drying. A wetter biosolid will be analyzed for the haul and land application.

WAS is wasted at 30-minute intervals, 7-days a week. At 2042 peak week sludge flows, one duty and one standby RDTs are needed to process the WAS and alum sludges. Sizing is based on 24-hour per day operation at seven days per week to match the sludge wasting schedule. A WAS storage tank with a 1-hour detention time is provided so that WAS feed to the thickeners is continuous. One duty and one standby Thickener feed pump would feed the thickeners at a rate of 265 gpm. Sludge would be thickened to 3.3 percent, then a 75 gpm TWAS pump would convey thickened sludge to Holding tank 2. Holding tank 1 would no longer be needed and could be taken out of service. Tank effluent pumps would be upsized to 275 gpm and pump to dewatering. Blowers would be upsized to 600 scfm for Tank 2. Three duty plus one standby belt press would be required for dewatering.

Table 6-15 shows the Design Criteria for the Holding tanks with thickened sludge and Belt Filter Press dewatering.

Table 6-15 – 2042 Sludge Thickening, Holding Tank

Description	Number
Peak Week Flow, gpd	379,000
WAS Storage tank	16,000 gal
Thickener Feed Pumps	2@265 gpm
Rotary Drum thickener	1 duty, 1 standby
Operating Period	24 hours, 7 days per week
Thickened Sludge, % solids	4.0
TWAS Pumps	2@75 gpm
Tank 2 Volume	220,000 gallons
Thickened sludge flow	71,400 gpd
Hydraulic Detention Time, days	3.0
Effluent Pumps	2@250 gpm
Feed Solids, %	4.0
	17,300 dry lb/d
Oxygen reqd at 2.3 # O ₂ /lb VSR	4440 lb/d
Air reqd for VSR/Odor Control	196 acfm
Mixing Air-30 scfm/1000cf	900 scfm
Number of Belt Presses, duty/standby	3/1

Daily Hours of operation (7d/wk)	5.4
Cake Solids, %	15
Year 1 Polymer Usage, #/d@12#/DT	78
Year 20 Polymer Usage, #/d@12#/DT	199
Year 1 cake production, wt/d	18
20-year cake production, wt/d	48

Composting

In this option, the City would own and operate a compost facility. The composting process uses biological activity to aerobically stabilize the biosolids. The aerated static pile composting method is used to achieve pathogen reduction and vector attraction reduction by raising the temperature of the biosolids to 40°C or higher and maintained for 5 days. For 4 hours during a 5-day period, the temperature in the compost pile must exceed 55°C.

Challenges to composting are odors, dust, truck traffic, adequate space, labor/man-power and a supply of an affordable bulking agent. The initial land area required is 7 acres, growing to 14 acres by 2042. Because of the land requirements and odor potential it was assumed the compost facility would be located at the City's reuse site. Composting facility would include asphalt paving of biosolids static pile aeration and curing areas, fans, ducts, and controls, stormwater control, water and power utilities, and mobile equipment including screens, shredders, mixers, dump trucks, and loaders. **Table 6-16** summarizes the design criteria for Composting.

Table 6-16 – Composting Design Criteria

Description	Number
First year Biosolids, dt/d	2.7
Bulking Agent, tons/d	8.1
Land required, acres	4.3
20-year Biosolids, dt/d	7.2
Bulking Agent, tons/d	22
Land Required, acres	11.4

Haul and Land Apply

The City will haul dewatered biosolids to the Prairie Reuse property approximately 4 miles one way from the treatment plant. The dewatered biosolids have been assumed to be composted at the reuse property site. The composted biosolids will either be trucked-to and land applied on the City owned Prairie Reuse Property adjacent to the compost site or sent to a farmer's field within a 50-mile radius. Costs for farmer lease/land coordination and trucking to a site approximately 50-miles away were used for evaluation of this alternative as the land available at the reuse site is likely

inadequate to accommodate the solids generated. The dried biosolids would then be spread on the property at a permitted rate.

All biosolids applied to the land must meet ceiling concentration limits for heavy metals as with other land applications alternatives discussed previously and as shown in **Table 6-8**.

Biosolids must also be applied at no more than the agronomic rate of the planted crop for nitrogen and phosphorus. Agronomic rates vary by type of crop planted. Typical application rates can vary between 5 and 20 dry tons per acre. Based on recent biosolids analysis, nitrogen will not be a limiting factor, but phosphorus will. Alfalfa was used to size land requirements. Biosolids will need to be stored over the winter months which limits the application season to 8 months per year. Crops must be rotated every few years so other crops should be investigated.

Table 6-17 summarizes the design criteria for Land Application.

Table 6-17 – Land Application Design Criteria

Description	Number
Application Duration, days/yr	240
2023 Biosolids Production, dt	702
Alfalfa Agronomic Application Rate, dt/acre	1.04
2023 Land required assuming crop is alfalfa, acres	677
2023 Offsite farmland needed, acres	77
2023 Winter storage, acres	1.11
2042 Biosolids Production, dt	1872
2042 Land required assuming crop is alfalfa, acres	1807
2042 Offsite farmland needed, acres	1207
2042 Offsite farmland needed, acres	607
2042 winter storage, acres	1.95

Costs

Capital and O&M Costs are found in **Table 6-16** in **Section 6.4**. Detailed Cost Opinions are included in **Appendix 6-B**.

6.4 Evaluation Criteria and Cost Summary

A set of evaluation criteria were developed to compare the alternative with the long-range planning goals for the WRF. Preliminary site layouts for each alternative are included in **Appendix 6-C** and

were used in the development of the opinions of probable cost and consideration of site impacts to the WRF. The evaluation criteria includes both monetary and non-monetary considerations.

Monetary criteria include:

- **Capital Cost.** Plant expansions are expensive and lower capital costs are important to the City. Capital costs include installed equipment costs, construction, contractor markups and appropriate contingency factors. Vendors quotes will be used when available. It is assumed land application will be on City property.
- **20-year present worth analysis.** O&M costs can vary greatly between options so including O&M costs will result in a more robust economic analysis. The present worth analysis incorporates capital costs and O&M costs over a 20-year period. O&M costs include labor, power, heat, and haul and disposal costs, including tipping fees (BarrTech disposal fees for options 1A, 1B and 1C). Irrigation costs are not included.

Non-monetary factors include:

- **Provides Flexibility for Final Disposal.** Is the option reliable long term? Does the option include a backup plan or provide operational and disposal flexibility? Is the end product created by the option provide for easier handling a better product from odor and consistency of the solids?
- **Impacts on Existing WRF Processes.** Does the solids handling process negatively or positively impact the liquid stream processes or other operational considerations, including odor generation, or have neutral impact?
- **Long term viability or expandability.** Does the option provide the ability to adapt from Class B to A in the future, or potentially adapt to changing regulatory drivers like PFAS? This criteria includes several factors that must be weighed in the alternative screenings process. Alternatives that require a high capital investment must provide uninterrupted, reliable service for many years to pay back the initial costs. Furthermore, the process must be capable of continuing to be acceptable from a regulatory and public acceptance standpoint through the life of the disposal or utilization plan.
- **Operational Complexity.** Does the option add significant operations/processes increasing operational complexity?
- **Footprint Impacts.** Is the option land intensive or require significant facilities beyond those currently owned by the City?

Costs for each alternative presented previously were collated and are presented in **Table 6-16** for comparison. As can be seen, Alternative 1B is the least expensive 20-year Net Present Worth cost. As discussed previously and during the facility plan, non-monetary considerations must also be considered and are evaluated in the following sections.

Table 6-18 – Capital, 20-Year O&M and Net Present Worth Cost (Capital + 20-year O&M)

	Alternative 1A	Alternative 1B	Alternative 1C	Alternative 2	Alternative 3	Alternative 4
Capital	\$22.7M	\$24.3M	\$28.9M	\$45.0M	\$61.0M	\$35.4M
20 YR PW	\$36.0M	\$32.0M	\$36.3M	\$28.8M	\$28.4M	\$64.9M
Total PW	\$58.7M	\$56.3M	\$65.2M	\$73.8M	\$89.4M	\$100.3M

6.5 Alternatives Analysis

Each criterion was given a weighting factor so that the more important criteria could be emphasized. The weighting factors were developed using the pairwise comparison method by City staff.

Table 6-19 shows the pairwise comparison and resultant weighting score.

Table 6-19 – Pairwise Comparison

	Capital Cost	20 yr PW	Disposal Flexibility	WRF Impacts	Long term viability	Operational Complexity	Footprint	Sustainability	Score
Capital Cost		3	4	4	4	5	3	5	28
20 yr PW	3		4	4	4	5	3	5	28
Disposal Flexibility	2	2		2	3	4	2	4	15
WRF Impacts	2	2	4		4	4	4	5	21
Long term viability	2	2	3	2		4	2	5	16
Operational Complexity	1	1	2	2	2		2	4	12
Footprint	3	3	4	2	4	4		5	18
Sustainability	1	1	2	1	1	2	1		8

The weighted criteria were then used in the comparison table for each alternative. Each alternative was scored from +3 (very positive) to -3 (very negative). City staff reviewed each of the criteria, as well as long-term planning objectives to assess the overall scoring. The resulting scores are shown in **Table 6-20**.

- 3 very positive
- 2 Positive
- 1 Slightly Positive
- 0 Neutral
- -1 Slightly Negative
- -2 Negative
- -3 Very Negative

Table 6-20 – Relative Scoring for Each Alternative

	Capital (28)	PW (28)	Disposal Flexibility (15)	WRF Impacts (21)	Long Term Viability (16)	Operational Complexity (12)	Foot -print (18)	Sustainability (8)	Score	Weighted Score
BarrTech 1B	2(56)	2(56)	-1(-15)	0(0)	0(0)	3(36)	3(54)	1(8)	6	83
Class B Digestion	1(28)	1(28)	1(15)	1(21)	1(16)	-3(-36)	-2(-36)	2(16)	0	-4
Class A Dryer	-2(-56)	-1(-28)	2(30)	0(0)	2(32)	-2(-24)	-1(-18)	-1(-8)	0	12
Class A Compost	-1(-28)	-2(-56)	2(30)	0(0)	2(32)	-3(-36)	-3(-36)	1(8)	-1	-20

6.6 Discussion and Selection

6.6.1 Summary/Conclusions

The ranking of alternatives based on the pairwise evaluation and scoring system used to evaluate the alternative is as follows:

1. Alternative 1B – Barr Tech (including biosolids process improvements)
2. Alternative 3 – Heat Drying
3. Alternative 2 – Class B Digestion
4. Alternative 4 – Composting

6.6.2 Selected Alternative and Recommendation

Based on the final ranking of alternatives, Alternative 1B was selected by the City to improve solids handling operations, allow flexibility in the future with minimal ancillary impacts to the existing liquid stream processes. During the evaluation process it was identified that if the regulatory environment affecting biosolids should continue to be monitored and the potential impacts to Post Falls planning. In addition, it is recommended that within the first 10-years of the planning period, the overall liquid-stream treatment approach and biosolids treatment processes should be evaluated in a treatment process alternatives study as a coupled system, assessing interconnected impacts and potential opportunities that might change the overall treatment approach. Alternative 1B includes the following elements with phasing of improvements discussed in Chapter 7:

Thickening:

- 16,000-gallon (minimum working volume) fully mixed feed tank (and wet well for thickening feed)
- New WAS feed pumping to thickeners– 1 duty, 1 duty
- New rotary drum thickener – 1 duty, 1 standby
- New polymer feed system(s) to support thickening
- Thickened WAS (TWAS) Pumps - 1 duty, 1 standby
- Thickening building
 - Basement for TWAS and BFP feed pumping systems
 - Electrical Room
 - Possible holding tank blower relocation (from UB1 and UB2) to be considered during design.

Holding Tanks:

- Reuse of existing aerated Holding Tanks (for thickened sludge)
- New diffuser grids for each Holding tank
- New blowers for each Holding Tank

Dewatering

- New Dewatering feed pumps (basement of thickening building)

- Belt Filter Presses (3 duty, 1 standby by end of planning period)
- Conveyors and to support new dewatering units
- Upgraded polymer feed systems to support dewatering,
- Expansion or new Dewatering Building for belt presses 3 and 4

Solids Storage and Loadout

- Reuse of existing conveyor to Biosolids Load-out Hopper
- Reuse of existing Load-out conveyor with modifications
- Reuse of existing On-site storage
- Continue with Barr-tech for final biosolids disposal.

REFERENCES

- Metcalf and Eddy, 5th Edition. Water and Wastewater Treatment
- Conn, M. (2014). City of Post Falls Water Reclamation Facility Headworks Relocation and Influent Equalization Improvements. Coeur d'Alene, Idaho: J-U-B.
- Conn, M. (2019). City of Post Falls Water Reclamation Facility Preliminary Engineering Report. Coeur d'Alene, Idaho: J-U-B.
- Faulkner, J. (2020). City of Post Falls Alternatives Budget Fiscal Year 2021/2022. Post Falls, Idaho: City of Post Falls.
- Klatt, P., & Conn, M. (2013). City of Post Falls Water Reclamation Facility 2013 Facility Plan. Coeur d'Alene, Idaho: J-U-B.

APPENDICES

Appendix 6-A – Summary of Federal Regulation 40 CFR Part 503 ("the Part 503 rule")

Appendix 6-B – Detailed Cost Opinions

Appendix 6-C – Preliminary WRF Site Layouts for Solids Improvement Alternatives

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Appendix 6-A

**Federal Regulation 40 CFR Part 503
("the Part 503 rule")**

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Appendix 6-A

Federal Regulation 40 CFR Part 503 (“the Part 503 rule”)

Further Sludge Treatment and Final Disposal

Ultimately, sewage sludge is disposed of in one of the following ways:

1. Applied to the land as a soil conditioner
2. Placed in a surface disposal site for final disposal
3. Incinerated

Federal Regulation 40 CFR Part 503 (“the Part 503 rule”) establishes the minimum national requirements for the management of solids generated during the process of treating municipal wastewater. In this appendix, the requirements of the Part 503 rule are summarized.

Requirements for Land Application

The Part 503 Biosolids rule requires that sewage sludge meet requirements in the following areas before it can be land applied:

1. Pollutant limits
2. Pathogen reduction
3. Vector attraction reduction

Pollutant Limits: All biosolids applied to the land must meet ceiling concentration limits for heavy metals and also either pollutant concentration limits or cumulative pollutant loading rate limits plus annual pollutant loading rate limits.

The ceiling concentration limits are the maximum allowable concentrations of the pollutant(s) in the biosolids applied to land. Biosolids with pollutant concentrations higher than the ceiling concentration limits may not be applied to land.

The pollutant concentration limits are lower concentration limits that when achieved, exempts the biosolids from the cumulative and annual loading rate limits as well as from some record keeping requirements. Historically, biosolids from the Post Falls WRF have easily met the pollutant concentration limits. The maximum pollutant concentrations measured in the Post Falls biosolids are compared with the pollutant ceiling limits and concentration limits in **Table 0-1**.

Table 0-1 – Ceiling and pollutant concentration Limits for land applied biosolids

	Post Falls Sludge ¹ (mg/kg)	Part 503 Rule Limits	
		Ceiling Concentration (mg/kg)	Pollutant Concentration (mg/kg)
Arsenic	8	75	41
Cadmium	2	85	39
Chromium	20	3,000	1,200
Copper	172	4,300	1,500
Lead	12	840	300
Mercury	1.130	57	17
Nickel	14	420	420
Selenium	5	100	36
Zinc	587	7,500	2,800

¹ Maximum concentrations from quarterly sampling for 4th quarter 2010 and 1st, 2nd and 3rd quarters of 2011

Pathogen Reduction: Pathogens are disease-causing organisms such as bacteria, viruses, and parasites. The Part 503 Rule designates two levels of pathogen reduction. They are Class A and Class B. Biosolids meeting the Class A criteria can be distributed to the general public with some restrictions. Class B biosolids are treated to a lesser degree than Class A. Biosolids of this quality are restricted in how they can be land applied. Typically, Class B biosolids are applied to agricultural lands with restricted access to the public and use of the crops.

- **Class A Requirements** – At the time of use, disposal, or sale, Class A biosolids must meet the following density requirements:
 - A density of fecal coliform in the biosolids of less than 1,000 most probable number (MPN) per gram of total dry solids, or
 - A Salmonella sp. bacteria density of less than 3 MPN per four grams of total dry biosolids

In addition, the biosolids must be treated using one of the six following alternatives:

1. **Alternative 1—Thermally Treated Biosolids:** Biosolids must be subjected to one of four time/temperature regimes.
2. **Alternative 2—Biosolids Treated in a High pH/High Temperature Process:** Biosolids must meet specific pH, temperature, and air-drying requirements.
3. **Alternative 3—Biosolids Treated in Other Processes:** Demonstrate that the process can reduce enteric viruses and viable helminth ova. Maintain operating conditions used in the demonstration after pathogen reduction demonstration is completed.
4. **Alternative 4—Biosolids Treated in Unknown Process:** Biosolids must be tested for pathogens—Salmonella sp. or fecal coliform bacteria, enteric viruses, and viable helminth ova—at the time the biosolids are used or disposed, or, in certain situations, prepared for use or disposal.

5. **Alternative 5—Biosolids Treated in a PRFP:** Biosolids must be treated in one of the Processes to Further Reduce Pathogens (PFRP):
 - a. **Composting**—Using either the within-vessel composting method or the static aerated pile composting method, the temperature of the biosolids is maintained at 55° C or higher for 3 days. Using the windrow composting method, the temperature of the biosolids is maintained at 55° C or higher for 15 days or longer. During the period when the compost is maintained at 55° C or higher, the windrow is turned a minimum of five times.
 - b. **Heat Drying**—Biosolids are dried by direct or indirect contact with hot gases to reduce the moisture content of the biosolids to 10 percent or lower. Either the temperature of the biosolids particles exceeds 80° C or the wet bulb temperature of the gas in contact with the biosolids as the biosolids leave the dryer exceeds 80° C.
 - c. **Heat Treatment**—Liquid biosolids are heated to a temperature of 180° C or higher for 30 minutes.
 - d. **Thermophilic Anaerobic Digestion**—Liquid biosolids are agitated with air or oxygen to maintain aerobic conditions, and the mean cell residence time of the biosolids is 10 days at 55° C to 60° C.
 - e. **Beta Ray Irradiation**—Biosolids are irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (ca. 20° C).
 - f. **Gamma Ray Irradiation**—Biosolids are irradiated with gamma rays from certain isotopes such as Cobalt 60 and Cesium 137 at room temperature (ca. 20° C).
 - g. **Pasteurization**—The temperature of the biosolids is maintained at 70° C or higher for 30 minutes or longer.
 6. **Alternative 6—Biosolids Treated in a Process Equivalent to a PFRP:** Biosolids must be treated in a process equivalent to one of the PFRPs, as determined by the permitting authority.
- **Class B Requirements** – The Part 503 Biosolids Rule provides the following three alternatives for meeting the Class B requirements:
 1. **Alternative 1—The Monitoring of Indicator Organisms:** Test for fecal coliform density as an indicator for all pathogens. The geometric mean of seven samples shall be less than 2 million MPNs per gram per total solids or less than 2 million CFUs per gram of total solids at the time of use or disposal.
 2. **Alternative 2—Biosolids Treated in a PSRP:** Biosolids must be treated in one of the Processes to Significantly Reduce Pathogens (PSRP):
 - a. **Aerobic Digestion**—Biosolids are agitated with air or oxygen to maintain aerobic conditions for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 40 days at 20° C and 60 days at 15° C.
 - b. **Air Drying**—Biosolids are dried on sand beds or on paved or unpaved basins. The biosolids dry for a minimum of 3 months. During 2 of the 3 months, the ambient average daily temperature is above 0° C.

- c. **Anaerobic Digestion**—Biosolids are treated in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35° C to 55° C and 60 days at 20° C.
 - d. **Composting**—Using either the within-vessel, static aerated pile, or windrow composting methods, the temperature of the biosolids is raised to 40° C or higher and maintained for 5 days. For 4 hours during the 5-day period, the temperature in the compost pile exceeds 55° C.
 - e. **Lime Stabilization**—Sufficient lime is added to the biosolids to raise the pH of the biosolids to 12 after 2 hours of contact.
3. **Alternative 3—Biosolids Treated in a Process Equivalent to a PSRP:** Biosolids must be treated in a process equivalent to one of the PSRPs, as determined by the permitting authority.

Vector Attraction Reduction: The pathogens in biosolids pose a disease risk when they are brought into contact with humans or other susceptible hosts, plants, or animals. Vectors, including flies, mosquitoes, fleas, and birds, can transmit pathogens physically to humans and other hosts through contact or biologically by playing a specific role in the life cycle of the pathogen. Reducing the attractiveness of biosolids to vectors reduces the potential for transmitting diseases from pathogens in biosolids. The Part 503 Rule contains the following 11 options for demonstrating reduced vector attraction:

- 1. **Option 1:** Meet 38 percent reduction in volatile solids content.
- 2. **Option 2:** Demonstrate vector attraction reduction with additional anaerobic digestion in a bench-scale unit.
- 3. **Option 3:** Demonstrate vector attraction reduction with additional aerobic digestion in a bench-scale unit.
- 4. **Option 4:** Meet a specific oxygen uptake rate for aerobically digested biosolids.
- 5. **Option 5:** Use aerobic processes at greater than 40° C for 14 days or longer.
- 6. **Option 6:** Alkali addition under specified conditions.
- 7. **Option 7:** Dry biosolids with no unstabilized solids to at least 75 percent solids.
- 8. **Option 8:** Dry biosolids with unstabilized solids to at least 90 percent solids.
- 9. **Option 9:** Inject biosolids beneath the soil surface.
- 10. **Option 10:** Incorporate biosolids into the soil within 6 hours of application to or placement on the land.
- 11. **Option 11:** Cover biosolids placed on a surface disposal site with soil or other material at the end of each operating day. (Note: Only for surface disposal.)

Appendix 6-B

Detailed Cost Opinions

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PROJECT:	City of Post Falls WRF Facility Plan
CLIENT:	City of Post Falls
DATE:	February 1, 2024
STATUS:	Facility Plan - Solids Stream Alternatives
P/N:	20-22-019

**City of Post Falls WRF Facility Plan
Facility Plan - Solids Stream Alternatives**

Alternative No.	Description	Capital Cost (2023 Dollars)	O&M Cost (2023 Dollars)	Total Cost (2023 Dollars)
1A	Alternative 1A: BarrTech Disposal-Unthickened sludge	\$22,722,000	\$36,039,000	\$58,761,000
1B	Alternative 1B: BarrTech Disposal with Thickening and BFP Dewatering	\$24,271,000	\$32,037,000	\$56,308,000
1C	Alternative 1C: BarrTech Disposal with Thickening and Centrifuge Dewatering	\$28,923,000	\$36,303,000	\$65,226,000
2	Alternative 2: Class B Disposal with Thickening, Mesophilic Digestion and BFP Dewatering	\$45,047,000	\$28,847,000	\$73,894,000
3	Alternative 3: Class A Disposal with Thickening and BFP Dewatering and Dryer	\$60,989,000	\$28,359,000	\$89,348,000
4	Alternative 4: Class A Disposal with Thickening and BFP Dewatering and Composting	\$35,391,000	\$64,889,000	\$100,280,000
TOTAL (2023 Dollars)				

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Solids Stream Alternatives

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Alternative 1A: BarrTech Disposal-Unthickened sludge

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1					
2	Demolition/Modifications				
3	Modify /Refurbish SC1 convert to SHT 3	1	EA	\$225,000	\$225,000
4	Modify /Refurbish SC2 convert to SHT 4	1	EA	\$225,000	\$225,000
5	Temporary systems – bypass pumping, cleaning, etc.	1	EA	\$100,000	\$100,000
6	Demo Andritz Press	1	EA	\$50,000	\$50,000
7	Demo Current Solids Storage Bldg and Struct. Mods	1	LS	\$100,000	\$100,000
8	Demo Existing Tank SHT 1	1	LS	\$75,000	\$75,000
9	Selective Demo at UB1 for new BFP Feed Pumps/Blowers	1	LS	\$100,000	\$100,000
10	Electrical Demo/Mods at UB1	1	LS	\$50,000	\$50,000
11	Civil				
12	Excavation Tanks for Modifications	2	EA	\$25,000	\$50,000
13	Reroute underground utilities	1	EA	\$100,000	\$100,000
14	Structures				
15	Backfill and Compaction	2	ea	\$20,000	\$40,000
16	Buildings - New Dewatering/Electrical				
17	40 x 70	2800	SF	\$275	\$770,000
18	Arch updates at UB1	1	LS	\$75,000	\$75,000
19	Arch -Polymer Expansion in DW Bldg (previous Andritz)	1	LS	\$50,000	\$50,000
20	Concrete for SHT 1 Tank Replacement				
21	Shoring for DW Building and utilities	1	LS	\$50,000	\$50,000
22	Floor	70	CY	\$750	\$52,796
23	Walls	92	CY	\$1,000	\$91,967
24	Grout	21	CY	\$600	\$12,671
25	Catwalks/Landings	1	LS	\$15,000	\$15,000
26	Staircase	1	LS	\$10,000	\$10,000
27	Sidewalk	16	CY	\$750	\$11,999
28	Equipment				
29	Blowers-1000 cfm, installed	6	EA	\$40,000	\$240,000
30	Aeration Grids, installed	4	EA	\$125,000	\$500,000
31	BFP Feed Pumps-450 gpm, installed	4	EA	\$50,000	\$200,000
32	2.5 m Belt press	3	EA	\$937,500	\$2,812,500
33	Polymer, installed	3	EA	\$75,000	\$225,000
34	BFP to Hopper Feed Conveyor	300	LF	\$2,000	\$600,000
35	Hopper Feed Conveyor	150	LF	\$3,000	\$450,000
36	Piping				
37	Pump piping-6 in dia	900	LF	\$150	\$135,000
38	Blower piping-10 in diameter SC1 and SC2,	300	LF	\$150	\$45,000
39	Blower Piping - 10 in to SHT 1	300	LF	\$150	\$45,000
40					
41	Additional Elements (estimated % of above)				
42	Contractor mobilization and administration			10.0%	\$751,000
43	Yard Piping			15.0%	\$1,126,000
44	Site Civil			5.0%	\$375,000
45	Electrical and instrumentation			35.0%	\$2,627,000
46	Bonding			4.0%	\$300,000
47	Contractor overhead and profit			10.0%	\$751,000

SUBTOTAL \$ 13,437,000

Construction Contingency: 30% \$ 4,031,000

Geotechnical/Site Stabilization: N/A -

Prevailing Wages: 7.5% \$ 1,310,000

State Sales Tax: N/A -

Design / CMS: 20%	\$	3,756,000
Legal and Administrative:1%	\$	188,000
Escalation Allowance:0%	\$	-
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)		\$ 22,722,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Solids Stream Alternatives

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Alternative 1B: BarrTech Disposal with Thickening and BFP Dewatering

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Demolition/Modifications				
2	Sludge Holding Tank 1 Mods	1	LS	\$25,000	\$25,000
3	Temporary systems – bypass pumping, cleaning, etc.	1	EA	\$50,000	\$50,000
4	Demo Andritz Press	1	EA	\$50,000	\$50,000
5	Demo Current Solids Storage Bldg and Struct. Mods	1	LS	\$100,000	\$100,000
6	Civil				
7	Excavation for Structures	1	EA	\$25,000	\$25,000
8	Reroute underground utilities	1	EA	\$100,000	\$100,000
9	Structures				
10	Backfill and Compaction	2	ea	\$20,000	\$40,000
11	Buildings - Thickening Equipment / Electrical Room				
12	40 x 60 Ground Level Building	2400	SF	\$250	\$600,000
13	Concrete Chem and WAS Sludge Blend Tank/Wetwell	200	CY	\$1,500	\$300,000
14	Basement for TWAS and DW Feed Pumps	1200	SF	\$300	\$360,000
15	Buildings - New Dewatering/Electrical				
16	40 x 70	2800	SF	\$275	\$770,000
17	Arch -Polymer Expansion in BFP (previous Andritz)	1	LS	\$50,000	\$50,000
18					
19	Equipment				
20	Blowers-1000 cfm, installed	2	EA	\$40,000	\$80,000
21	Aeration Grids, installed	2	EA	\$125,000	\$250,000
22	BFP Feed Pumps-450 gpm, installed	4	EA	\$50,000	\$200,000
23	2.5 m Belt press	3	EA	\$937,500	\$2,812,500
24	Polymer, installed	3	EA	\$75,000	\$225,000
25	BFP to Hopper Feed Conveyor	300	LF	\$2,000	\$600,000
26	Hopper Feed Conveyor	150	LF	\$3,000	\$450,000
27	Rotary Drum Thickeners	2	EA	\$250,000	\$500,000
28	TWAS pumping	2	EA	\$50,000	\$100,000
29	Polymer, installed	2	ea	\$75,000	\$150,000
30	Piping				
31	Pump piping-6 in dia	900	LF	\$150	\$135,000
32	Blower Piping - 10 in to Blend, SHT's	300	LF	\$150	\$45,000
33					
34					-
35	Additional Elements (estimated % of above)				
36	Contractor mobilization and administration			10.0%	\$802,000
37	Yard Piping			15.0%	\$1,203,000
38	Site Civil			5.0%	\$401,000
39	Electrical and instrumentation			35.0%	\$2,806,000
40	Bonding			4.0%	\$321,000
41	Contractor overhead and profit			10.0%	\$802,000

SUBTOTAL \$ 14,353,000

Construction Contingency: 30% \$ 4,306,000

Geotechnical/Site Stabilization: N/A -

Prevailing Wages: 7.5% \$ 1,399,000

State Sales Tax: N/A -

Design / CMS: 20% \$ 4,012,000

Legal and Administrative:1% \$ 201,000

Escalation Allowance:% \$ -

TOTAL PROBABLE CAPITAL COST (2023 DOLLARS) \$ 24,271,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Solids Stream Alternatives

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Alternative 1C: BarrTech Disposal with Thickening and Centrifuge Dewatering

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Demolition/Modifications				
2	Sludge Holding Tank 1 Mods	1	LS	\$25,000	\$25,000
3	Temporary systems – bypass pumping, cleaning, etc.	1	EA	\$50,000	\$50,000
4	Demo Andritz Press	1	EA	\$50,000	\$50,000
5	Demo Current Solids Storage Bldg and Struct. Mods	1	LS	\$100,000	\$100,000
6	Civil				
7	Excavation	1	EA	\$25,000	\$25,000
8	Reroute underground utilities	1	EA	\$100,000	\$100,000
9	Structures				
10	Backfill and Compaction	2	ea	\$20,000	\$40,000
11	Buildings - Thickening Equipment				
12	40 x 60 Ground Level Building	2400	SF	\$250	\$600,000
13	Concrete Chem and WAS Sludge Blend Tank/Wetwell	200	CY	\$1,500	\$300,000
14	Basement for TWAS and DW Feed Pumps	1200	SF	\$300	\$360,000
15	Buildings - New Dewatering/Electrical				
16	40 x 70	2800	SF	\$275	\$770,000
17	Arch -Polymer Expansion in BFP (previous Andritz)	1	LS	\$50,000	\$50,000
18	Arch -Belt Press Room Mods	1	LS	\$50,000	\$50,000
19	Equipment				
20	Blowers-1000 cfm, installed	2	EA	\$40,000	\$80,000
21	Aeration Grids, installed	2	EA	\$125,000	\$250,000
22	CENT Feed Pumps-450 gpm, installed	3	EA	\$50,000	\$150,000
23	CENT Dewatering Eqpt	3	EA	\$1,500,000	\$4,500,000
24	Polymer, installed	3	EA	\$75,000	\$225,000
25	CENT to Hopper Feed Conveyor	225	LF	\$2,000	\$450,000
26	Hopper Feed Conveyor	150	LF	\$3,000	\$450,000
27	Rotary Drum Thickeners	2	EA	\$250,000	\$500,000
28	TWAS pumping	2	EA	\$50,000	\$100,000
29	Polymer, installed	2	ea	\$75,000	\$150,000
30	Piping				
31	Pump piping-6 in dia	900	LF	\$150	\$135,000
32	Blower Piping - 10 in to SHT 1 and 2	300	LF	\$150	\$45,000
35					
36					-
37	Additional Elements (estimated % of above)				
38	Contractor mobilization and administration			10.0%	\$956,000
39	Yard Piping			15.0%	\$1,433,000
40	Site Civil			5.0%	\$478,000
41	Electrical and instrumentation			35.0%	\$3,344,000
42	Bonding			4.0%	\$382,000
43	Contractor overhead and profit			10.0%	\$956,000

SUBTOTAL \$ 17,104,000

Construction Contingency: 30% \$ 5,131,000

Geotechnical/Site Stabilization: N/A -

Prevailing Wages: 7.5% \$ 1,668,000

State Sales Tax: N/A -

Design / CMS: 20% \$ 4,781,000

Legal and Administrative:1% \$ 239,000

Escalation Allowance:% \$ -

TOTAL PROBABLE CAPITAL COST (2023 DOLLARS) \$ 28,923,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Solids Stream Alternatives

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Alternative 2: Class B Disposal with Thickening, Mesophilic Digestion and BFP Dewatering

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Demolition/Modifications				
2	Sludge Holding Tank 1 Mods	1	LS	\$25,000	\$25,000
3	Temporary systems – bypass pumping, cleaning, etc.	1	EA	\$50,000	\$50,000
4	Demo Andritz Press	1	EA	\$50,000	\$50,000
5	Demo Current Solids Storage Bldg and Struct. Mods	1	LS	\$100,000	\$100,000
6	Civil				
7	Excavation	1	EA	\$25,000	\$25,000
8	Reroute underground utilities	1	EA	\$100,000	\$100,000
9	Structures				
10	Backfill and Compaction	2	ea	\$20,000	\$40,000
11	Buildings - Thickening Equipment / Electrical Room				
12	40 x 60 Ground Level Building	2400	SF	\$250	\$600,000
13	Concrete Chem and WAS Sludge Blend Tank/Wetwell	200	CY	\$1,500	\$300,000
14	Basement for TWAS and DW Feed Pumps	1200	SF	\$300	\$360,000
15	Buildings - New Dewatering/Electrical				
16	40 x 70	2800	SF	\$275	\$770,000
17	Arch -Polymer Expansion in BFP (previous Andritz)	1	LS	\$50,000	\$50,000
18	Buildings - Primary Pumping				
19	30x30	900	SF	\$275	\$247,500
20	Staircase	1	LS	\$20,000	\$20,000
21					
22					
23	Primary Flow Path (Influent Pumping) to Add Primary Clarification				\$0
24	Pump Station Concrete				\$0
25	Footings	94	CY	\$ 600	\$56,622
26	Walls	404	CY	\$ 1,250	\$505,556
27	Floor	31	CY	\$ 600	\$18,511
28	Top Slab	52	CY	\$ 2,000	\$104,430
29	Vestibule	240	SF	\$ 250	\$60,000
30	Staircase	1	LS	\$ 25,000	\$25,000
31	Pumps (50 HP)	2	LS	\$ 50,000	\$100,000
32	Pumps (20 HP)	2	LS	\$ 25,000	\$50,000
33	Installation and Markup	1	LS	25%	\$37,500
34	check valves	2	EA	\$ 5,000	\$10,000
35	plug valves	4	EA	\$ 5,000	\$20,000
36	Pressure gage/switch assemblies	2	EA	\$ 3,000	\$6,000
37	Suction /Discharge piping	80	LF	\$ 300	\$24,000
38	Plug Valve - 14" with Actuators	2	EA	\$ 25,000	\$50,000
39	Plug Valve - 14"	2	EA	\$ 10,000	\$20,000
40	Plug Valve - 24"	5	EA	\$ 12,000	\$60,000
41	20" Magnetic Flow Meter	1	LS	\$ 12,500	\$12,500
42	24" EQ Tank Feed Piping	70	LF	\$ 350	\$24,500
43	20" EQ Tank Feed Piping	24	LF	\$ 300	\$7,200
44	14" EQ Tank Feed Piping	24	LF	\$ 240	\$5,760
45	24" Pump Suction Piping	50	LF	\$ 350	\$17,500
46	24" Pump Discharge Piping	30	LF	\$ 350	\$10,500
47	HVAC Equipment	1	LS	\$ 50,000	\$50,000
48					\$0
49					
50	Thickening and Dewatering Equipment				
51	Blowers-1000 cfm, installed	2	EA	\$40,000	\$80,000
52	Aeration Grids, installed	2	EA	\$125,000	\$250,000
53	BFP Feed Pumps-450 gpm, installed	3	EA	\$50,000	\$150,000

54	2.5 m Belt press	2	EA	\$937,500	\$1,875,000
55	Polymer, installed	2	EA	\$75,000	\$150,000
56	BFP to Hopper Feed Conveyor	200	LF	\$2,000	\$400,000
57	Hopper Feed Conveyor	150	LF	\$3,000	\$450,000
58	Rotary Drum Thickeners	2	EA	\$250,000	\$500,000
59	TWAS pumping	2	EA	\$50,000	\$100,000
60	Polymer, installed	2	EA	\$75,000	\$150,000
61	Pump piping-6 in dia	900	LF	\$150	\$135,000
62	Blower Piping - 10 in to SHT 1 and 2	300	LF	\$150	\$45,000
63	Primary Clarifier				
64	Excavation	18000	cy	\$15	\$270,000
65	Backfill/Compaction	5400	cy	\$25	\$135,000
66	Concrete				
67	Floor	257	CY	\$600	\$153,938
68	Walls	142	CY	\$900	\$128,177
69	Railing	320	LF	\$200	\$64,088
70	Grout	85	CY	\$500	\$42,333
71	Launder	119	CY	\$900	\$106,814
72	Launder Coatings	1	LS	\$50,000	\$50,000
73	Collector/Rake	2	ea	\$360,000	\$720,000
74	PS Pumps	4	ea	\$25,000	\$100,000
75	PC piping suction and discharge	800	LF	\$150	\$120,000
76	PC Mech Piping	2	LS	\$25,000	\$50,000
77					
78	Mesophilic Digestion				
79	Excavation	9389	cy	\$15	\$140,833
80	Backfill/Compaction	2817	cy	\$25	\$70,417
81	Concrete				
82	Floor	737	CY	\$600	\$442,441
83	Walls	606	CY	\$900	\$545,380
84	Roof	246	CY	\$2,500	\$614,501
85	Insulation	1	LS	\$100,000	\$100,000
86	Heating System (Boilers, HW Heat Xch, Pumps)	1	LS	\$850,000	\$850,000
87	Mixing	3	ea	\$400,000	\$1,200,000
88	Flare	1	ea	\$150,000	\$150,000
89	Land Application				
90	Dump Truck	1	ea	\$250,000	\$250,000
91	Tractor/Spreader	1	ea	\$200,000	\$200,000
92	Site storage	1	LS	\$500,000	\$500,000
93					\$0
94					\$0
95					\$0
96	Additional Elements (estimated % of above)				
97	Contractor mobilization and administration			10.0%	\$1,435,000
98	Yard Piping			15.0%	\$2,153,000
99	Site Civil			5.0%	\$718,000
100	Electrical and instrumentation			35.0%	\$5,023,000
101	Bonding			4.0%	\$574,000
102	Contractor overhead and profit			10.0%	\$1,435,000
				SUBTOTAL	\$ 26,640,000
				Construction Contingency: 30%	\$ 7,992,000
				Geotechnical/Site Stabilization: N/A	-
				Prevailing Wages: 7.5%	\$ 2,597,000
				State Sales Tax: N/A	-
				Design / CMS: 20%	\$ 7,446,000
				Legal and Administrative:1%	\$ 372,000
				Escalation Allowance:%	\$ -
				TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)	\$ 45,047,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Solids Stream Alternatives

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Alternative 3: Class A Disposal with Thickening and BFP Dewatering and Dryer

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Demolition/Modifications				
2	Sludge Holding Tank 1 Mods	1	LS	\$25,000	\$25,000
3	Temporary systems – bypass pumping, cleaning, etc.	1	EA	\$50,000	\$50,000
4	Demo Andritz Press	1	EA	\$50,000	\$50,000
5	Demo Current Solids Storage Bldg and Struct. Mods	1	LS	\$100,000	\$100,000
6	Civil				
7	Excavation	1	EA	\$25,000	\$25,000
8	Reroute underground utilities	1	EA	\$100,000	\$100,000
9	Structures				
10	Backfill and Compaction	2	ea	\$20,000	\$40,000
11	Buildings - Thickening Equipment / Electrical Room				
12	40 x 60 Ground Level Building	2400	SF	\$250	\$600,000
13	Concrete Chem and WAS Sludge Blend Tank/Wetwell	200	CY	\$1,500	\$300,000
14	Basement for TWAS and DW Feed Pumps	1200	SF	\$300	\$360,000
15	Buildings - New Dewatering/Electrical				
16	40 x 70	2800	SF	\$275	\$770,000
17	Arch -Polymer Expansion in BFP (previous Andritz)	1	LS	\$50,000	\$50,000
18	Dryer Building				
19	40 x 40	1600	SF	\$250	\$400,000
20					
21					
22	Equipment				
23	Blowers-1000 cfm, installed	2	EA	\$40,000	\$80,000
24	Aeration Grids, installed	2	EA	\$125,000	\$250,000
25	BFP Feed Pumps-450 gpm, installed	4	EA	\$50,000	\$200,000
26	2.5 m Belt press	3	EA	\$937,500	\$2,812,500
27	Polymer, installed	3	EA	\$75,000	\$225,000
28	BFP to Hopper Feed Conveyor	300	LF	\$2,000	\$600,000
29	Hopper Feed Conveyor	150	LF	\$3,000	\$450,000
30	Rotary Drum Thickeners	2	EA	\$250,000	\$500,000
31	TWAS pumping	2	EA	\$50,000	\$100,000
32	Polymer, installed	2	EA	\$75,000	\$150,000
33	Piping				
34	Pump piping-6 in dia	900	LF	\$150	\$135,000
35	Blower Piping - 10 in to SHT 1 and 2	300	LF	\$150	\$45,000
36	Heat Dryer				
37	Dryer	2	ea	\$5,170,000	\$10,340,000
38	Odor Control	1	ea	\$1,400,000	\$1,400,000
39					
40	Land Application				
41	Dump Truck	1	ea	\$250,000	\$250,000
42	Tractor/Spreader	1	ea	\$200,000	\$200,000
43	Site storage	1	LS	\$500,000	\$500,000
44					

45					-
46	Additional Elements (estimated % of above)				
47	Contractor mobilization and administration			10.0%	\$1,876,000
48	Yard Piping			15.0%	\$2,814,000
49	Site Civil			5.0%	\$938,000
50	Electrical and instrumentation			35.0%	\$6,565,000
51	Bonding			4.0%	\$750,000
52	Contractor overhead and profit			10.0%	\$2,016,000
SUBTOTAL					\$ 36,067,000
Construction Contingency: 30%					\$ 10,820,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 3,517,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 10,081,000
Legal and Administrative: 1%					\$ 504,000
Escalation Allowance: %					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 60,989,000

ENGINEER'S OPINION OF PROBABLE COST - CAPITAL COSTS

Facility Plan - Solids Stream Alternatives

PROJECT: City of Post Falls WRF Facility Plan **DATE:** 2/1/2024

PROJECT DESCRIPTION:
Alternative 4: Class A Disposal with Thickening and BFP Dewatering and Composting

CLIENT:
City of Post Falls

P/N: 20-22-019

ITEM NO.	DESCRIPTION	SCHEDULE OF VALUES			
		QNTY	UNIT	UNIT PRICE	TOTAL COST
1	Demolition/Modifications				
2	Sludge Holding Tank 1 Mods	1	LS	\$25,000	\$25,000
3	Temporary systems – bypass pumping, cleaning, etc.	1	EA	\$50,000	\$50,000
4	Demo Andritz Press	1	EA	\$50,000	\$50,000
5	Demo Current Solids Storage Bldg and Struct. Mods	1	LS	\$100,000	\$100,000
6	Civil				
7	Excavation	1	EA	\$25,000	\$25,000
8	Reroute underground utilities	1	EA	\$100,000	\$100,000
9	Structures				
10	Backfill and Compaction	2	ea	\$20,000	\$40,000
11	Buildings - Thickening Equipment / Electrical Room				
12	40 x 60 Ground Level Building	2400	SF	\$250	\$600,000
13	Concrete Chem and WAS Sludge Blend Tank/Wetwell	200	CY	\$1,500	\$300,000
14	Basement for TWAS and DW Feed Pumps	1200	SF	\$300	\$360,000
15	Buildings - New Dewatering/Electrical				
16	40 x 70	2800	SF	\$275	\$770,000
17	Arch -Polymer Expansion in BFP (previous Andritz)	1	LS	\$50,000	\$50,000
18					
19	Equipment				
20	Blowers-1000 cfm, installed	2	EA	\$40,000	\$80,000
21	Aeration Grids, installed	2	EA	\$125,000	\$250,000
22	BFP Feed Pumps-450 gpm, installed	4	EA	\$50,000	\$200,000
23	2.5 m Belt press	3	EA	\$937,500	\$2,812,500
24	Polymer, installed	3	EA	\$75,000	\$225,000
25	BFP to Hopper Feed Conveyor	300	LF	\$2,000	\$600,000
26	Hopper Feed Conveyor	150	LF	\$3,000	\$450,000
27	Rotary Drum Thickeners	2	EA	\$250,000	\$500,000
28	TWAS pumping	2	EA	\$50,000	\$100,000
29	Polymer, installed	2	EA	\$75,000	\$150,000
30	Piping				
31	Pump piping-6 in dia	900	LF	\$150	\$135,000
32	Blower Piping - 10 in to SHT 1 and 2	300	LF	\$150	\$45,000
33					
34	Compost				
35	Stormwater	1	ea	\$1,295,000	\$1,295,000
36	Utilities	1	ea	\$1,022,000	\$1,022,000
37	Aeration	1	ea	\$2,550,000	\$2,550,000
38	Control Building	1000	sf	\$250	\$250,000
39	Geofabric	145200	sy	\$2	\$254,100
40	Base	3630	tons	\$20	\$72,600
41	Asphalt	24200	tons	\$67	\$1,621,400
42	Equipment Allowance	1	LS	\$1,000,000	\$1,000,000
43	Land Application				
44	Dump Truck	1	ea	\$250,000	\$250,000
45	Tractor/Spreader	1	ea	\$200,000	\$200,000

46	Site storage	1	LS	\$500,000	\$500,000
47					
48					-
49	Additional Elements (estimated % of above)				
50	Contractor mobilization and administration			10.0%	\$1,508,000
51	Yard Piping			15.0%	\$2,262,000
52	Site Civil			5.0%	\$754,000
53	Electrical and instrumentation			35.0%	\$5,279,000
54	Bonding			4.0%	\$603,000
55	Contractor overhead and profit			10.0%	\$1,508,000
SUBTOTAL					\$ 20,929,000
Construction Contingency: 30%					\$ 6,279,000
Geotechnical/Site Stabilization: N/A					-
Prevailing Wages: 7.5%					\$ 2,041,000
State Sales Tax: N/A					-
Design / CMS: 20%					\$ 5,850,000
Legal and Administrative: 1%					\$ 292,000
Escalation Allowance: %					\$ -
TOTAL PROBABLE CAPITAL COST (2023 DOLLARS)					\$ 35,391,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

PROJECT: City of Post Falls WRF Facility Plan											DATE: 2/1/2024	
PROJECT DESCRIPTION: Alternative 1A: BarrTech Disposal-Unthickened sludge												
CLIENT: City of Post Falls												
P/N: 20-22-019												
	Equipment Maintenance		Labor		Electrical Use - Pumping		Electrical Use - Other		Other		Present Worth	
	Capital Cost	\$5,027,500	Hours per day	8	Year 1 Kw-hr demand	1200	Year 1 HP demand	311	Year 1 Cost	\$581,479		
	Maintenance / yr	2.5%	Cost per hour	\$50	Cost per kW-hr	\$0.07	Cost per kW-hr	\$0.07	Haul biosolids + polymer			
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	4.56%	Discount Rate	
					Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%	2.5%	
							months of use		12			
Year	Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Total by Year	Present Worth
1		\$125,688		\$104,000		\$15,456		\$142,209		\$581,479	\$968,831	\$968,831
2		\$131,972		\$107,120		\$16,969		\$156,128		\$638,394	\$1,050,583	\$1,024,959
3		\$138,570		\$110,334		\$18,630		\$171,410		\$700,880	\$1,139,824	\$1,084,901
4		\$145,499		\$113,644		\$20,453		\$188,188		\$769,482	\$1,237,266	\$1,148,924
5		\$152,774		\$117,053		\$22,455		\$206,608		\$844,799	\$1,343,689	\$1,217,316
6		\$160,413		\$120,565		\$24,653		\$226,830		\$927,488	\$1,459,949	\$1,290,382
7		\$168,433		\$124,181		\$27,066		\$249,032		\$1,018,271	\$1,586,984	\$1,368,451
8		\$176,855		\$127,907		\$29,715		\$273,408		\$1,117,939	\$1,725,824	\$1,451,876
9		\$185,698		\$131,744		\$32,624		\$300,169		\$1,227,363	\$1,877,598	\$1,541,032
10		\$194,983		\$135,696		\$35,817		\$329,549		\$1,347,497	\$2,043,543	\$1,636,323
11		\$204,732		\$139,767		\$39,323		\$361,806		\$1,479,390	\$2,225,018	\$1,738,180
12		\$214,968		\$143,960		\$43,172		\$397,219		\$1,624,193	\$2,423,513	\$1,847,068
13		\$225,717		\$148,279		\$47,398		\$436,099		\$1,783,169	\$2,640,661	\$1,963,479
14		\$237,003		\$152,728		\$52,037		\$478,784		\$1,957,706	\$2,878,257	\$2,087,946
15		\$248,853		\$157,309		\$57,130		\$525,648		\$2,149,326	\$3,138,266	\$2,221,036
16		\$261,295		\$162,029		\$62,722		\$577,098		\$2,359,702	\$3,422,846	\$2,363,357
17		\$274,360		\$166,889		\$68,861		\$633,585		\$2,590,670	\$3,734,365	\$2,515,561
18		\$288,078		\$171,896		\$75,601		\$695,600		\$2,844,244	\$4,075,420	\$2,678,346
19		\$302,482		\$177,053		\$83,001		\$763,685		\$3,122,639	\$4,448,860	\$2,852,458
20		\$317,606		\$182,365		\$91,125		\$838,435		\$3,428,283	\$4,857,814	\$3,038,697
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)												\$ 36,039,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

PROJECT: City of Post Falls WRF Facility Plan										DATE: 2/1/2024		
PROJECT DESCRIPTION: Alternative 1B: BarrTech Disposal with Thickening and BFP Dewatering												
CLIENT: City of Post Falls												
P/N: 20-22-019												
Year	Equipment Maintenance		Labor		Electrical Use - Pumping		Electrical Use - Other		Other		Present Worth	
	Capital Cost	\$5,367,500	Hours per day	8	Year 1 Kw-hr demand	1200	Year 1 HP demand	88	Year 1 Cost	\$581,788		
	Maintenance / yr	2.5%	Cost per hour	\$50	Cost per kW-hr	\$0.07	Cost per kW-hr	\$0.07	Haul +polymer			
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	4.56%	Discount Rate	
					Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%	2.5%	
							months of use	12				
	Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Total by Year	Present Worth
1	\$134,188		\$104,000		\$15,456		\$40,239		\$581,788		\$875,671	\$875,671
2	\$140,897		\$107,120		\$16,969		\$44,178		\$638,733		\$947,897	\$924,777
3	\$147,942		\$110,334		\$18,630		\$48,502		\$701,253		\$1,026,660	\$977,189
4	\$155,339		\$113,644		\$20,453		\$53,249		\$769,891		\$1,112,576	\$1,033,138
5	\$163,106		\$117,053		\$22,455		\$58,461		\$845,248		\$1,206,323	\$1,092,869
6	\$171,261		\$120,565		\$24,653		\$64,183		\$927,981		\$1,308,643	\$1,156,650
7	\$179,824		\$124,181		\$27,066		\$70,466		\$1,018,812		\$1,420,349	\$1,224,763
8	\$188,815		\$127,907		\$29,715		\$77,363		\$1,118,533		\$1,542,334	\$1,297,512
9	\$198,256		\$131,744		\$32,624		\$84,935		\$1,228,015		\$1,675,575	\$1,375,222
10	\$208,169		\$135,696		\$35,817		\$93,249		\$1,348,213		\$1,821,144	\$1,458,242
11	\$218,577		\$139,767		\$39,323		\$102,376		\$1,480,176		\$1,980,220	\$1,546,945
12	\$229,506		\$143,960		\$43,172		\$112,396		\$1,625,056		\$2,154,091	\$1,641,729
13	\$240,981		\$148,279		\$47,398		\$123,398		\$1,784,117		\$2,344,173	\$1,743,023
14	\$253,031		\$152,728		\$52,037		\$135,476		\$1,958,746		\$2,552,017	\$1,851,285
15	\$265,682		\$157,309		\$57,130		\$148,736		\$2,150,468		\$2,779,326	\$1,967,005
16	\$278,966		\$162,029		\$62,722		\$163,295		\$2,360,956		\$3,027,967	\$2,090,707
17	\$292,914		\$166,889		\$68,861		\$179,278		\$2,592,046		\$3,299,989	\$2,222,955
18	\$307,560		\$171,896		\$75,601		\$196,826		\$2,845,756		\$3,597,639	\$2,364,351
19	\$322,938		\$177,053		\$83,001		\$216,091		\$3,124,298		\$3,923,382	\$2,515,539
20	\$339,085		\$182,365		\$91,125		\$237,242		\$3,430,105		\$4,279,922	\$2,677,210
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)												\$ 32,037,000
equivalent yearly cost =												\$2,005,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

PROJECT: City of Post Falls WRF Facility Plan										DATE: 2/1/2024		
PROJECT DESCRIPTION: Alternative 1C: BarrTech Disposal with Thickening and Centrifuge Dewatering												
CLIENT: City of Post Falls												
P/N: 20-22-019												
Year	Equipment Maintenance		Labor		Electrical Use - Pumping		Electrical Use - Other		Other		Present Worth	
	Capital Cost	\$6,855,000	Hours per day	12	Year 1 Kw-hr demand	6775	Year 1 HP demand	90	Year 1 Cost=haul+polymer+b	\$562,864		
	Maintenance / yr	2.5%	Cost per hour	\$50	Cost per kW-hr	\$0.07	Cost per kW-hr	\$0.07	Increased use / yr	4.56%		Discount Rate
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr	4.56%	Increased use / yr	4.56%	Inflation / yr	5.0%		2.5%
					Inflation / yr	5.0%	Inflation / yr	5.0%	months of use	12		
	Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Total by Year	Present Worth
1	\$171,375		\$156,000		\$87,262		\$41,154		\$562,864		\$1,018,655	\$1,018,655
2	\$179,944		\$160,680		\$95,803		\$45,182		\$617,957		\$1,099,566	\$1,072,747
3	\$188,941		\$165,500		\$105,180		\$49,604		\$678,443		\$1,187,669	\$1,130,440
4	\$198,388		\$170,465		\$115,475		\$54,459		\$744,849		\$1,283,637	\$1,191,985
5	\$208,307		\$175,579		\$126,778		\$59,790		\$817,755		\$1,388,209	\$1,257,649
6	\$218,723		\$180,847		\$139,187		\$65,642		\$897,796		\$1,502,195	\$1,327,722
7	\$229,659		\$186,272		\$152,811		\$72,067		\$985,673		\$1,626,482	\$1,402,510
8	\$241,142		\$191,860		\$167,768		\$79,121		\$1,082,150		\$1,762,042	\$1,482,344
9	\$253,199		\$197,616		\$184,189		\$86,866		\$1,188,071		\$1,909,941	\$1,567,578
10	\$265,859		\$203,545		\$202,218		\$95,368		\$1,304,360		\$2,071,349	\$1,658,588
11	\$279,152		\$209,651		\$222,011		\$104,703		\$1,432,030		\$2,247,546	\$1,755,780
12	\$293,109		\$215,940		\$243,741		\$114,951		\$1,572,197		\$2,439,939	\$1,859,587
13	\$307,765		\$222,419		\$267,598		\$126,202		\$1,726,084		\$2,650,068	\$1,970,474
14	\$323,153		\$229,091		\$293,791		\$138,555		\$1,895,033		\$2,879,624	\$2,088,938
15	\$339,311		\$235,964		\$322,547		\$152,117		\$2,080,519		\$3,130,458	\$2,215,510
16	\$356,276		\$243,043		\$354,118		\$167,006		\$2,284,160		\$3,404,604	\$2,350,762
17	\$374,090		\$250,334		\$388,779		\$183,352		\$2,507,734		\$3,704,290	\$2,495,302
18	\$392,795		\$257,844		\$426,833		\$201,299		\$2,753,191		\$4,031,962	\$2,649,785
19	\$412,434		\$265,580		\$468,611		\$221,002		\$3,022,673		\$4,390,301	\$2,814,911
20	\$433,056		\$273,547		\$514,479		\$242,634		\$3,318,532		\$4,782,248	\$2,991,429
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)											\$ 36,303,000	

equivalent yearly cost = \$2,272,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE														
PROJECT: City of Post Falls WRF Facility Plan								DATE: 2/1/2024						
PROJECT DESCRIPTION: Alternative 2: Class B Disposal with Thickening, Mesophilic Digestion and BFP Dewatering														
CLIENT: City of Post Falls														
P/N: 20-22-019														
Year	Equipment Maintenance		Labor		Electrical Use - Pumping		Electrical Use - Other		Other		Not Used		Present Worth	
	Capital Cost	\$7,675,000	Hours per day	24	Year 1 kW-hr demand	7030	Year 1 HP demand	90	Year 1 Cost	\$288,566	Year 1 Cost			
	Maintenance / yr	2.5%	Cost per hour	\$50	Cost per kW-hr	\$0.07	Cost per kW-hr	\$0.07	Haul and land apply+ polymer+boiler heating=					
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	1.50%		Discount Rate
					Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%		2.5%
							months of use	12						
	Cost in Year i		Cost in Year i		Cost in Year i		Cost in Year i		Cost in Year i		Cost in Year i		Total by Year	Present Worth
1	\$191,875		\$312,000		\$90,546		\$41,154		\$288,566		\$0		\$924,141	\$924,141
2	\$201,469		\$321,360		\$99,409		\$45,182		\$316,811		\$0		\$984,230	\$960,225
3	\$211,542		\$331,001		\$109,139		\$49,604		\$347,820		\$0		\$1,049,107	\$998,555
4	\$222,119		\$340,931		\$119,822		\$54,459		\$381,865		\$0		\$1,119,196	\$1,039,285
5	\$233,225		\$351,159		\$131,550		\$59,790		\$419,242		\$0		\$1,194,966	\$1,082,580
6	\$244,887		\$361,694		\$144,426		\$65,642		\$460,277		\$0		\$1,276,926	\$1,128,616
7	\$257,131		\$372,544		\$158,562		\$72,067		\$505,329		\$0		\$1,365,634	\$1,177,582
8	\$269,987		\$383,721		\$174,083		\$79,121		\$554,791		\$0		\$1,461,703	\$1,229,680
9	\$283,487		\$395,232		\$191,122		\$86,866		\$609,094		\$0		\$1,565,800	\$1,285,125
10	\$297,661		\$407,089		\$209,829		\$95,368		\$668,712		\$0		\$1,678,659	\$1,344,150
11	\$312,544		\$419,302		\$230,367		\$104,703		\$734,165		\$0		\$1,801,081	\$1,407,001
12	\$328,171		\$431,881		\$252,915		\$114,951		\$806,025		\$0		\$1,933,944	\$1,473,945
13	\$344,580		\$444,837		\$277,670		\$126,202		\$884,919		\$0		\$2,078,209	\$1,545,265
14	\$361,809		\$458,183		\$304,849		\$138,555		\$971,535		\$0		\$2,234,930	\$1,621,264
15	\$379,899		\$471,928		\$334,687		\$152,117		\$1,066,629		\$0		\$2,405,261	\$1,702,268
16	\$398,894		\$486,086		\$367,447		\$167,006		\$1,171,031		\$0		\$2,590,463	\$1,788,626
17	\$418,839		\$500,668		\$403,412		\$183,352		\$1,285,651		\$0		\$2,791,923	\$1,880,709
18	\$439,781		\$515,688		\$442,898		\$201,299		\$1,411,491		\$0		\$3,011,157	\$1,978,918
19	\$461,770		\$531,159		\$486,249		\$221,002		\$1,549,647		\$0		\$3,249,828	\$2,083,679
20	\$484,859		\$547,094		\$533,843		\$242,634		\$1,701,327		\$0		\$3,509,756	\$2,195,450
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)														\$ 28,847,000
equivalent yearly cost =														\$1,805,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE														
PROJECT: City of Post Falls WRF Facility Plan										DATE: 2/1/2024				
PROJECT DESCRIPTION: Alternative 3: Class A Disposal with Thickening and BFP Dewatering and Dryer														
CLIENT: City of Post Falls														
P/N: 20-22-019														
Year	Equipment Maintenance		Labor		Electrical Use - Pumping		Electrical Use - Other		Other		Not Used		Present Worth	
	Capital Cost	\$17,557,500	Hours per day	16	Year 1 kW-hr demand	1100	Year 1 HP demand	180	Year 1 Cost	\$213,389	Year 1 Cost			
	Maintenance / yr	2.5%	Cost per hour	\$50	Cost per kW-hr	\$0.07	Cost per kW-hr	\$0.07	Haul and land apply + polymer+nat gas					
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	1.50%		Discount Rate
					Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%		2.5%
	Cost in Year i		Cost in Year i		Cost in Year i		Cost in Year i		Cost in Year i		Cost in Year i		Total by Year	Present Worth
1	\$438,938		\$208,000		\$14,168		\$82,307		\$213,389		\$0		\$956,802	\$956,802
2	\$460,884		\$214,240		\$15,555		\$90,364		\$234,276		\$0		\$1,015,318	\$990,554
3	\$483,929		\$220,667		\$17,077		\$99,208		\$257,206		\$0		\$1,078,088	\$1,026,140
4	\$508,125		\$227,287		\$18,749		\$108,919		\$282,382		\$0		\$1,145,462	\$1,063,675
5	\$533,531		\$234,106		\$20,584		\$119,580		\$310,021		\$0		\$1,217,822	\$1,103,287
6	\$560,208		\$241,129		\$22,599		\$131,284		\$340,366		\$0		\$1,295,586	\$1,145,109
7	\$588,218		\$248,363		\$24,811		\$144,135		\$373,681		\$0		\$1,379,207	\$1,189,286
8	\$617,629		\$255,814		\$27,239		\$158,242		\$410,257		\$0		\$1,469,182	\$1,235,971
9	\$648,511		\$263,488		\$29,905		\$173,731		\$450,413		\$0		\$1,566,048	\$1,285,329
10	\$680,936		\$271,393		\$32,832		\$190,736		\$494,500		\$0		\$1,670,397	\$1,337,534
11	\$714,983		\$279,535		\$36,046		\$209,405		\$542,901		\$0		\$1,782,870	\$1,392,775
12	\$750,732		\$287,921		\$39,574		\$229,902		\$596,040		\$0		\$1,904,169	\$1,451,253
13	\$788,269		\$296,558		\$43,448		\$252,405		\$654,381		\$0		\$2,035,060	\$1,513,181
14	\$827,682		\$305,455		\$47,700		\$277,110		\$718,432		\$0		\$2,176,379	\$1,578,790
15	\$869,066		\$314,619		\$52,369		\$304,233		\$788,752		\$0		\$2,329,039	\$1,648,324
16	\$912,520		\$324,057		\$57,495		\$334,012		\$865,955		\$0		\$2,494,038	\$1,722,048
17	\$958,146		\$333,779		\$63,123		\$366,705		\$950,714		\$0		\$2,672,467	\$1,800,240
18	\$1,006,053		\$343,792		\$69,301		\$402,598		\$1,043,770		\$0		\$2,865,515	\$1,883,202
19	\$1,056,355		\$354,106		\$76,085		\$442,004		\$1,145,934		\$0		\$3,074,485	\$1,971,255
20	\$1,109,173		\$364,729		\$83,532		\$485,268		\$1,258,098		\$0		\$3,300,800	\$2,064,742
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)														\$ 28,359,000
														equivalent yearly cost = \$1,775,000

ENGINEER'S OPINION OF PROBABLE COST - OPERATION AND MAINTENANCE

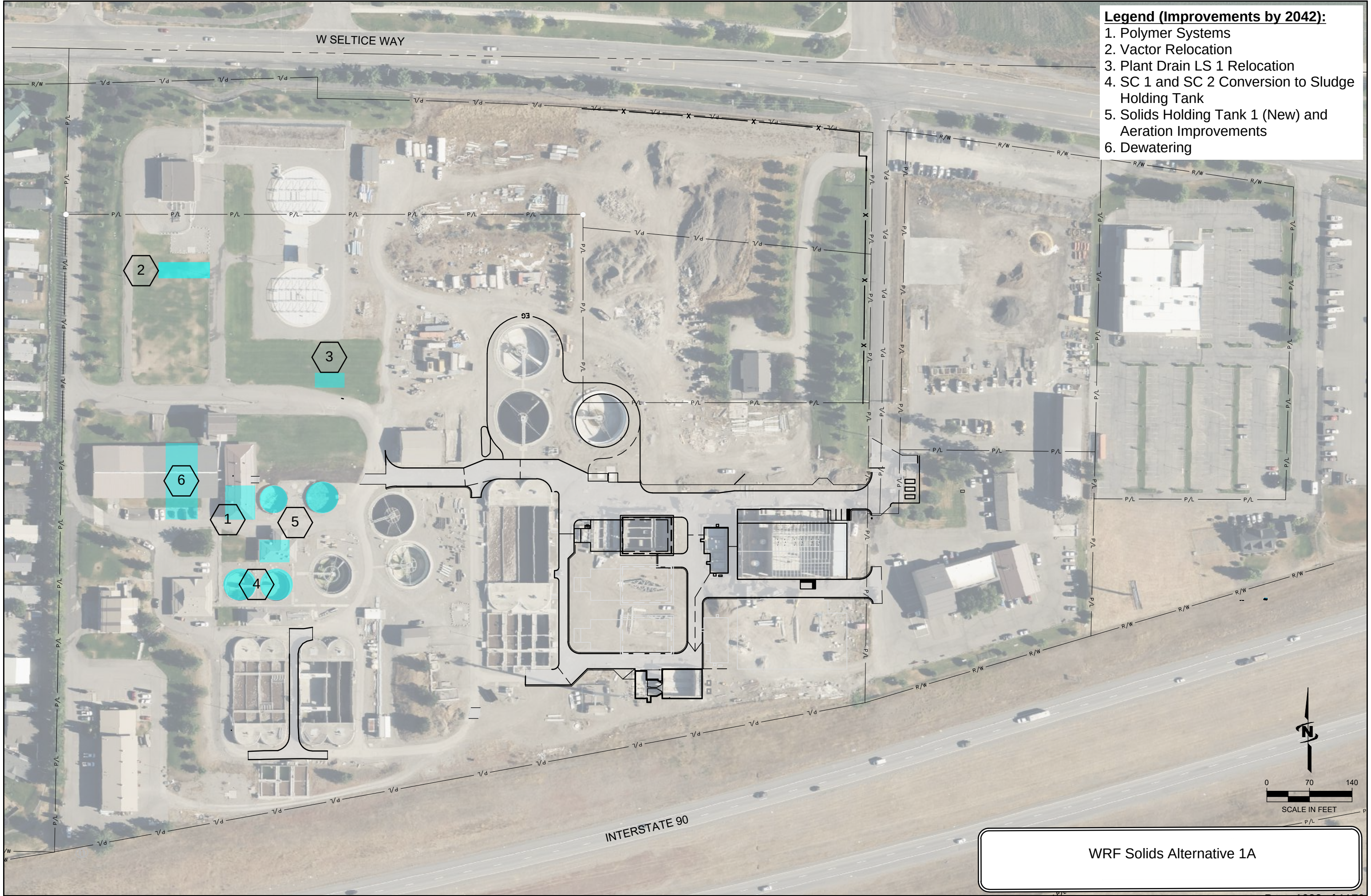
PROJECT: City of Post Falls WRF Facility Plan											DATE: 2/1/2024	
PROJECT DESCRIPTION: Alternative 4: Class A Disposal with Thickening and BFP Dewatering and Composting												
CLIENT: City of Post Falls												
P/N: 20-22-019												
	Equipment Maintenance		Labor		Electrical Use - Pumping		Electrical Use - Other		Other		Present Worth	
	Capital Cost	\$6,198,100	Hours per day	16	Year 1 Kw-hr demand	1440	Year 1 HP demand	107	Year 1 Cost	\$1,296,555		
	Maintenance / yr	2.5%	Cost per hour	\$50	Cost per kW-hr	\$0.07	Cost per kW-hr	\$0.07	woodwaste+haul+polymer			
	Inflation / yr	5.0%	Salary adjustment / yr	3.0%	Increased use / yr	4.56%	Increased use / yr	4.56%	Increased use / yr	4.56%	Discount Rate	
					Inflation / yr	5.0%	Inflation / yr	5.0%	Inflation / yr	5.0%	2.5%	
Year	Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Cost in Year <i>i</i>		Total by Year	Present Worth
1	\$154,953		\$208,000		\$18,547		\$48,927		\$1,296,555		\$1,726,982	\$1,726,982
2	\$162,700		\$214,240		\$20,363		\$53,716		\$1,423,462		\$1,874,481	\$1,828,762
3	\$170,835		\$220,667		\$22,356		\$58,974		\$1,562,790		\$2,035,622	\$1,937,534
4	\$179,377		\$227,287		\$24,544		\$64,746		\$1,715,756		\$2,211,710	\$2,053,793
5	\$188,346		\$234,106		\$26,946		\$71,084		\$1,883,694		\$2,404,176	\$2,178,065
6	\$197,763		\$241,129		\$29,584		\$78,041		\$2,068,070		\$2,614,587	\$2,310,914
7	\$207,651		\$248,363		\$32,479		\$85,680		\$2,270,493		\$2,844,666	\$2,452,947
8	\$218,034		\$255,814		\$35,658		\$94,066		\$2,492,729		\$3,096,301	\$2,604,811
9	\$228,935		\$263,488		\$39,149		\$103,274		\$2,736,717		\$3,371,563	\$2,767,199
10	\$240,382		\$271,393		\$42,981		\$113,382		\$3,004,587		\$3,672,725	\$2,940,855
11	\$252,401		\$279,535		\$47,188		\$124,480		\$3,298,676		\$4,002,279	\$3,126,574
12	\$265,021		\$287,921		\$51,806		\$136,664		\$3,621,551		\$4,362,963	\$3,325,209
13	\$278,272		\$296,558		\$56,877		\$150,041		\$3,976,028		\$4,757,776	\$3,537,672
14	\$292,186		\$305,455		\$62,444		\$164,726		\$4,365,202		\$5,190,013	\$3,764,941
15	\$306,795		\$314,619		\$68,556		\$180,850		\$4,792,467		\$5,663,288	\$4,008,063
16	\$322,135		\$324,057		\$75,266		\$198,551		\$5,261,554		\$6,181,565	\$4,268,157
17	\$338,242		\$333,779		\$82,634		\$217,986		\$5,776,555		\$6,749,195	\$4,546,426
18	\$355,154		\$343,792		\$90,722		\$239,322		\$6,341,964		\$7,370,954	\$4,844,155
19	\$372,912		\$354,106		\$99,602		\$262,747		\$6,962,716		\$8,052,082	\$5,162,721
20	\$391,557		\$364,729		\$109,351		\$288,465		\$7,644,226		\$8,798,328	\$5,503,598
NET PRESENT WORTH - PROBABLE O&M COSTS (2022 DOLLARS)												\$ 64,889,000

equivalent yearly cost = \$4,061,000

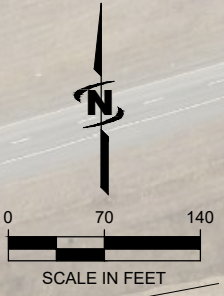
Appendix 6-C

Preliminary WRF Site Layouts for Solids Improvement Alternatives

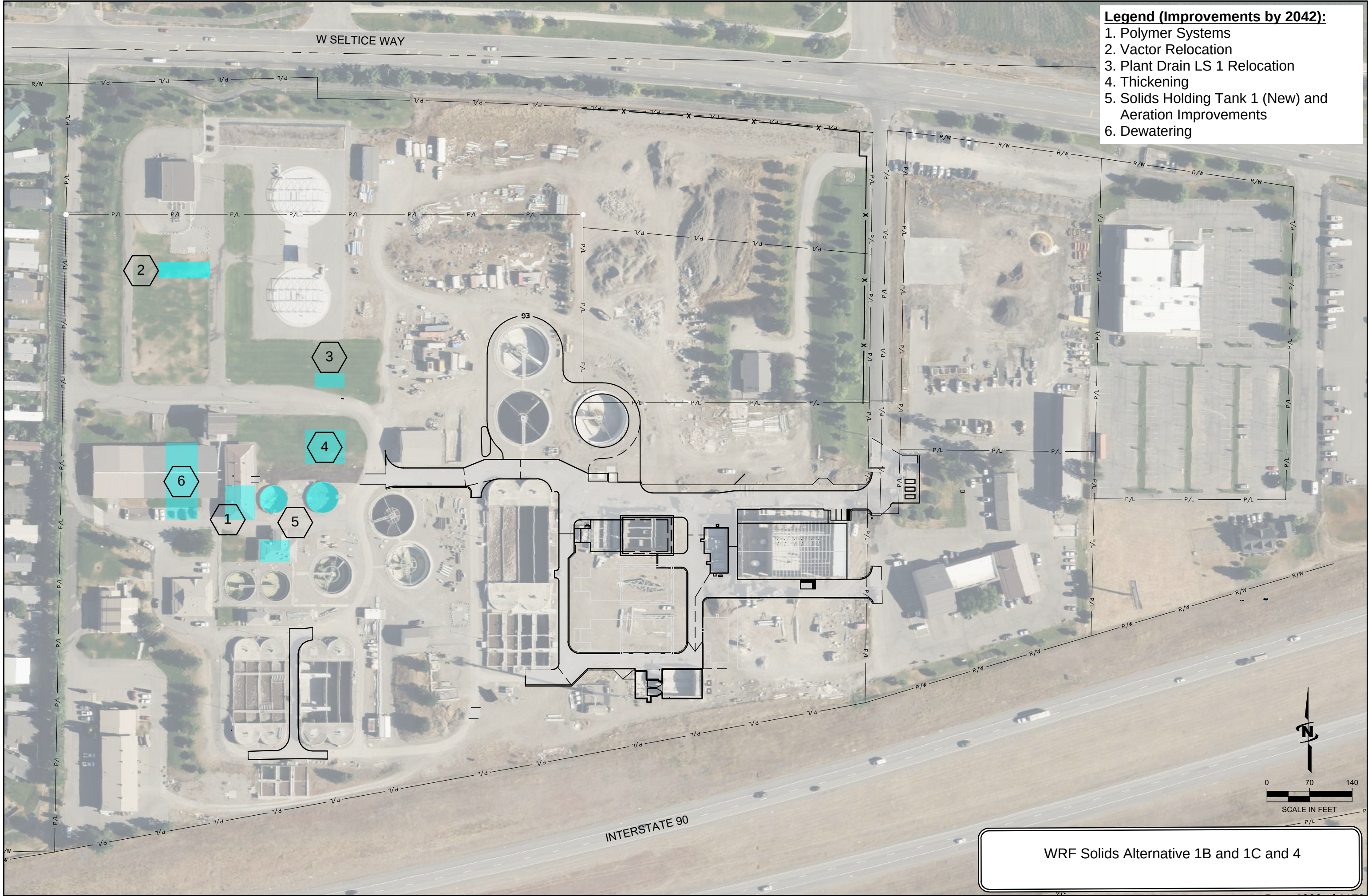
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- Legend (Improvements by 2042):**
- 1. Polymer Systems
 - 2. Vector Relocation
 - 3. Plant Drain LS 1 Relocation
 - 4. SC 1 and SC 2 Conversion to Sludge Holding Tank
 - 5. Solids Holding Tank 1 (New) and Aeration Improvements
 - 6. Dewatering

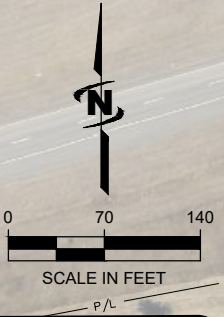


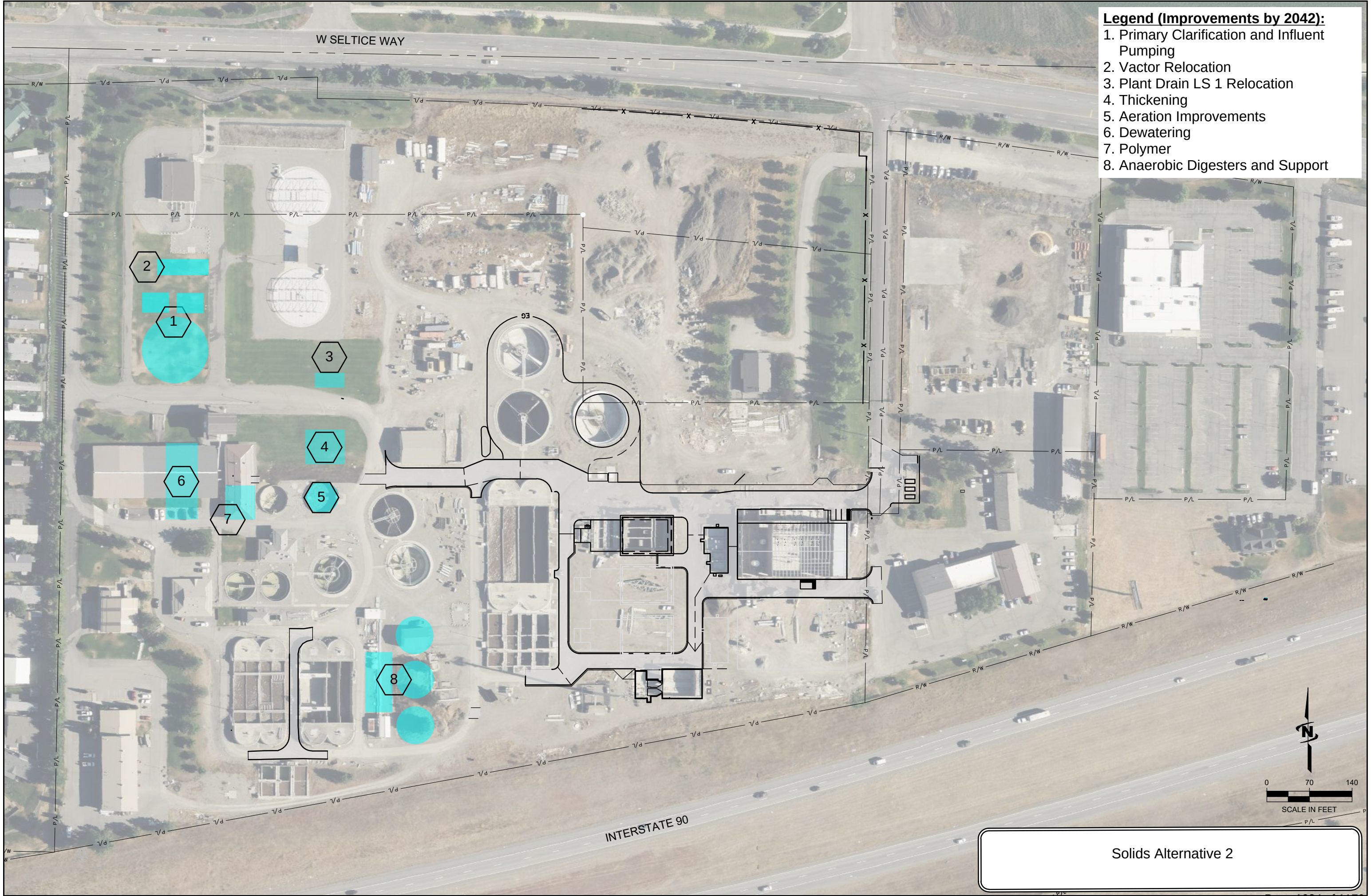
WRF Solids Alternative 1A

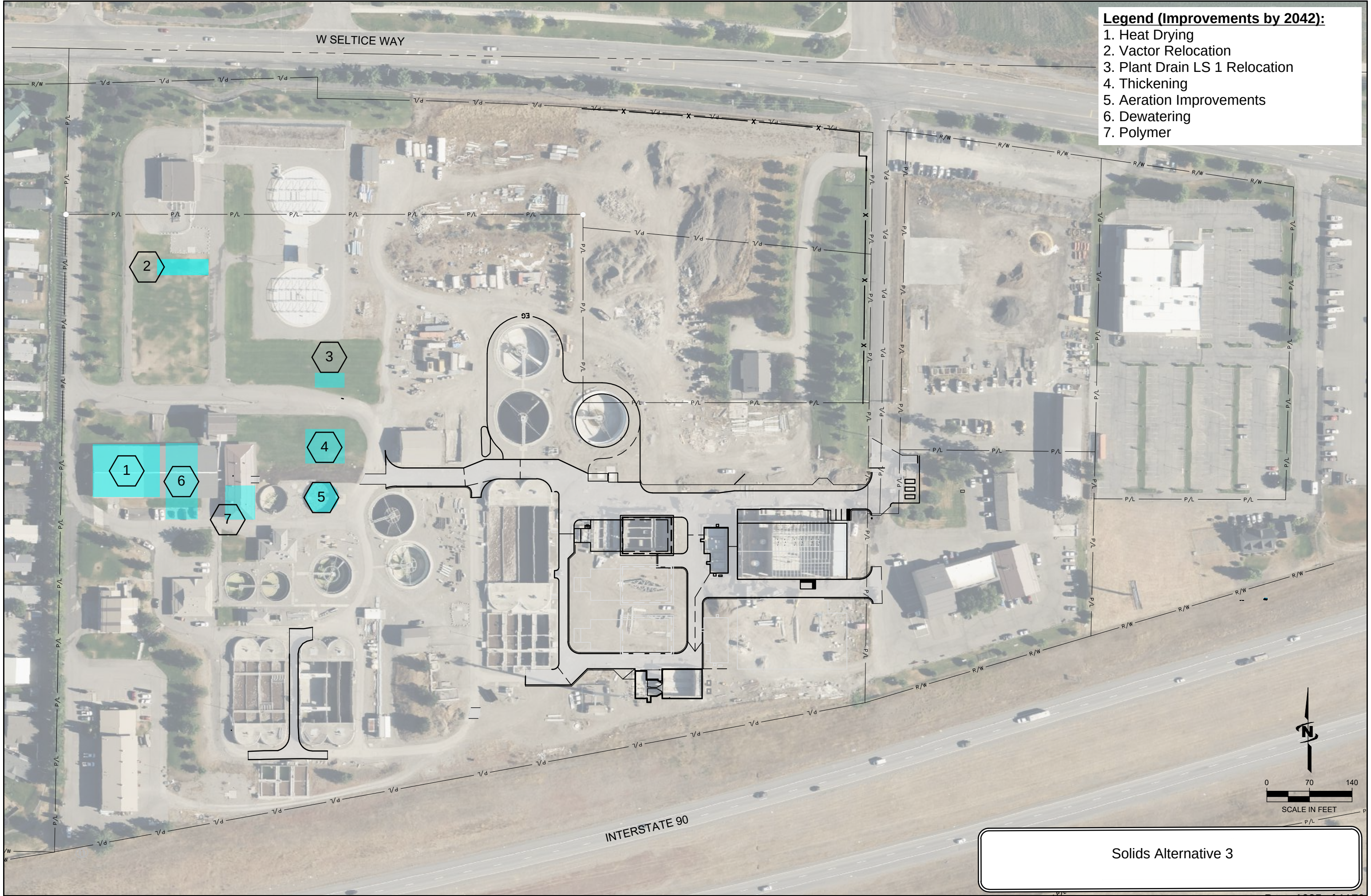


- Legend (Improvements by 2042):**
- 1. Polymer Systems
 - 2. Vector Relocation
 - 3. Plant Drain LS 1 Relocation
 - 4. Thickening
 - 5. Solids Holding Tank 1 (New) and Aeration Improvements
 - 6. Dewatering

WRF Solids Alternative 1B and 1C and 4







CHAPTER 7

CAPITAL IMPROVEMENT AND FINANCIAL PLAN

City of Post Falls WRF Facility Plan

May 2024

Prepared by:



J-U-B ENGINEERS, INC.

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7 CAPITAL IMPROVEMENT AND FINANCIAL PLAN

7.1 Introduction

Alternatives for addressing identified capacity and operational concerns were developed and evaluated in Chapters 5 and 6. The selected improvements are summarized in **Table 7-1** and reflect the evaluation of monetary and non-monetary criteria as selected and by the City and presented previously. **Figure 7-1** illustrates the changes to the WRF process and the likely siting for the various phases of improvements within the WRF site with phasing for implementation of reuse projects shown in **Figure 7-2**.

Figure 7-1 also shows preliminary site space allocation for the build-out of the WRF property, with eventual expansion into the streets department parcel. It is anticipated that the initial biosolids projects over the next 5 years will not require work on the streets department parcel, however expansion of the plant secondary capacity with the construction of OD7 (anticipated around 2028) and associated work will require use of the streets department parcel for contractor staging and to allow for excavation and lay-down of materials.

7.2 Capital Improvement Plan (CIP)

To develop a comprehensive capital improvement plan, projects identified for the WRF and Reuse sites were coupled with needs within the collection system, identified in the 2019 Collection System Master Plan (Keller, 2019). WRF projects were reviewed with the City to determine which components were most critical for retaining adequate treatment capacity, maintaining reliable operations and satisfying known permit conditions. Collection System projects were reviewed with the City and updated to reflect projects that had already been completed; were currently in design and/or construction and the anticipated timing for all remaining projects.

The recommended CIP and phasing for WRF/Reuse projects were based on the above considerations and is included in **Appendix 7-A**. The updated collection system CIP and anticipated phasing is presented in **Appendix 7-B**. The capital costs for the WRF/Reuse projects are in 2023 dollars. Capital costs include estimated overhead costs including, design and construction support engineering, legal and administrative costs, contingency and assume the use of City funds with typical municipal construction requirements. Capital costs in **Appendices 7-A and 7-B** do not account for projects requiring funding via loans that might include special provisions for materials or other financing requirements that could impact overall project costs. These types of additional funding agency requirements as well as cash-flow balances, and inflation of projects are accounted-for as part of the financial analysis prepared by FCS Group and presented later in this chapter. Collections system CIP costs (**Appendix 7-A**) were updated as part of this report to 2023 dollars from the original 2019 Master Plan that utilized 2018 dollars.

Prior to implementing projects, the estimated capital costs should be reviewed and revised accordingly to account for inflation, possible changes in facility needs/regulatory changes, loading to the plant and available funding sources.

Both the WRF/Reuse CIP and Collections System CIP were merged into the financial analysis model to predict cash flow balances and rate impacts over the 20-year planning period.

Table 7-1 - WRF and Reuse Capital Improvement Projects Summary

No.	Description	Capital Cost (2023 Dollars)	Project Summary / Description
1.1	Headworks- Influent Mods	\$586,000	Modify influent piping for additional forcemains, odor control collection improvements
1.2	Headworks- 3rd Channel/Train	\$3,006,000	Additional screenings and grit removal channel for increased capacity.
2.1	Equalization Modifications for OD 7 Feed Control	\$630,000	Equalized flow control valve/meter system for feed to BNR 7 expansion
2.2	Equalization Tanks PS 2 and Tank 3	\$7,198,000	Addition of Equalization Tank 3 and associated Pump Station
2.3	Equalization Tank 4 and Pumping	\$4,215,000	Addition of Equalization Tank 4
3	Biological Nutrient Removal (Train 7)	\$15,778,000	BNR Train 7 Expansion and Flow Control at Splitter Box S-1 Improvements
4	Biological Nutrient Removal (Train 8)	\$13,949,000	BNR Train 8 Expansion
5	Biological Nutrient Removal (Train 9)	\$13,949,000	BNR Train 9 Expansion
6	UB3, SC Splitter Box, and Scum Pumping	\$5,196,000	Utility Building No.3 and associated RAS and Scum Pumping to Support SC No. 9 through 11.
7	Secondary Clarifier No. 9	\$2,934,000	Secondary Clarifier No. 9 and Associated RAS/WAS Pump.
8	Secondary Clarifier No. 10	\$2,934,000	Secondary Clarifier No. 10 and Associated RAS/WAS Pump
9	Secondary Clarifier No. 11	\$2,934,000	Secondary Clarifier No. 11 and Associated RAS/WAS Pump
10.1	Intermediate Pumping 2 (IP2)	\$2,200,000	Intermediate Pump Station No. 2 (IP2) including feed to Tertiary Clarification Building No.2 (TC2)
10.2	Tertiary Clarification 2 (TC2)	\$11,481,000	Tertiary Clarification Building No.2 (TC2) and associated chemical feed modifications to within MF1 Facility
10.3	MF1 Module Capacity Expansion/Replacement	\$860,200	Membrane Module Replacement at MF1 Building and expansion to fully populate existing MF1 membrane racks
11	Chem Feed and Bulk Storage	\$2,243,000	Chem Feed and Bulk Storage to Support TC2 and MF2 Buildings and Facilities
12	Tertiary Membrane Filtration 2	\$36,250,000	Tertiary Membrane Filtration No. 2 (MF2) Facility
13	UV Disinfection (Expansion of River Discharge)	\$510,000	Addition of UV banks to existing UV channels for increased capacity
14	Outfall Piping Improvements	\$1,239,000	Outfall piping improvements from WRF across I-90 and south to Lundy Blvd connection to Phase 1 Outfall Project.
15	Vactor Dump Station Improvements	\$604,000	Vactor Dump Station Relocation and Improvements for dewatering and managing solids.
16	Plant Drain Lift Station No. 1	\$1,793,000	Relocation and capacity improvements for Plant Drain LS No. 1
17	Control Building Lift Station	\$450,000	Control Building Lift Station No. 1 replacement
18	Odor Control (Maintenance of Existing Facility)	\$654,000	Odor control Modifications to existing facility, replacement of underdrain piping, rock plenum and compost media
19.1	Laboratory Facilities	\$2,180,000	Remodel and expansion of laboratory building
19.2	Maintenance / Shop / Storage Facilities	\$3,410,000	New Maintenance shop, heated parking and storage facility
19.3	Administration / Staff Building Improvements	\$3,027,000	Remodel and expansion of staff facilities at Water Office Building
20	Utility Water	\$411,000	Expansion of Utility Water Pump Station Capacity
21	Secondary Clarifier No. 1 and No. 2 Demo	\$333,000	Demolition and removal of abandoned Secondary Clarifiers No. 1 and No. 2
22	Facility Plan Updates (~10yr interval)	\$600,000	WRF and Reuse Facility Plan Updates
23	Overall Process Evaluation Study - Technology Assessment (Liquid/Solids stream)	\$300,000	Process evaluation study to assess potential changes to overall secondary biological treatment process with considerations for impacts to BNR from potential solids digestion processes.
24.1	Solids Stream Improvements - BFP 2	\$4,277,000	Replacement of existing Andritz belt filter press with new BDP press and polymer system improvements for increased capacity for tertiary and biological sludge dewatering.
24.2	Solids Stream Improvements - Thickening	\$8,507,000	Addition of solids blend tank, feed pumping, and rotary drum thickening for solids management. Modifications to solids holding tanks, aerations systems and belt filter press feed pumping.
24.3	Solids Stream Improvements - BFP 3	\$7,817,000	New Dewatering Building, and new Belt Filter Press No. 3
24.4	Solids Stream Improvements - BFP 4	\$3,671,000	New Belt Filter Press No. 4 in existing building.
25.1	Reuse Improvements- Phase 1	\$21,100,000	Implementation of Reuse Activities on Community Forest Property targeting 1.0 mgd average daily flow capacity. Includes pumping facilities at WRF, pipeline to reuse site and associated storage, pumping and irrigation systems.
25.2	Reuse Improvements- Phase 2 (A)	\$2,168,000	Reuse Forcemain in Seltice Way Corridor from WRF to Chase
25.3	Reuse Improvements- Phase 2 (B)	\$25,549,000	Implementation of reuse activities on Prairie Public Reserve Property (Including Rathdrum parcels) targeting additional 4.35 mgd average daily flow capacity. Includes pumping facilities at WRF, and remaining pipeline to reuse site and associated storage, pumping and irrigation system improvements
25.4	Reuse Improvements- Phase 3	\$76,659,000	Expanded reuse activities on Prairie with new property acquisition/purchase targeting no river discharge during growing season and additional 2.55 mgd capacity. Includes pumping facilities at WRF, pipeline to reuse site and associated storage, pumping and irrigation systems.
	TOTAL	\$291,602,000	Capital Projects through 2042 - WRF and Reuse Sites

Figure 7-1 - WRF Site Master Plan

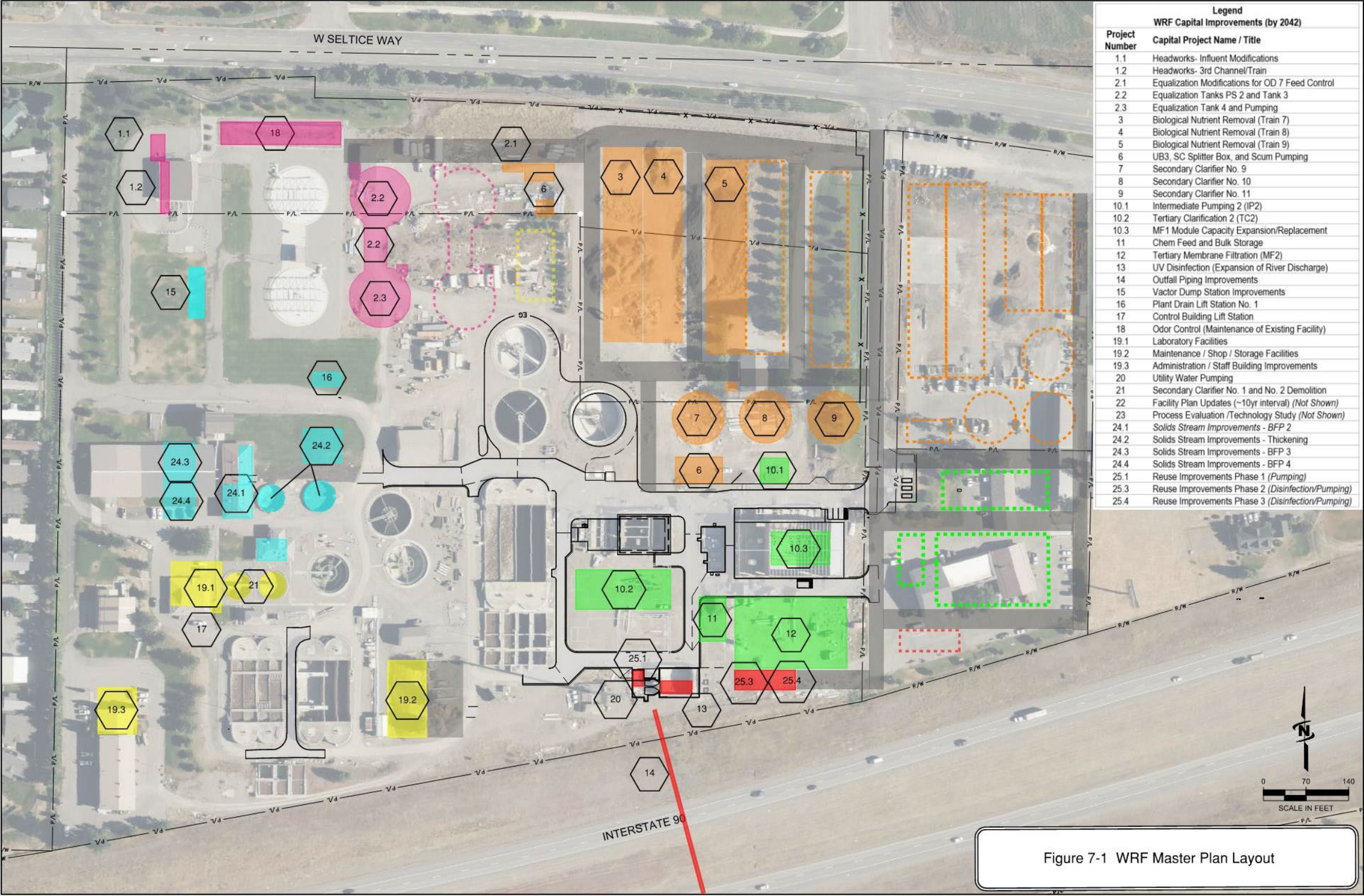
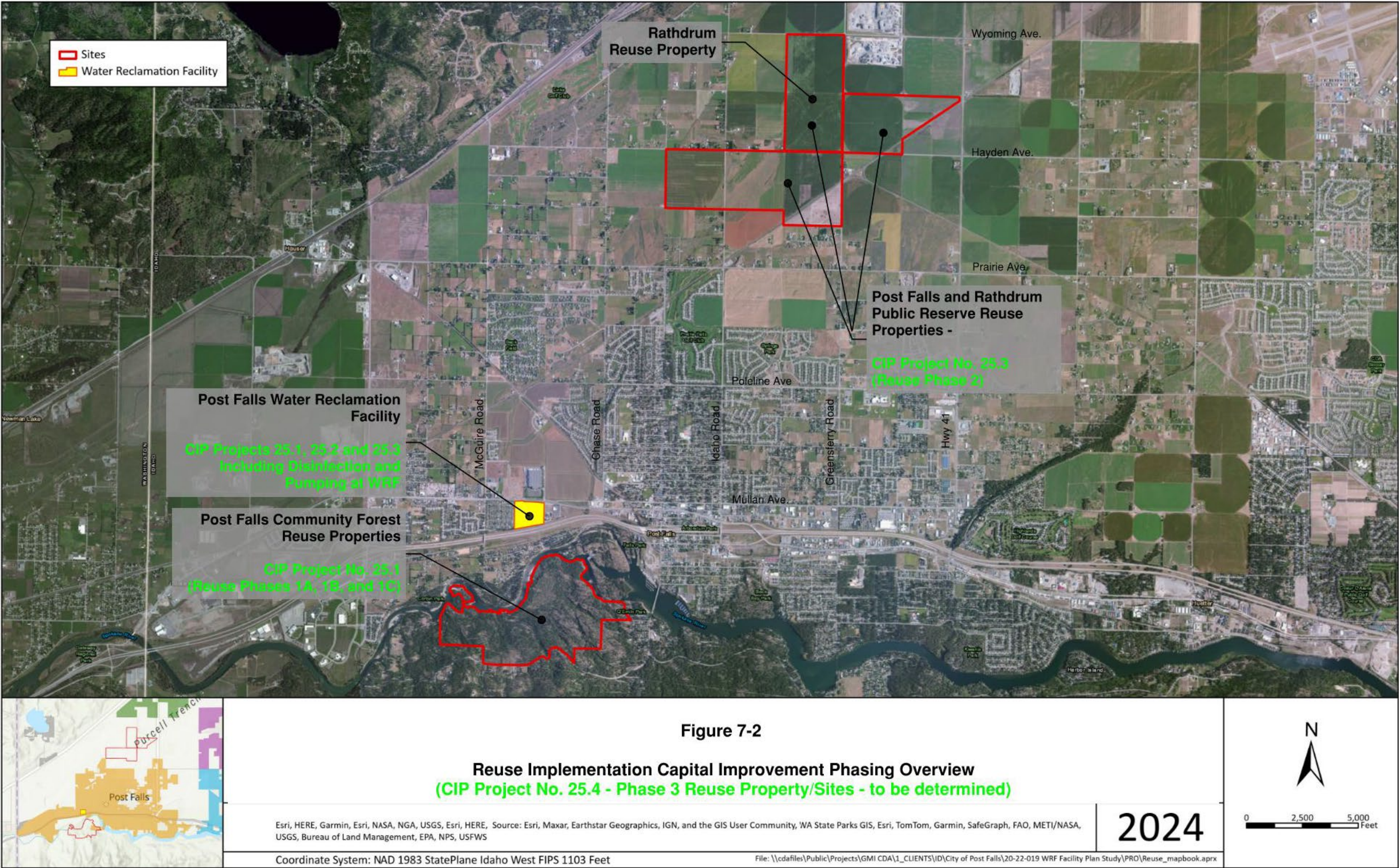


Figure 7-1 WRF Master Plan Layout

Figure 7-2 - Reuse Implementation Phasing Plan Overview



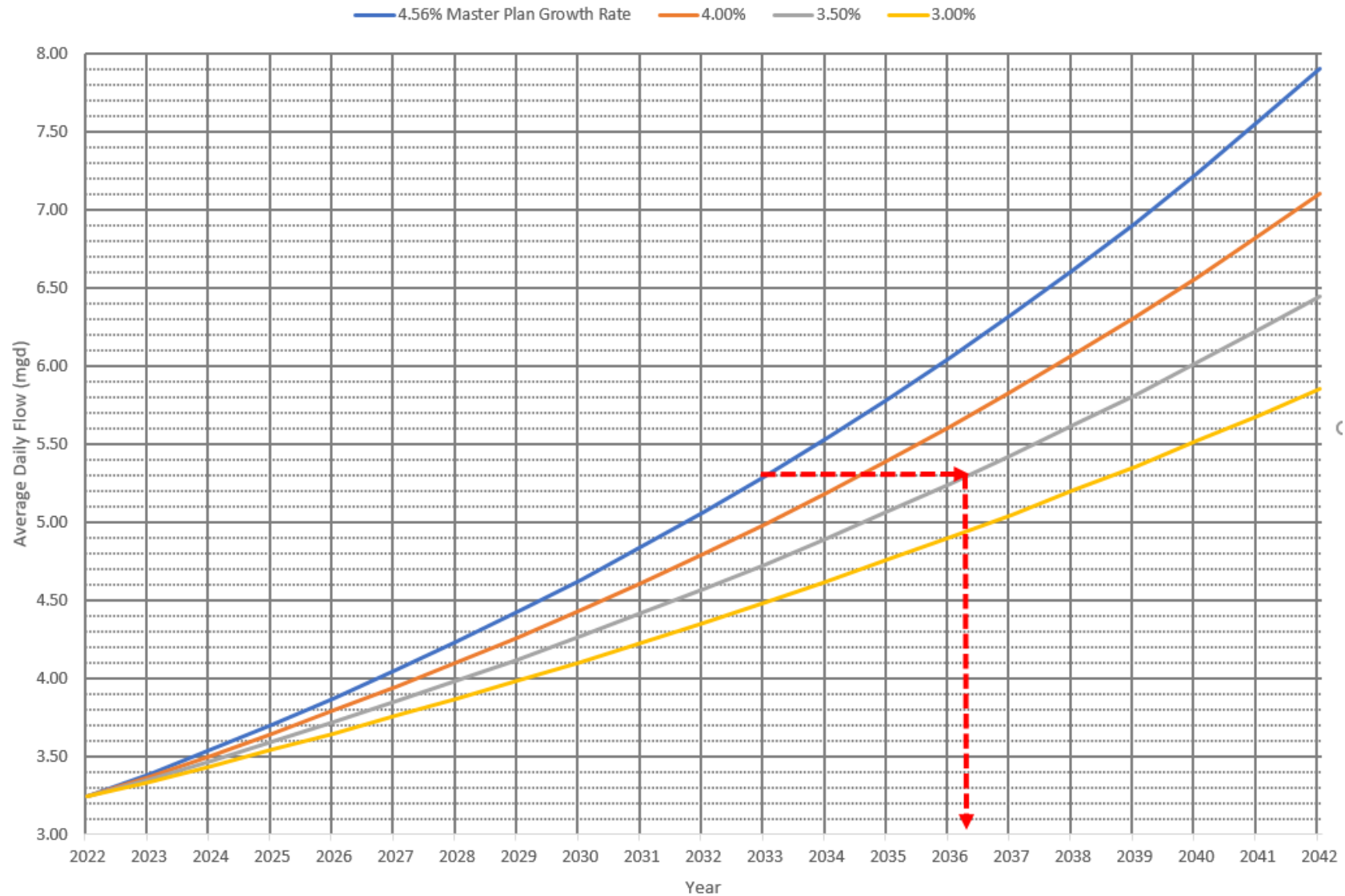
7.3 Capital Project Implementation

The anticipated growth of influent flows to the WRF were projected and discussed in Chapter 2- Flows and Wasteload Projections. These flow and load projections were used to determine the timing for anticipated capacity-driven capital improvements within the WRF. A planning level annual growth rate of 4.56% was selected as a conservative approach for planning. The resulting growth rate defined the anticipated timing of each capital project and the resulting timing associated with the capital costs. However, the actual “need” for the projects is dictated by the flows and loading experienced at the WRF and could be sooner (or later) than the anticipated master planned timeline.

As the City proceeds with implementation of the CIP, it is recommended to routinely assess the current average annual total influent flow rate against the projected timeline for master-planned growth (reference blue line in **Figure 7-3** at 4.56% growth rate). This will allow the City to assess whether projects may need advanced (constructed sooner) or if they can be delayed due to growth rates being lower than anticipated. This flexibility in the implementation approach can have significant effects on the implementation schedule. A simplified example is shown in **Figure 7-3** below.

The blue line represents the anticipated average annual daily flow rate with approximately 5.3 mgd ADF in the year 2033 based on the 4.56% master plan growth rate. If the actual flow is trending lower, in this example at 3.5% (grey line), those projects could be delayed by a little over 3 years (2036 vs 2033) before they are needed to be operational (red-dashed line). The impact of the influent flow growth has to be assessed routinely as changes will likely not be uniform year over year. And deviations from the master-planned anticipated growth will have less impact earlier in the planning period versus later in the planning period.

Figure 7-3 – Growth Rate Impact on Project Implementation Schedule



7.4 Financial Analysis and Selected Alternative

7.4.1 Discussion and Selection of Preferred Alternative

Three primary high-level planning alternatives were developed for consideration in addition to the No Action Alternative. These three planning alternatives were targeted to maintain compliance and flexibility with the WRF (and City's) long term water reclamation planning objectives for the WRF liquid stream. These alternatives include:

- **Alternative 1 - Facility Improvements to WRF**
 - This alternative includes general facility improvements to existing processes to mitigate known operational deficiencies and anticipated capacity needs identified previously in Chapter 4 through the 20-year planning period. Improvements will be phased as necessary to accommodate growth and necessary logistics for implementation as well as timing for capital funding.
- **Alternative 2 - Facility Improvements to WRF + Reuse on Currently Allocated Property**
 - This alternative includes and expands on Alternative 1 with the phased implementation of Reuse on currently allocated reuse properties (including the City Owned Community Forest and Public Reserve properties identified on the Rathdrum Prairie).
- **Alternative 3 - Facility Improvements to WRF + Reuse on Currently Allocated Property + Additional Property Acquisition for Full Reuse during Growing Season**
 - This alternative includes and expands on Alternative 1 and 2 with the expansion of Reuse to additional property. The alternative includes costs for additional property purchase/acquisition to expand the prairie Public Reserve property as well as infrastructure to expand reuse. The target expansion would provide adequate reuse infrastructure to allow for zero discharge to the Spokane River during the summer growing season. The River discharge would be retained for non-growing season discharge as well as for backup discharge of non-compliant Class A water meeting river standards during the growing season.

Prior to selection of the preferred alternative by the City Council and as a means to more fully understand the potential impacts to their constituents, the City authorized J-U-B's subconsultant (FCS Group) to complete a basic preliminary financial analysis of the WRF/Reuse Alternatives No. 2 and 3 scenarios, including the complete collection system CIP. Critical important financial analysis parameters and assumptions developed and used by FCS are presented in **Appendix 7-C**.

Alternatives 2 and 3 have similar treatment approaches consistent with prior planning work incorporating treatment at the WRF utilizing river discharge, combined with reuse. However, Alternative 3, includes a significant capital investment in expanded reuse property and activities targeting full reuse to average daily flow and the removal of the river discharge during the normal

growing season. The outfall would still be retained as an alternate discharge for redundancy and IDAPA rule compliance as well as for winter discharge.

Alternative 3, includes the necessary projects identified within planning period, with budget allocation for strategic purchases to expand the City's acreage; making it available for reuse in the latter portion of the planning period and beyond. The primary advantage of Alternative 3 is improved reliability (ability to offset wasteload discharged to the Spokane River) and flexibility in the overall treatment and effluent disposal (combination of both river discharge and reuse) to meet potential future regulatory challenges.

Additionally, Alternative 3 provides the City with budget flexibility to proactively/strategically obtain additional land as it becomes available throughout the course of the 20-year planning period. If the City were to wait until the time it is truly needed the price of the land will likely increase, and larger parcels that are more advantageous logistically are less likely to be available. These disconnected/smaller parcels would likely further increase the cost of the land itself and associated infrastructure to provide reuse water to them.

Prior Master Planning has put the City in a strong financial position to continue their long-range wastewater planning approach with very low annual rate increases being necessary. Through the use of the financial model coupled with the anticipated growth rates, the City and planning team identified that Alternative 3 are within typical inflationary ranges while still providing coverage for construction, operations, maintenance, and full-funded depreciation reserves.

The three alternatives were presented at the City Council Workshop on May 7, 2024. The long-term strategic planning implications for each alternative were reviewed and discussed by the Council, City staff and planning team. Ultimately, upon consideration of factors including environmental concerns, future potential regulatory changes, and costs, Alternative No. 3 was selected by the City council for inclusion in the Capital Improvement Plan and financial plan to allow finalization of the plan and for formal consideration and adoption by the Council.

7.4.2 Financial Plan Summary

The financial approach tends to utilize relatively conservative assumptions for future projections in order to provide reliable system funding. Critical important financial analysis parameters and assumptions developed and used by FCS are presented in their *Financial Plan and Rate Forecast* located in **Appendix 7-C**. This approach currently projects that annual average rate increase of 2.5 percent for the average City customer to fully fund Alternative No.3, including design, land acquisition, construction, operations, maintenance, and full-funded depreciation reserves. **Table 7-2** shows how these projected rate increases would apply during the course of planning period.

Bonding (additional debt service) will be required in the years FY 2035 and FY 2038 to fund the larger capital projects at the WRF in the latter portion of the planning period. The debt service of 24.1M in FY 24 is a carryover for commitments from existing capital projects that are currently

completing construction. Additional debt service can be managed through the 2.5% annual rate increases identified in the financial model.

New capacity for collection and treatment through the WRF will be funded by users requiring that capacity through capitalization fees. The City of Post Falls charges water and water reclamation (wastewater) capitalization fees associated with building permits. Capitalization fees are established based on the replacement value of the existing systems. Capitalization revenue is used to replace capacity within the established systems. Capacity fees are updated annually as part of the City's fee schedule review.

Table 7-2 - Rate Analysis Summary (Alternative No. 3)

Description	2025	2028	2033	2038	2042
Cumulative Rate Increase from FY 2024	5.06%	13.14%	28.01%	44.83%	44.83%
Total Monthly Rate (Average User)	\$70.17	\$75.57	\$85.50	\$96.73	\$96.73

It is important to note that the financial model is a representation of anticipated revenue and need for capital, operations, maintenance and replacement funding. As such, the model should be updated regularly and periodically when factors such as significant capital project costs, financing terms, etc become available.

REFERENCES

Keller and Associates (2019). City of Post Falls Collections System Master Plan. Coeur d'Alene, Idaho: Keller and Associates.

APPENDICES

7-A WRF and Reuse Sites Capital Improvement Plan

7-B Collection System Capital Improvement Plan

7-C Financial Plan and Rate Forecast (FCS Group)

Appendix 7-A

WRF and Reuse Sites Capital Improvement Plan

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	City of Post Falls WRF Facility Plan Facility Plan - WRF and Reuse Capital Improvements																					
				FOR FY YEARS 2024 THROUGH FY 2042																		
				PROJECT COSTS ARE IN 2023\$ AND SHOWN IN THE YEAR THAT IT IS NEEDED TO BE COMPLETE																		
				2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
No.	Description	Capital Cost (2023 Dollars)	Annual O&M Cost (2023 Dollars)																			
1.1	Headworks- Influent Mods	\$586,000	-				\$586,000															
1.2	Headworks- 3rd Channel/Train	\$3,006,000	-									\$3,006,000										
2.1	Equalization Modifications for OD 7 Feed Control	\$630,000	-					\$630,000														
2.2	Equalization Tanks PS 2 and Tank 3	\$7,198,000	-													\$7,198,000						
2.3	Equalization Tank 4 and Pumping	\$4,215,000	-																		\$4,215,000	
3	Biological Nutrient Removal (Train 7)	\$15,778,000	-					\$15,778,000														
4	Biological Nutrient Removal (Train 8)	\$13,949,000	-													\$13,949,000						
5	Biological Nutrient Removal (Train 9)	\$13,949,000	-																	\$13,949,000		
6	UB3, SC Splitter Box, and Scum Pumping	\$5,196,000	-					\$5,196,000														
7	Secondary Clarifier No. 9	\$2,934,000	-					\$2,934,000														
8	Secondary Clarifier No. 10	\$2,934,000	-														\$2,934,000					
9	Secondary Clarifier No. 11	\$2,934,000	-																		\$2,934,000	
10.1	Intermediate Pumping 2 (IP2)	\$2,200,000	-								\$2,200,000											
10.2	Tertiary Clarification 2 (TC2)	\$11,481,000	-										\$11,481,000									
10.3	MF1 Module Capacity Expansion/Replacement	\$860,200	-										\$860,200									
11	Chem Feed and Bulk Storage	\$2,243,000	-																\$2,243,000			
12	Tertiary Membrane Filtration 2	\$36,250,000	-																	\$36,250,000		
13	UV Disinfection (Expansion of River Discharge)	\$510,000	-												\$510,000							
14	Outfall Piping Improvements	\$1,239,000	-						\$1,239,000													
15	Vactor Dump Station Improvements	\$604,000	-			\$604,000																
16	Plant Drain Lift Station No. 1	\$1,793,000	-		\$1,793,000																	
17	Control Building Lift Station	\$450,000	-		\$450,000																	
18	Odor Control (Maintenance of Existing Facility)	\$654,000	-		\$654,000																	
19.1	Laboratory Facilities	\$2,180,000	-		\$2,180,000																	
19.2	Maintenance / Shop / Storage Facilities	\$3,410,000	-				\$3,410,000															
19.3	Administration / Staff Building Improvements	\$3,027,000	-									\$3,027,000										
20	Utility Water	\$411,000	-									\$411,000										
21	Secondary Clarifier No. 1 and No. 2 Demo	\$333,000	-													\$333,000						
22	Facility Plan Updates (~10yr interval)	\$600,000	-									\$300,000						\$300,000				
23	Overall Process Evaluation Study - Technology Assessment (Liquid/Solids stream)	\$300,000	-							\$300,000												
24.1	Solids Stream Improvements - BFP 2	\$4,277,000	-		\$4,277,000																	
24.2	Solids Stream Improvements - Thickening	\$8,507,000	-		\$8,507,000																	
24.3	Solids Stream Improvements - BFP 3	\$7,817,000	-												\$7,817,000							
24.4	Solids Stream Improvements - BFP 4	\$3,671,000	-																	\$3,671,000		
25.1	Reuse Improvements- Phase 1	\$21,100,000	\$304,000												\$21,100,000							
25.2	Reuse Improvements- Phase 2 (A)	\$2,168,000			\$2,168,000																	
25.3	Reuse Improvements- Phase 2 (B)	\$25,549,000	\$521,000															\$25,549,000				
25.4	Reuse Improvements- Phase 3	\$76,659,000	\$260,000																			\$76,659,000
	TOTAL (2023 Dollars)	\$291,602,200		\$ -	\$ 20,029,000	\$ 604,000	\$ 3,996,000	\$ 24,538,000	\$ 1,239,000	\$ 300,000	\$ 2,200,000	\$ 6,744,000	\$ 12,341,200	\$ -	\$ 29,427,000	\$ 21,480,000	\$ 2,934,000	\$ 25,849,000	\$ 2,243,000	\$ 53,870,000	\$ -	\$ 83,808,000

Appendix 7-B

Collection System Capital Improvement Plan

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ID#	Project / Item	City Portion of CIP Cost (Updated to April \$2023)	FY2023	FY 2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038	FY2039	FY2040	FY2041	FY2042
2-Year Improvements (Priority 1A)																						
P.0.1	Decommission Grayling Lift Station	complete																				
P.0.2	Decommission Prairie Falls II Lift Station	complete																				
P.0.3	Decommission Howell Lift Station and Gravity Main	complete																				
P.0.4	12th Avenue Lift Station and Equalization Basin	complete																				
P.0.5	Riverside Lift Station Relocation	complete																				
5-Year Improvements (Priority 1)																						
P.1.1	12th Avenue Force Main Phase 2	\$ 4,406,782.71	\$ 506,783	\$ 3,900,000																		
P.1.2	Fisher Lift Station Upgrade	\$ 3,980,000	\$ 398,000	2,388,000	1,194,000																	
P.1.3	Decommission Pioneer Ridge Lift Station	complete																				
P.1.4	Industrial Lift Station and Force Main Phase 1	\$ 6,239,257.52											\$ 3,119,629	\$ 3,119,629								
P.1.5	Tullamore Lift Station Upgrades	complete																				
	Pipeline Replacement (5 years)	\$ 1,348,250.09			\$ 269,650	\$ 269,650	\$ 269,650	\$ 269,650	\$ 269,650													
	Oversize/Overdepth	\$ 4,081,959.78			\$ 816,392	\$ 816,392	\$ 816,392	\$ 816,392	\$ 816,392													
	Lift Station Replacement (5 years)	\$ 3,139,361.89			\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872													
10-Year Improvements (Priority 2)																						
P.2.1	12th Avenue Force Main Phase 3	\$ 5,472,655.24				\$ 2,736,328	\$ 2,736,328															
P.2.2	3rd Ave Gravity Main Upsize	\$ 1,139,737.86		\$ 569,869	\$ 569,869																	
P.2.3	County Island 12-inch Gravity Main	\$ 984,264.70										\$ 984,265										
P.2.4	Decommission of Guy Road Lift Station and 15-inch Gravity Trunkline	\$ 3,595,017.85					\$ 1,797,509	\$ 1,797,509														
P.2.5	Industrial Force Main Phase 2	\$ 5,754,898.83													\$ 2,877,449	\$ 2,877,449						
P.2.6	Ohio Match Force Main Extension	\$ 470,007.32							\$ 470,007													
P.2.7	Decommission Ohio Match, Maplewood Lift Station - Alternative 2	\$ 2,351,232.56								\$ 1,175,616	\$ 1,175,616											
	Pipeline Replacement (5 years)	\$ 2,022,375.73								\$ 404,475	\$ 404,475	\$ 404,475	\$ 404,475	\$ 404,475								
	Oversize/Overdepth	\$ 1,078,141.79								\$ 215,628	\$ 215,628	\$ 215,628	\$ 215,628	\$ 215,628								
	Lift Station Replacement (5 years)	\$ 3,139,361.89								\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872								
	Masterplan Update	\$ 298,986.85			\$ 298,987																	
Buildout Improvements (Priority 3)																						
P.3.1	Decommission Stateline Lift Station and Gravity Main Extension	\$ 690,061.64													\$ 690,062							
P.3.2	Riverbend Lift Station Relocation	\$ 923,271.38														\$ 923,271						
P.3.3	North Regional Lift Station	\$ 3,500,000			\$ 3,500,000																	
P.3.4	Fisher Force Main	\$ 2,818,847.99								\$ 1,409,424	\$ 1,409,424											
P.3.5	12th Avenue Force Main Phase 4	\$ 6,134,000.00			\$ 3,067,000	\$ 3,067,000																
P.3.6	12th Avenue Gravity Main Upsize	\$ 314,534.16															\$ 314,534					
P.3.7	3rd Avenue Gravity Main Upsize	\$ 1,796,312.98			\$ 898,156	\$ 898,156																
P.3.8	Greensferry 10-inch Parallel Gravity Line	\$ 651,791.33															\$ 651,791					
P.3.9	Ponderosa Force Main Extension	\$ 1,204,319.02																\$ 1,204,319				
P.3.10	Highway 41 15-inch Parallel Gravity Main	\$ 825,203.70																	\$ 825,204			
P.3.11	Seltice Adverse Slope Correction	\$ 130,358.27																	\$ 130,358			
P.3.12	Corbin Lift Station Replacement	\$ 2,800,000	\$ 900,000	\$ 1,900,000																		
P.3.13	Ponderosa Lift Station Upgrades	\$ 500,000.00		\$ 500,000																		
P.3.14	3rd Avenue Lift Station Upgrades	\$ 1,675,522.29				\$ 837,761	\$ 837,761															
	Pipeline Replacement (10 years)	\$ 3,370,625.83											\$ 337,063	\$ 337,063	\$ 337,063	\$ 337,063	\$ 337,063	\$ 337,063	\$ 337,063	\$ 337,063	\$ 337,063	\$ 337,063
	Oversize/Overdepth	\$ 7,084,019.74											\$ 708,402	\$ 708,402	\$ 708,402	\$ 708,402	\$ 708,402	\$ 708,402	\$ 708,402	\$ 708,402	\$ 708,402	\$ 708,402
	Lift Station Replacement (10 years)	\$ 6,278,723.78											\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872	\$ 627,872
	Masterplan Update	\$ 298,986.85																\$ 298,987				
	Bentley Lift Station Improvements	\$ 1,050,000.00	\$ 500,000.00	550000																		
	Seltice Way Force mains (Budgeted Capital)	\$ 4,705,000			\$ 2,352,500.0	\$ 2,352,500.0																
	Total Build-Out Improvements	\$ 96,253,872	\$ 2,304,783	\$ 9,807,869	\$ 13,594,427	\$ 11,605,660	\$ 7,085,512	\$ 3,511,423	\$ 2,183,922	\$ 3,833,016	\$ 3,833,016	\$ 2,232,241	\$ 6,040,942	\$ 6,040,942	\$ 5,240,848	\$ 5,474,058	\$ 2,639,662	\$ 3,176,643	\$ 2,628,899	\$ 1,673,337	\$ 1,673,337	\$ 1,673,337

Appendix 7-C

FCS Group - Financial Plan and Rate Forecast Report

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CITY OF POST FALLS

RECLAIMED WATER FINANCIAL PLAN AND RATE FORECAST

FINAL REPORT
May 2024

Washington

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Redmond, WA 98052
425.867.1802

Oregon

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Lake Oswego, OR 97035
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FCS GROUP
Solutions-Oriented Consulting

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FINANCIAL PLAN

INTRODUCTION

The City of Post Falls (City) owns, operates, and maintains the City's sewer collection network which includes gravity sewers, pump stations and force mains, used to transport wastewater to the water reclamation facility. The water reclamation facility treats wastewater from city residents and receives and treats wastewater from the City of Rathdrum. Increased growth in the City along with satisfying new permit conditions drove the need for the City to evaluate the adequacy of treatment capacity, retaining reliable operations and meeting known regulatory requirements.

The City completed a Collection System Master Plan (CSMP) in 2019. To complete a comprehensive capital improvement plan (CIP), the collection system CIP was updated and coupled with the capital improvement needs of the water reclamation facility and reuse sites identified in the current Water Reclamation Facility (WRF) Facility Plan. The capital improvement needs identified in both plans were considered as part of the financial plan. The reclaimed water system financial plan takes a holistic view of the reclaimed water system to evaluate the sufficiency of existing rates to support the total ongoing operating costs of the system and execute the capital needs identified in both CIP plans. Should rate adjustments be required, a rate strategy will be developed for meeting these future needs.

APPROACH

The methods used to complete the study are based on analytical principles and practices that are generally accepted and widely followed throughout the industry – The ultimate goal is cost-based utility fees and charges that generate sufficient revenue to maintain a self-supporting and financially viable utility. Guiding principles were based on the Water Environment Federation's Financing and Charges for Wastewater Systems manual on rate setting methodologies.

Throughout the study, we worked with the City to arrive at rate conclusions that meet forecasted utility financial obligations, achieve City goals and policies, comply with legal requirements, and adhere to industry best practices. Meetings were held with City staff to validate input parameters and review interim findings.

FINANCIAL PLAN

The City's Water Reclamation System is responsible for funding all of its related costs on a stand-alone basis. It does not depend on general fund resources for funding. The primary source of funding for the water reclamation system is derived from ongoing user charges for service, with additional revenues coming from rental income, sample revenue, utility penalty service fees, investment income and other miscellaneous revenue. The City controls the level of user charges by resolution, and subject to statutory authority, can adjust user charges as needed to meet financial objectives.

The primary goal of the financial plan is to develop a multi-year rate strategy that will provide stable revenue to meet the total operating and capital costs of providing reclaimed water service. The financial plan focuses on the amount of revenue needed to meet the City's total financial obligations which include:

- **Fiscal Policy Analysis.** Identifies formal and informal fiscal policies of the City to ensure that current policies are maintained, including reserve levels, capital planning/depreciation funding and debt service coverage.
- **Operating Forecast.** Identifies future annual non-capital costs associated with the operation, maintenance, and administration of the City.
- **Capital Funding Plan.** Defines a strategy for funding the City's collection and water reclamation facility capital improvement program (CIP), including an analysis of available resources from rate revenues, capacity fees, debt financing, and any special resources that may be readily available (e.g., grants, outside contributions, etc.).
- **Sufficiency Testing.** Evaluates the sufficiency of revenues in meeting all financial obligations, including operating, maintenance, and capital costs, maintaining reserve levels, and meeting any coverage requirements associated with long-term debt.
- **Rate Strategy Development.** Designs a forward-looking strategy for adjusting rates to fully fund all financial obligations on a periodic or annual basis over the projection period.

FISCAL POLICIES

The City maintains a fund structure and implements financial policies that target management of a financially viable and fiscally responsible proprietary fund. The purpose of establishing fiscal policies for the City's reclaimed water fund is to promote the financial integrity and stability of the utility and help ensure the sustainability of this essential service. The financial plan has assumed the attainment of certain recommended fiscal policies.

Reclaimed Water Funds

The City has adopted GASB 54 to provide a more structured classification of fund balances and improve the usefulness of fund balance reporting to users. Proper use of funds and target fund balances are a key component of any City financial strategy, as they provide the flexibility to manage variations in costs and revenues that could otherwise have an adverse impact on ratepayers. Fund resources for the reclaimed water fund include the following:

- **Reclaimed Water Operating (650).** The operating fund is designated to cover operating costs. Operating reserves are designed to provide a liquidity cushion to ensure that adequate cash working capital will be maintained to manage significant cash balance fluctuations, such as seasonal fluctuations in billings and receipts, unanticipated cash expenses, or lower than expected revenue collections. Working from the City's Resolution 2005-05, a minimum target of 55 days (15 percent) of operating and maintenance (O&M) expenses is set for this fund. In addition, a maximum amount of 90 days (25 percent) of operating and maintenance (O&M) expenses is used in the financial plan as an indication of available resources for capital funding.
- **Reclaimed Water Capital – WWTP (651).** This fund is used for funding major capital upgrade and expansion project costs for the water reclamation facility and reuse property for treatment also referred to as the wastewater treatment plant. Revenue for this fund comes from the reclaimed water capitalization fees - WWTP and Rathdrum intermunicipal capitalization fees. No minimum target defined.
- **Reclaimed Water Capital – Collector (652).** This fund is used for funding major capital upgrade and expansion project costs for the collector system. Revenue for this fund comes from reclaimed

water – collector fees and transfers from other funds such as from 001 and 650. No minimum target defined.

- **Contingency.** Use of the funds may occur only when specific circumstances exist. These resources may be used to mitigate actual revenue shortfalls (when compared to estimated revenues) and/or fund unanticipated emergencies.
- **Debt Service.** This fund accounts for the servicing of general long-term debt. The fund may also be required to maintain a reserve balance for the purpose of providing additional security for the City's bonds/loans if net revenue of the utility is not sufficient to pay debt service when due.

For purposes of this financial plan, availability and access to fund resources assumes any excess revenue in the operating fund beyond the 90-day maximum target is assumed to be available for capital funding purposes. In addition, a separate capital fund is established to account for the inflows and outflows of resources available for capital funding. Revenue sources include excess transfers from the operating fund, annual rate funded system reinvestment, eligible capitalization fee revenue WWTP and collector, assumed debt proceeds and other external funding such as grants or American Rescue Plan Act (ARPA) funds. These funding resources are used to fund the annual CIP scheduled. A minimum fund balance is maintained in this capital account in case of an emergency should a piece of equipment or a portion of the utility's infrastructure fail unexpectedly. The reserve could also be used for other unanticipated capital needs including capital project cost overruns. Industry practice ranges from maintaining a balance equal to 1 to 2 percent of fixed assets, an amount equal to a 5-year rolling average of CIP costs, or an amount determined sufficient to fund an equipment failure (other than catastrophic failure). Based on the prior rate study, 1% of the original cost plant asset value is set as the capital reserve target in the financial plan.

Reserves should fluctuate above and below targets, and such experience does not reflect on the quality of budgeting or management. In fact, if a reserve remains static for extended periods of time without use, this may be indicative that it is not set appropriately or unnecessary. Reserves are intended to absorb fluctuation in revenues or expenditures without abrupt rate impacts. As reserve levels vary, a policy structure can define the mechanisms for regulating those levels and returning them to intended targets.

Rate Funded System Reinvestment

The concept of system reinvestment funding entails funding long-term infrastructure replacement needs through a regular and predictable rate provision. A system reinvestment funding program can be structured to account for defined funding source (rates), accumulation of funds when funding exceeds near-term needs, and augmentation of funds (e.g., through debt) when replacement needs exceed available cash resources.

Without a formal asset management plan, the most common approach to system reinvestment funding is a provision based on depreciation expense (historical original cost) as the basis for a reasonable level of reinvestment in the system. This strategy and level of funding satisfies several standards for reasonable rates:

- It avoids decline in system asset value (financial integrity).
- It charges customers commensurate with their consumption of facility useful lives and avoids the possibility of charging customers more than the current cost to provide service (rate equity); and
- It provides a source of funding for replacement (capital funding adequacy).

It is important to recognize that funding system reinvestment based on original cost depreciation will not fully meet future replacement needs (especially for mature systems that are just beginning to address or fund those needs). To meet future replacement needs more closely, the level of rate funded capital can be based on assumed replacement costs of original assets. While this method would provide additional rate funded capital, the ideal system reinvestment benchmark is tied to a detailed asset management plan. True replacement costs are generally higher than book values, increasing over time with the cost of labor and materials. Useful lives of assets should be based on condition assessments rather than accounting values. The schedule of replacement combined with accurate replacement costs enables jurisdictions to be more informed when setting a level of funding from rates.

The City does not currently have a formal system reinvestment policy in place. The City began including a system reinvestment funding amount to be funded through rates during the last rate study completed in FY 2013. The current financial plan continues this approach and increases the amount by \$100,000 per year. The available capacity to fund capital projects is maintained above current annual depreciation levels.

Debt Management

It is prudent to consider policies related to debt management as part of broader utility financial policy structure. Debt management policies should be evaluated and formalized, including the level of acceptable outstanding debt, debt repayment, bond coverage and total debt coverage targets. For planning purposes, the financial plan has assumed any revenue bond obligations of the reclaimed water fund must generate annual Net Revenue at least equal to 1.25 debt service coverage. The City may wish to target a higher internal target of 1.50 – 2.0 to ensure a more favorable rating should they enter the bond market.

OPERATING FORECAST

The purpose of the operating forecast is to identify the annual revenue available, and costs incurred to operate and maintain the reclaimed water system. The fiscal year 2023 budget formed the baseline for this forecast. The operating forecast carries forward through FY 2042 with the rate-setting focus on the 2024 through 2028 period to capture the short-term capital needs of the collection system and water reclamation facility improvements. The following list highlights the key assumptions used in the development of the operating forecast.

Operating Revenue

- **Rate Revenue.** Based on actual utility collections in FYE 2023 from City utility collections (\$16.8 million) and the City of Rathdrum (\$2.0 million) for a total of \$18.9 million. Revenue escalates at an assumed annual growth rate.
- **Growth.** Customer growth rates were obtained from the current WRF Facility Plan expected at 4.56 percent per year. This growth rate is applied to the rate and capitalization fee revenues of both the City and Rathdrum.
- **Non-Rate Revenue.** Non-rate revenue consists of rental income, sample revenue, utility penalty service fees, investment income and miscellaneous income. All non-rate revenue is maintained at existing levels with no escalation applied.

- **Capitalization Fee Revenue.** The City assesses a capitalization fee on new connections to the system. City customers pay one capitalization fee (inclusive of the WRF and collector). The City of Rathdrum also pays a capitalization fee solely for the WRF. Projected fee revenue is based on actual FYE 2023 figures of \$3.7 million for the City and \$1.4 million for Rathdrum, increased by the annual growth rate above.
- **Interest Earnings.** A rate of 0.50 percent growing to 1.00 percent by 2026 was used for the forecast period (guided by the Idaho Local Government Investment Pool historical ten-year average rates).

O&M Expenses

The 2021-2023 economic climate has experienced inflation above historical levels, which were exacerbated by the global pandemic and supply chain issues. The financial plan attempts to normalize inflation levels to longer term historical averages with the exception of construction costs and benefits. If higher inflation returns, the City will need to revisit the forecasted rate strategy.

- **General Cost Inflation.** General cost inflation of 3.0 percent, following closer to the 10-year averages of the CPI-U U.S City Average (2014-2023), is applied to current existing operating costs. For informational purposes, since June of 2023 the CPI-U: U.S City Average has continued in the 3 percent range through the beginning of 2024.
- **Labor and Benefits Cost Inflation.** Labor cost inflation is set at 3.5 percent per year based on the Employment Cost Index - Total Compensation 3-year average. Benefits were maintained at the 6.5 percent inflation rate based on the prior rate study assumptions.
- **Construction Cost Inflation.** Construction Cost inflation is based on 6.0 percent annual inflation consistent with the WRF Facility Plan. Although 2022 was a high year at 7.1 percent, the index appears to be trending towards more historical average levels closer to 3.0 percent.
- **Additional Full-Time Employees.** The financial plan includes three (3) new positions. The addition of two (2) treatment operators – one (1) in 2024 and one (1) in 2025. Also included is the addition of one (1) collection operator in 2024.
- **Additional Operating Expenses.** Adjustments made to the baseline FY 2023 budget include the following:
 - Adjusted budget amounts for increased operating costs associated with the new treatment operations include: Biosolids disposal at \$1.0 million, supplies – caustic \$340,000, Aluminum Sulfate \$30,250, electricity \$738,300 and Chlorine \$91,400. These costs were projected to future years adjusting for both cost inflation and growth.
 - The WRF Alternative 3 includes reuse improvements Phase 1-3 anticipated to increase operating costs associated with increased labor for management of the reuse sites, additional power for consumables for pumping, storage and irrigation systems and additional administrative reporting requirements. The additional costs begin in 2035 at \$304,000. Phase 2 is anticipated to begin in 2038 at \$521,000 and Phase 3 is anticipated to begin in 2042 at \$260,000. The additional costs cover. Costs are expressed in 2023 dollars and are escalated to the year expenses begin in the financial plan.

Debt Service

- **Existing Debt.** The City has two outstanding debt obligations inclusive of the 2016 Reclaimed Water Revenue Bonds and 2017 Department of Environmental Quality (DEQ) loan. Total annual debt service for the two issues is \$925,000 to \$930,000 in 2024 and 2025, decreasing to \$676,000 in 2026 when the 2016 bonds are retired. The DEQ loan continues until 2037.
- **New Debt.** The City was awarded a DEQ loan for water reclamation facility project costs in the amount of \$24.1 million at 2.75% interest and a 20-year term. The loan was accepted with funds anticipated to be available in late 2024 and repayment beginning in 2025 at \$1.582 million per year.

CAPITAL PROGRAM

The Facility Plan identified three (3) WRF/Reuse Alternatives for consideration. Alternative 3 has been used in this financial plan for planning purposes as it includes a significant capital investment addressing expanded reuse property and activities. This is considered a conservatively “high” scenario to run financial/rate impacts with all other selected options having a lower impact.

As noted in Chapter 7 of the WRF Facility Plan, a comprehensive capital improvement plan was developed by combining both the projects identified for the WRF and Reuse sites together with the needs within the collection system (identified in the 2019 Collection System Master Plan). WRF projects were reviewed by JUB and the City to determine which projects were most critical for ensuring adequate treatment capacity, maintaining reliable operations, and satisfying known regulatory requirements. Collection System projects were reviewed with the engineering team and updated to reflect the current status of the project listing and identifying the timing for all remaining projects.

The combined capital improvement program (CIP) incorporating the Collection System Master Plan CIP and the WRF CIP developed as part of the current plan identified \$411.1 million in project costs planned for the 2023 – 2042 planning period. The WRF/reuse costs include the Alternative 3 project costs. The capital funding plan must consider the cash funding needs during the year of planned construction requiring that the current CIP which is stated in 2023 dollars be escalated annually to the year of planned construction for financial projections. The updated CIP increases to \$741.8 million in project costs over the planning period. The focus of the financial plan is evaluating the funding needed to execute the capital plan as scheduled in the Collection System Master Plan and the Water Reclamation Facility Plan. **Exhibit 1** provides a summarized project schedule.

Exhibit 1: Summary of Reclaimed Water System Capital Program

CIP Summary 2023-2042 (\$000)								
Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029 - 2042	Total
Water Reclamation Facility								
Liquid Stream	\$ 7,982	\$ 14,969	\$ 8,258	\$ 8,325	\$ 8,506	\$ 7,155	\$ 106,896	\$ 162,091
Reuse Ph 1,2,3	-	3,265	5,433	3,265	3,265	3,265	106,983	125,476
Solids	250	2,557	10,227	-	-	-	11,488	24,522
Other	268	-	-	-	-	-	-	268
Collector								
Priority 1	2,536	7,118	2,908	1,714	1,714	1,714	7,953	25,656
Priority 2	-	570	869	2,736	4,534	1,798	15,800	26,307
Priority 3	1,400	2,950	9,818	7,155	838	-	24,591	46,752
Total All (2023\$)	\$ 12,435	\$ 31,429	\$ 37,513	\$ 23,196	\$ 18,856	\$ 13,932	\$ 273,711	\$ 411,071
Total All (escalated)	\$ 12,435	\$ 33,314	\$ 42,149	\$ 27,627	\$ 23,806	\$ 18,644	\$ 583,833	\$ 741,808

As shown in **Exhibit 1**, the annual capital costs vary depending on construction schedules. It should be noted that the total CIP is the best estimate of needs at the time of the study. Timing and funding needs can change depending on factors such as growth, inflation, and supply chain issues.

CAPITAL FINANCING STRATEGY

An ideal capital funding strategy includes the use of grants and low-cost loans when external financing is required. Building a financial program relying on assumptions of being awarded scarce grants or access to low interest loans introduces financial risk as these resources are limited and competitive in nature and do not provide a reliable source of funding for planning purposes. The capital financing strategy developed to fund the CIP identified in this WRF Facility Plan assumes the following funding resources:

- Rate funded system reinvestment;
- Accumulated cash and capital reserves;
- Annual revenue collected from capitalization fees;
- Annual transfers of excess cash (over minimum balance targets) from the Operating Fund;
- Interest earning on capital fund balances and other miscellaneous capital resources;
- Debt financing (bonds and/or loans).

Exhibit 2 presents the initial capital financing strategy for the capital costs identified during the year of construction. The capital funding plan identifies 81 percent of cash funding for capital, which includes capitalization fees, rate funded system reinvestment and cash/capital fund balances. Debt financing accounts for 18.5 percent (15.5 percent from anticipated revenue bonds and 3 percent from an existing awarded DEQ low interest loan). Less than 1 percent (\$1 million) is assumed from AARPA funding for the outfall project in 2023. As needed, the City will continue applying for available low interest loans for eligible future projects.

Exhibit 2: Summary of Capital Funding Plan (escalated\$)

Year	Capital Funding Plan 2023-2042 (\$000)						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029 - 2042
Beginning Balance	\$ -	\$ -	\$ 41,835	\$ 28,088	\$ 18,926	\$ 15,029	\$ 17,897
System Replacement Funding	-	2,800	2,900	3,000	3,100	3,200	55,300
Transfers from Operating Fund	19,750	15,916	8,008	9,148	10,307	11,562	287,191
Grants/Donations	1,000	-	-	-	-	-	-
Capitalization Fee Revenue WW	8,500	21,057	4,296	4,492	4,697	4,911	97,616
Capitalization Fee Revenue Collector	3,936	11,276	12,884	1,545	1,615	1,689	33,572
Revenue Bonds (new)	-	-	-	-	-	-	124,000
DEQ Proceeds	-	24,100	-	-	-	-	-
Interest Earnings	-	-	314	281	189	150	3,567
Total Capital Funding Resources	33,185	75,149	70,237	46,553	38,834	36,541	619,144
less: Capital Expenditures	(12,435)	(33,314)	(42,149)	(27,627)	(23,806)	(18,644)	(583,833)
Ending Balance	\$ 20,750	\$ 41,835	\$ 28,088	\$ 18,926	\$ 15,029	\$ 17,897	\$ 35,311

FINANCIAL PLAN SUMMARY

The primary goal of the financial forecast is to develop a multi-year rate strategy that generates sufficient revenue to cover the City's operating costs and execute the capital program identified in both the Collection System Master Plan and the Water Reclamation Facility Plan. This study focuses on defining the amount of revenue needed to meet the system's financial obligations including:

- Operation and maintenance costs
- Administrative and overhead costs
- Policy-based needs (e.g., reserve funding)
- Capital costs
- Existing/new debt service obligations

Although the financial plan is completed for a 20-year time horizon, the rate strategy focuses on the shorter-term planning period of 2024 through FY 2028.

Exhibit 3 summarizes the annual financial plan based on the forecast of revenues, expenditures, fund balances and fiscal policies. It should be noted that the table summarizes the consecutive years of 2024 – 2028 and provides three additional points in time to show the results at the end of the planning period. The 20-year financial plan details can be found in the detailed excel model provided to the City.

Exhibit 3: Reclaimed Water Financial Plan and Rate Forecast

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2033	FY 2038	FY 2042
Revenues								
Rate Revenues Under Existing Rates	\$ 19,755,631	\$ 20,656,488	\$ 21,598,424	\$ 22,583,312	\$ 23,613,111	\$ 29,510,807	\$ 36,881,532	\$ 44,083,011
Non-Rate Revenues	262,977	283,039	334,306	335,343	336,433	342,794	384,768	455,753
Total Revenues	\$ 20,018,608	\$ 20,939,527	\$ 21,932,730	\$ 22,918,655	\$ 23,949,544	\$ 29,853,600	\$ 37,266,300	\$ 44,538,764
Expenses								
Cash Operating Expenses	\$ 8,253,321	\$ 8,706,537	\$ 9,091,617	\$ 9,497,658	\$ 9,926,008	\$ 12,456,651	\$ 17,059,238	\$ 21,145,784
Existing Debt Service	924,925	675,909	675,909	675,908	675,909	675,909	-	-
New Debt Service	-	1,582,693	1,582,693	1,582,693	1,582,693	1,582,693	11,538,995	11,538,995
System Replacement Funding	2,800,000	2,900,000	3,000,000	3,100,000	3,200,000	3,700,000	4,200,000	4,600,000
Total Expenses	\$ 11,978,246	\$ 13,865,139	\$ 14,350,218	\$ 14,856,258	\$ 15,384,609	\$ 18,415,252	\$ 32,798,233	\$ 37,284,779
Net Surplus (Deficiency)	\$ 8,040,362	\$ 7,074,388	\$ 7,582,512	\$ 8,062,397	\$ 8,564,934	\$ 11,438,348	\$ 4,468,068	\$ 7,253,985
Annual Rate Increase	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	0.00%
Cumulative Rate Increase	2.50%	5.06%	7.69%	10.38%	13.14%	28.01%	44.83%	44.83%
Net Cash Flow After Rate Increase	\$ 8,534,253	\$ 8,120,123	\$ 9,243,228	\$ 10,406,836	\$ 11,667,891	\$ 19,703,869	\$ 21,001,991	\$ 27,016,319

Notes:

- A 2.5 percent annual increase is assumed for each year during 2025-2038. The final few years are shown at 0.0 percent increase as project costs and timing become more uncertain during the latter part of the financial plan.

Key observations of the financial plan include:

- Existing system rate revenues are sufficient to cover the projected operating costs of the system with the expected 4.56 percent annual new customer growth. Operating costs include currently approved budget amounts along with increases to the following:
 - increased wastewater operating costs and additional FTEs in 2024 (2) and 2025 (1).
 - Repayment of existing debt that is retired in 2033.
 - New DEQ low interest loan debt service of \$1.5 million beginning in 2025.
 - Future anticipated operating costs related to the reuse improvements Phase 1-3 beginning in 2035 and additional amounts in 2038 and 2042.
 - Future debt service associated with \$124 million in needed proceeds in 2035 and 2038.

- Annual rate increases of 2.5% are needed to supplement existing resources and debt to fund the anticipated \$741.8 million capital program identified through 2042.
- The rate strategy increases the current monthly residential bill of \$68.46 to \$75.57 by 2028 and \$96.73 by 2042. The average residential monthly bill impact for the entire planning period is \$1.77 per month.

Exhibit 3 contains a rate strategy to fully fund and execute the capital program as scheduled and identified in this Facility Plan. The rate strategy contained herein will inform final rates reviewed and approved by the City Council during the annual rate and fee review process.

Funds and Reserves

Separate accounting is provided for utility restricted and unrestricted cash reserves. Restricted reserves typically include funds set aside as part of revenue bond/loan covenants and cannot be used for purposes other than financial payment on outstanding revenue bond or loan debt obligations. Unrestricted cash is maintained in the operating, capital reserves, and contingency reserves.

Exhibit 4 shows a summary of the projected reclaimed water fund balances over the planning period. The operating fund has the only formal minimum policy set at 15 percent of the fund budget or (55 days of operating expenses). The capital fund target balance is a soft target set at 1.0% of original cost asset value. The capital fund includes inflow and outflow of funds from the 651 Capital Fund – WWTP and the 652 Capital Fund – Collector.

The 90-day operating balance is maintained in all years of the financial plan. The capital balance ebbs and flows throughout the planning period influenced by the capital funding schedule and the year in which debt proceeds are recognized. Overall, the fund balances remain in a strong position offering the City the flexibility to address future capacity, reliability, and regulatory challenges.

Exhibit 4: Summary of Reclaimed Water Fund Activity

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2033	FY 2038	FY 2042
Beginning Balance								
Operating Fund	\$ 11,309,749	\$ 9,416,559	\$ 2,035,066	\$ 2,146,817	\$ 2,241,768	\$ 2,932,506	\$ 3,823,705	\$ 4,860,241
Capital Funds	\$ 29,918,039	\$ 37,943,488	\$ 53,156,248	\$ 28,087,515	\$ 18,926,468	35,826,708	7,087,286	19,449,428
Contingency	\$ 882,657	\$ 863,431	\$ 867,748	\$ 874,256	\$ 882,998	\$ 937,321	\$ 985,133	\$ 1,025,134
Total Beginning Balance	\$ 42,110,444	\$ 48,223,478	\$ 56,059,061	\$ 31,108,589	\$ 22,051,235	\$ 39,696,534	\$ 11,896,125	\$ 25,334,803
Ending Balance								
Operating Fund	\$ 1,910,691	\$ 2,035,066	\$ 2,146,817	\$ 2,241,768	\$ 2,341,888	\$ 3,071,503	\$ 4,206,387	\$ 5,214,029
Capital Funds	\$ 43,513,940	\$ 53,156,248	\$ 28,087,515	\$ 18,926,468	\$ 15,028,741	23,011,483	42,312,169	35,311,080
Contingency	\$ 882,657	\$ 867,748	\$ 874,256	\$ 882,998	\$ 891,828	\$ 946,694	\$ 994,985	\$ 1,035,385
Total Ending Balance	\$ 46,307,288	\$ 56,059,061	\$ 31,108,589	\$ 22,051,235	\$ 18,262,458	\$ 27,029,680	\$ 47,513,541	\$ 41,560,494
Change in Fund Activity	\$ 4,196,844	\$ 7,835,584	\$ (24,950,473)	\$ (9,057,353)	\$ (3,788,778)	\$ (12,666,854)	\$ 35,617,416	\$ 16,225,691

Notes:

- Capital reserves include fund balances for 651 capital fund – WWTP, 652 capital fund – collector and new bond/loan proceeds in the year of issue.
- Reserve funds shown in Exhibit 4 do not include restricted debt reserves.

EXISTING AND PROPOSED RATES

The City's sewer rates are adopted annually by resolution under the City of Post Falls Fee Schedule. The City's existing sewer rate structure is different for residential and commercial customers. The residential rate is a flat fixed base fee per month. Multi-family customers are billed at the residential base rate per dwelling unit. The commercial rate includes a flat fixed base fee per month including an allowance of 5,000 gallons of water use. All water use above 5,000 gallons is billed at a uniform volume rate per 1,000 gallons of use. A summary of the existing rates and rate structures is provided in **Exhibit 5**.

Exhibit 5: 2024 Sewer Rates

City of Post Falls Monthly Sewer Rates (2024)		
Residential		
Base Rate	\$	68.47
Commercial		
Base Rate (incl. 5,000 gallons)	\$	68.47
Overage Rate (>5,000 gallons)	\$	13.73 /1,000 gallons

The City has an intergovernmental Agreement with the City of Rathdrum (Rathdrum) to treat sewage transmitted by Rathdrum to the Post Falls Water Reclamation Facility (WRF). Payment to the City for these services includes a connection fee (determined by Post Falls) and payment of ongoing expenses for a portion of costs incurred by the City in the treatment and operation of the WRF. Rathdrum reports to the City their monthly flow from the Rathdrum collection system to the Post Falls WRF. Flows are reported in thousands of gallons and Post Falls charges Rathdrum \$9.34 per thousand gallons

PROJECTED RATES

The financial forecast discussed above indicates the need for annual rate adjustments to satisfy all forecasted financial obligations. The proposed rate impacts were applied across-the-board, meaning the fixed base rate and overage rate were increased by the overall rate increases shown. No structural changes were made to the rate structure as part of this WRF Facility Plan.

Exhibit 6 shows the rate impacts based on the proposed rate strategy for the 2024-2028 planning period and a future snapshot of projected rates in years, 2033, 2038 and 2042. The monthly base rate increases annually to \$96.72 by 2042 over the current rate. This equates to an average annual increase of \$1.77 per month.

Exhibit 6: Projected Sewer Rates

Sewer Rate Schedule	Adopted FY 2024	Projected						
		FY 2025	FY 2026	FY 2027	FY 2028	FY 2033	FY 2038	FY 2042
Annual Rate Increase	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	0.00%
Residential								
Base Rate	\$68.46	\$ 70.17	\$ 71.93	\$ 73.72	\$ 75.57	\$85.50	\$96.73	\$96.73
Commercial								
Base Rate	\$68.46	\$ 70.17	\$ 71.93	\$ 73.72	\$ 75.57	\$85.50	\$96.73	\$96.73
Overage Rate (>5,000 gallons) per 1,000 gallons water use	\$ 13.73	\$ 14.07	\$ 14.43	\$ 14.79	\$ 15.16	\$ 17.15	\$ 19.40	\$ 19.40

AFFORDABILITY

A key objective of the financial plan is to evaluate the City's ability to execute the capital improvement plan while maintaining affordable sewer rates. As utility bills have increased over time at a rate well above inflation, the affordability of utility service has emerged as a key policy consideration. While the term "affordable" is relatively subjective in its definition, agencies that offer low-cost loans to utilities often use an "affordability index" based on median household income to define a threshold beyond which utility rates impose financial hardship on ratepayers. Many agencies such as the Idaho Department of Environmental Quality use an affordability index to prioritize grants, low-cost loans, and loan forgiveness awards. Systems are eligible for disadvantaged community funding (grant or loan forgiveness) if rates rise above a certain affordability percentage. It is common to see eligibility calculated based on utility bills falling between 1.50 and 2.0 percent of median household income for the demographic area as the upper threshold for affordable utility service. If monthly bills are below this level, they are generally considered affordable.

The medium household income for Post Falls according to the 2016-2020 United State Census Bureau Quick Facts is listed as \$65,592. More specifically, according to DATAUSA the City of Coeur d'Alene, Post Falls & Hayden had a 2021 median household income reported at \$64,771. The City's current average residential rate is \$68.46 per month which equates to 1.22 percent of the median household income. To automatically be considered for principal forgiveness the system's annual user rates would need to exceed the 2.0 affordability index, the City's monthly bill would need to be slightly over \$109 or \$42.50 higher than the current monthly bill. Throughout the planning period, the affordability analysis indicates the City's monthly bill will remain below the affordability metric ranging from a low of 1.12 percent and a high of 1.23 percent of the median household income.

SUMMARY OF FINANCIAL PLAN

This financial plan evaluates the sufficiency of utility revenues to meet current and future financial and policy obligations, operation and maintenance needs, and the ability to execute the needed capital program to promote the financial integrity and viability of the reclaimed water system and help ensure the sustainability of this essential service.

Although the financial plan is completed through 2042, the rate strategy focuses on the shorter-term planning period of 2024 through 2028 covering the short-term period when capital spending has peaked. The results of this analysis indicate that moderate inflationary increases of 2.5 percent per year are necessary to support the ongoing capital improvement program and fully fund the operations, maintenance and reserve levels identified.

Due to the ever-changing assumptions that comprise the financial plan, it is prudent to review the proposed rates and rate assumptions annually during the budget process to ensure that the rate projections developed remain adequate. The City should use the study findings as a living document, continuously comparing the study outcomes to actual revenue and expenses. Any significant changes should be flagged to determine if changes to the rate plan are warranted. A more comprehensive rate review is recommended every three to five years to review the financial plan assumptions and recalibrate the rate plan to capture any significant changes.

APPENDIX A – FINANCIAL PLAN ANNUAL SUMMARY

APPENDIX B – DETAILED CIP

City of Post Falls
Reclaimed Water Financial Plan
Summary

Fund Balance	2023	2024	2025	2026	2027	2028	2029	2030	2033	2034
650 Operating Fund - Wastewater Operating										
Beginning Balance	\$ 11,309,749	\$ 9,416,559	\$ 2,035,066	\$ 2,146,817	\$ 2,241,768	\$ 2,341,888	\$ 2,447,509	\$ 2,558,986	\$ 2,932,506	\$ 3,071,503
plus: Net Cash Flow after Rate Increase	10,351,137	8,534,253	8,120,123	9,243,228	10,406,836	11,667,891	13,033,545	14,511,459	19,703,869	21,719,050
less: Transfer of Surplus to Capital Fund	(19,750,194)	(15,915,746)	(8,008,371)	(9,148,277)	(10,306,716)	(11,562,270)	(12,922,068)	(14,393,744)	(19,564,872)	(21,571,998)
Ending Balance	\$ 1,910,691	\$ 2,035,066	\$ 2,146,817	\$ 2,241,768	\$ 2,341,888	\$ 2,447,509	\$ 2,558,986	\$ 2,676,701	\$ 3,071,503	\$ 3,218,555
<i>Actual Days of O&M</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>
<i>Minimum Balance Requirement (55 days)</i>	<i>\$ 1,167,645</i>	<i>\$ 1,243,651</i>	<i>\$ 1,311,944</i>	<i>\$ 1,369,970</i>	<i>\$ 1,431,154</i>	<i>\$ 1,495,700</i>	<i>\$ 1,563,825</i>	<i>\$ 1,635,762</i>	<i>\$ 1,877,030</i>	<i>\$ 1,966,895</i>
<i>Maximum Balance Requirement (90 days)</i>	<i>\$ 1,910,691</i>	<i>\$ 2,035,066</i>	<i>\$ 2,146,817</i>	<i>\$ 2,241,768</i>	<i>\$ 2,341,888</i>	<i>\$ 2,447,509</i>	<i>\$ 2,558,986</i>	<i>\$ 2,676,701</i>	<i>\$ 3,071,503</i>	<i>\$ 3,218,555</i>
650 Operating Fund - Capital										
Beginning Balance	\$ -	\$ -	\$ 41,834,510	\$ 28,087,515	\$ 18,926,468	\$ 15,028,741	\$ 17,897,421	\$ 30,514,022	\$ 35,826,708	\$ 23,011,483
plus: System Replacement Funding	-	2,800,000	2,900,000	3,000,000	3,100,000	3,200,000	3,300,000	3,400,000	3,700,000	3,800,000
plus: Transfers from Operating Fund	19,750,194	15,915,746	8,008,371	9,148,277	10,306,716	11,562,270	12,922,068	14,393,744	19,564,872	21,571,998
plus: Grants/Donations	1,000,000	-	-	-	-	-	-	-	-	-
plus: Capitalization Fees Revenue WW	8,499,500	21,056,952	4,295,965	4,491,861	4,696,690	4,910,859	5,134,794	5,368,940	6,137,412	6,417,278
plus: Capitalization Fees Revenue Coll	3,935,613	11,276,141	12,884,098	1,544,818	1,615,262	1,688,918	1,765,933	1,846,459	2,110,748	2,206,998
plus: Revenue Bond Proceeds	-	-	-	-	-	-	-	-	-	-
plus: DEQ Proceeds	-	24,100,060	-	-	-	-	-	-	-	-
plus: Loan Proceeds	-	-	-	-	-	-	-	-	-	-
plus: Interest Earnings	-	-	313,759	280,875	189,265	150,287	178,974	305,140	358,267	230,115
Total Funding Sources	\$ 33,185,307	\$ 75,148,899	\$ 70,236,703	\$ 46,553,347	\$ 38,834,401	\$ 36,541,076	\$ 41,199,190	\$ 55,828,306	\$ 67,698,007	\$ 57,237,873
less: Capital Expenditures	(12,435,113)	(33,314,389)	(42,149,187)	(27,626,878)	(23,805,660)	(18,643,655)	(10,685,168)	(17,837,590)	(44,686,524)	(46,050,714)
Ending Capital Fund Balance	\$ 20,750,194	\$ 41,834,510	\$ 28,087,515	\$ 18,926,468	\$ 15,028,741	\$ 17,897,421	\$ 30,514,022	\$ 37,990,716	\$ 23,011,483	\$ 11,187,159
<i>Minimum Target Balance</i>	<i>\$ 1,583,408</i>	<i>\$ 1,916,552</i>	<i>\$ 2,338,044</i>	<i>\$ 2,614,313</i>	<i>\$ 2,852,369</i>	<i>\$ 3,038,806</i>	<i>\$ 3,145,658</i>	<i>\$ 3,324,034</i>	<i>\$ 4,362,402</i>	<i>\$ 4,822,910</i>

City of Post Falls
Reclaimed Water Financial Plan
Summary

Fund Balance	2035	2036	2037	2038	2039	2040	2041	2042
650 Operating Fund - Wastewater Operating								
Beginning Balance	\$ 3,218,555	\$ 3,477,961	\$ 3,645,891	\$ 3,823,705	\$ 4,206,387	\$ 4,411,851	\$ 4,629,526	\$ 4,860,241
plus: Net Cash Flow after Rate Increase	19,538,728	21,912,576	25,105,304	21,001,991	22,568,610	24,134,787	25,764,335	27,016,319
less: Transfer of Surplus to Capital Fund	(19,279,322)	(21,744,646)	(24,927,490)	(20,619,309)	(22,363,146)	(23,917,112)	(25,533,620)	(26,662,531)
Ending Balance	\$ 3,477,961	\$ 3,645,891	\$ 3,823,705	\$ 4,206,387	\$ 4,411,851	\$ 4,629,526	\$ 4,860,241	\$ 5,214,029
<i>Actual Days of O&M</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>	<i>90 days</i>
<i>Minimum Balance Requirement (55 days)</i>	<i>\$ 2,125,420</i>	<i>\$ 2,228,044</i>	<i>\$ 2,336,709</i>	<i>\$ 2,570,570</i>	<i>\$ 2,696,131</i>	<i>\$ 2,829,155</i>	<i>\$ 2,970,147</i>	<i>\$ 3,186,351</i>
<i>Maximum Balance Requirement (90 days)</i>	<i>\$ 3,477,961</i>	<i>\$ 3,645,891</i>	<i>\$ 3,823,705</i>	<i>\$ 4,206,387</i>	<i>\$ 4,411,851</i>	<i>\$ 4,629,526</i>	<i>\$ 4,860,241</i>	<i>\$ 5,214,029</i>
650 Operating Fund - Capital								
Beginning Balance	\$ 11,187,159	\$ 42,640,212	\$ 19,779,729	\$ 7,087,286	\$ 42,312,169	\$ 26,917,004	\$ 3,929,053	\$ 19,449,428
plus: System Replacement Funding	3,900,000	4,000,000	4,100,000	4,200,000	4,300,000	4,400,000	4,500,000	4,600,000
plus: Transfers from Operating Fund	19,279,322	21,744,646	24,927,490	20,619,309	22,363,146	23,917,112	25,533,620	26,662,531
plus: Grants/Donations	-	-	-	-	-	-	-	-
plus: Capitalization Fees Revenue WW	6,709,906	7,015,878	7,335,802	7,670,315	8,020,081	8,385,797	8,768,189	9,168,018
plus: Capitalization Fees Revenue Coll	2,307,638	2,412,866	2,522,892	2,637,936	2,758,226	2,884,001	3,015,512	3,153,019
plus: Revenue Bond Proceeds	49,000,000	-	-	75,000,000	-	-	-	-
plus: DEQ Proceeds	-	-	-	-	-	-	-	-
plus: Loan Proceeds	-	-	-	-	-	-	-	-
plus: Loan Proceeds	-	-	-	-	-	-	-	-
plus: Interest Earnings	111,872	426,402	197,797	70,873	423,122	269,170	39,291	194,494
Total Funding Sources	\$ 92,495,897	\$ 78,240,004	\$ 58,863,711	\$ 117,285,719	\$ 80,176,745	\$ 66,773,084	\$ 45,785,665	\$ 63,227,491
less: Capital Expenditures	(49,855,685)	(58,460,274)	(51,776,424)	(74,973,550)	(53,259,740)	(62,844,031)	(26,336,236)	(27,916,411)
Ending Capital Fund Balance	\$ 42,640,212	\$ 19,779,729	\$ 7,087,286	\$ 42,312,169	\$ 26,917,004	\$ 3,929,053	\$ 19,449,428	\$ 35,311,080
<i>Minimum Target Balance</i>	<i>\$ 5,321,466</i>	<i>\$ 5,906,069</i>	<i>\$ 6,423,833</i>	<i>\$ 7,173,569</i>	<i>\$ 7,706,166</i>	<i>\$ 8,334,607</i>	<i>\$ 8,597,969</i>	<i>\$ 8,877,133</i>

City of Post Falls
Reclaimed Water Financial Plan
Summary

Revenue Requirement	2023	2024	2025	2026	2027	2028	2029	2030	2033	2034
Revenues										
Rate Revenues Under Existing Rates	\$ 18,894,062	\$ 19,755,631	\$ 20,656,488	\$ 21,598,424	\$ 22,583,312	\$ 23,613,111	\$ 24,689,869	\$ 25,815,727	\$ 29,510,807	\$ 30,856,500
Non-Rate Revenues	125,147	262,977	283,039	334,306	335,343	336,433	337,578	338,783	342,794	344,277
Total Revenues	\$ 19,019,209	\$ 20,018,608	\$ 20,939,527	\$ 21,932,730	\$ 22,918,655	\$ 23,949,544	\$ 25,027,447	\$ 26,154,510	\$ 29,853,600	\$ 31,200,777
Expenses										
Cash Operating Expenses	\$ 7,748,915	\$ 8,253,321	\$ 8,706,537	\$ 9,091,617	\$ 9,497,658	\$ 9,926,008	\$ 10,378,109	\$ 10,855,509	\$ 12,456,651	\$ 13,053,027
Existing Debt Service	919,157	924,925	675,909	675,909	675,908	675,909	675,909	675,909	675,909	675,909
New Debt Service	-	-	1,582,693	1,582,693	1,582,693	1,582,693	1,582,693	1,582,693	1,582,693	1,582,693
System Replacement Funding	-	2,800,000	2,900,000	3,000,000	3,100,000	3,200,000	3,300,000	3,400,000	3,700,000	3,800,000
Total Expenses	\$ 8,668,072	\$ 11,978,246	\$ 13,865,139	\$ 14,350,218	\$ 14,856,258	\$ 15,384,609	\$ 15,936,711	\$ 16,514,110	\$ 18,415,252	\$ 19,111,629
Net Surplus (Deficiency)	\$ 10,351,137	\$ 8,040,362	\$ 7,074,388	\$ 7,582,512	\$ 8,062,397	\$ 8,564,934	\$ 9,090,736	\$ 9,640,399	\$ 11,438,348	\$ 12,089,148
Additions to Meet Coverage	-	-	-	-	-	-	-	-	-	-
Total Surplus (Deficiency)	\$ 10,351,137	\$ 8,040,362	\$ 7,074,388	\$ 7,582,512	\$ 8,062,397	\$ 8,564,934	\$ 9,090,736	\$ 9,640,399	\$ 11,438,348	\$ 12,089,148
Annual Rate Increase		2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Cumulative Rate Increase		2.50%	5.06%	7.69%	10.38%	13.14%	15.97%	18.87%	28.01%	31.21%
Revenues After Rate Increases	\$ 18,894,062	\$ 20,249,522	\$ 21,702,223	\$ 23,259,140	\$ 24,927,751	\$ 26,716,068	\$ 28,632,678	\$ 30,686,787	\$ 37,776,328	\$ 40,486,401
Additional Taxes from Rate Increase	-	-	-	-	-	-	-	-	-	-
Net Cash Flow After Rate Increase	\$ 10,351,137	\$ 8,534,253	\$ 8,120,123	\$ 9,243,228	\$ 10,406,836	\$ 11,667,891	\$ 13,033,545	\$ 14,511,459	\$ 19,703,869	\$ 21,719,050
Coverage After Rate Increase: Bonded Debt	25.79	48.21	45.53	30.80	32.94	35.33	37.98	40.97	50.70	54.20
Coverage After Rate Increase: Total Debt	25.79	48.21	13.62	9.22	9.86	10.57	11.37	12.26	15.17	16.22
Sample Residential Bill	\$66.79	\$68.46	\$70.17	\$71.93	\$73.72	\$75.57	\$77.46	\$79.39	\$85.50	\$87.63
Annual Increase (\$)		\$1.67	\$1.71	\$1.75	\$1.80	\$1.84	\$1.89	\$1.94	\$2.09	\$2.14
Affordability Metric % of MHHI		1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.23%	1.23%	1.23%

City of Post Falls
Reclaimed Water Financial Plan
Summary

Revenue Requirement	2035	2036	2037	2038	2039	2040	2041	2042
Revenues								
Rate Revenues Under Existing Rates	\$ 32,263,556	\$ 33,734,774	\$ 35,273,080	\$ 36,881,532	\$ 38,563,330	\$ 40,321,818	\$ 42,160,493	\$ 44,083,011
Non-Rate Revenues	345,843	387,876	389,652	384,768	448,913	451,067	453,344	455,753
Total Revenues	\$ 32,609,398	\$ 34,122,650	\$ 35,662,731	\$ 37,266,300	\$ 39,012,243	\$ 40,772,885	\$ 42,613,837	\$ 44,538,764
Expenses								
Cash Operating Expenses	\$ 14,105,063	\$ 14,786,112	\$ 15,507,248	\$ 17,059,238	\$ 17,892,508	\$ 18,775,300	\$ 19,710,979	\$ 21,145,784
Existing Debt Service	675,909	675,909	-	-	-	-	-	-
New Debt Service	5,517,038	5,517,038	5,517,038	11,538,995	11,538,995	11,538,995	11,538,995	11,538,995
System Replacement Funding	3,900,000	4,000,000	4,100,000	4,200,000	4,300,000	4,400,000	4,500,000	4,600,000
Total Expenses	\$ 24,198,010	\$ 24,979,059	\$ 25,124,286	\$ 32,798,233	\$ 33,731,503	\$ 34,714,295	\$ 35,749,974	\$ 37,284,779
Net Surplus (Deficiency)	\$ 8,411,388	\$ 9,143,591	\$ 10,538,445	\$ 4,468,068	\$ 5,280,740	\$ 6,058,590	\$ 6,863,864	\$ 7,253,985
Additions to Meet Coverage	-	-	-	-	-	-	-	-
Total Surplus (Deficiency)	\$ 8,411,388	\$ 9,143,591	\$ 10,538,445	\$ 4,468,068	\$ 5,280,740	\$ 6,058,590	\$ 6,863,864	\$ 7,253,985
Annual Rate Increase	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%
Cumulative Rate Increase	34.49%	37.85%	41.30%	44.83%	44.83%	44.83%	44.83%	44.83%
Revenues After Rate Increases	\$ 43,390,896	\$ 46,503,759	\$ 49,839,938	\$ 53,415,455	\$ 55,851,200	\$ 58,398,015	\$ 61,060,964	\$ 63,845,344
Additional Taxes from Rate Increase	-	-	-	-	-	-	-	-
Net Cash Flow After Rate Increase	\$ 19,538,728	\$ 21,912,576	\$ 25,105,304	\$ 21,001,991	\$ 22,568,610	\$ 24,134,787	\$ 25,764,335	\$ 27,016,319
Coverage After Rate Increase: Bonded Debt	8.41	9.10	11.38	4.73	4.98	5.18	5.39	5.59
Coverage After Rate Increase: Total Debt	6.26	6.78	8.12	4.08	4.30	4.47	4.65	4.82
Sample Residential Bill	\$89.83	\$92.07	\$94.37	\$96.73	\$96.73	\$96.73	\$96.73	\$96.73
Annual Increase (\$)	\$2.19	\$2.25	\$2.30	\$2.36	\$0.00	\$0.00	\$0.00	\$0.00
Affordability Metric % of MHHI	1.23%	1.23%	1.23%	1.23%	1.20%	1.17%	1.14%	1.12%

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - 2023\$

2023 Project Costs in Year

Unescalated Capital Cost								
ID	Description	Unescalated Total	2023	2024	2025	2026	2027	2028
650.466	Budgeted Capital							
	Truck Replacement	500,000	500,000	-	-	-	-	-
	Facility Plan per EPA Permit	255,000	255,000	-	-	-	-	-
	Rate Study	25,000	25,000	-	-	-	-	-
	WWTP							
	Liquid Stream							
1.1	Headworks- Influent Box Mods	586,000	-	-	117,200	234,400	234,400	-
1.2	Headworks- 3rd Channel/Train	3,006,000	-	-	-	-	-	-
2.1	Equalization Modifications for OD 7 Feed Control	630,000	-	-	-	126,000	252,000	252,000
2.2	Equalization Tanks PS 2 and Tank 3	7,198,000	-	-	-	-	-	-
2.3	Equalization Tank 4 and Pumping	4,215,000	-	-	-	-	-	-
3	Biological Nutrient Removal (Train 7)	15,778,000	-	1,577,800	3,155,600	4,733,400	3,155,600	3,155,600
4	Biological Nutrient Removal (Train 8)	13,949,000	-	-	-	-	-	-
5	Biological Nutrient Removal (Train 9)	13,949,000	-	-	-	-	-	-
6	UB3, SC Splitter Box, and Scum Pumping	5,196,000	-	-	-	1,039,200	2,078,400	2,078,400
7	Secondary Clarifier No. 9	2,934,000	-	-	-	586,800	1,173,600	1,173,600
8	Secondary Clarifier No. 10	2,934,000	-	-	-	-	-	-
9	Secondary Clarifier No. 11	2,934,000	-	-	-	-	-	-
10.1	Intermediate Pumping 2 (IP2)	2,200,000	-	-	-	-	-	-
10.2	Tertiary Clarification 2 (TC2)	11,481,000	-	-	-	-	-	-
10.3	MF1 Module Capacity Expansion/Replacement	860,200	-	-	-	-	-	-
11	Chem Feed and Bulk Storage	2,243,000	-	-	-	-	-	-
12	Tertiary Membrane Filtration 2	36,250,000	-	-	-	-	-	-
13	UV Disinfection (Expansion of River Discharge)	510,000	-	-	-	-	-	-
14	Outfall Piping Improvements	1,239,000	-	-	-	-	247,800	495,600
15	Vactor Dump Station Improvements	604,000	-	120,800	241,600	241,600	-	-
16	Plant Drain Lift Station No. 1	1,793,000	-	358,600	1,434,400	-	-	-
17	Control Building Lift Station	450,000	-	90,000	360,000	-	-	-
18	Odor Control (Maintenance of Existing Facility)	654,000	-	130,800	523,200	-	-	-
19.1	Laboratory Facilities	2,180,000	-	436,000	1,744,000	-	-	-
19.2	Maintenance / Shop / Storage Facilities	3,410,000	-	-	682,000	1,364,000	1,364,000	-
19.3	Administration / Staff Building Improvements	3,027,000	-	-	-	-	-	-
20	Utility Water	411,000	-	-	-	-	-	-
21	Secondary Clarifier No. 1 and No. 2 Demo	333,000	-	-	-	-	-	-
22	Facility Plan Updates (~10yr interval)	600,000	-	-	-	-	-	-
23	Overall Process Eval Study - Tech Assess (Liquid/Solids stream)	300,000	-	-	-	-	-	-
24.1	Solids Stream Improvements - BFP 2	4,277,000	-	855,400	3,421,600	-	-	-
24.2	Solids Stream Improvements - Thickening	8,507,000	-	1,701,400	6,805,600	-	-	-
24.3	Solids Stream Improvements - BFP 3	7,817,000	-	-	-	-	-	-
24.4	Solids Stream Improvements - BFP 4	3,671,000	-	-	-	-	-	-
25.1	Reuse Improvements- Phase 1	21,100,000	-	-	-	-	-	-
25.2	Reuse Improvements- Phase 2 (A)	2,168,000	-	-	2,168,000	-	-	-
25.3	Reuse Improvements- Phase 2 (B)	25,549,000	-	-	-	-	-	-
25.4	Reuse Improvements- Phase 3 Land	48,975,000	-	3,265,000	3,265,000	3,265,000	3,265,000	3,265,000
25.4	Reuse Improvements- Phase 3	27,684,000	-	-	-	-	-	-
	Budgeted Capital							
	Solids Dewatering WRF Plant Upgrades	250,000	250,000	-	-	-	-	-
	WRF Lab Building Redesign	382,000	382,000	-	-	-	-	-
	Tertiary Treatment	18,100,000	6,800,000	11,300,000	-	-	-	-
	Outfall Upgrades	870,000	750,000	120,000	-	-	-	-
	Land Acquisition ITD Inerchange ROW	50,000	50,000	-	-	-	-	-
	Equipment to Equipment Tertiary Infrastructure	30,000	-	30,000	-	-	-	-
	WRF Crane	200,000	-	200,000	-	-	-	-
	WRF Lab Equipment	25,000	-	25,000	-	-	-	-
	WRF Utility Vehicle	20,000	-	20,000	-	-	-	-
	Trash Pump Piping	20,000	-	20,000	-	-	-	-
	Land Acquisition ITD Inerchange ROW	50,000	-	50,000	-	-	-	-
	Reuse Pickup	40,000	-	40,000	-	-	-	-
	Community Forest Recycled Water Side Dev.	450,000	-	450,000	-	-	-	-
	Collection System Priority Improvements							
P1	12th Avenue Force Main Phase 2	4,406,783	506,783	3,900,000	-	-	-	-
P1	Fisher Lift Station Upgrade	3,980,000	398,000	2,388,000	1,194,000	-	-	-
P1	Industrial Lift Station and Force Main Phase 1	6,239,258	-	-	-	-	-	-
P1	Pipeline Replacement (5 years)	1,348,250	-	-	269,650	269,650	269,650	269,650
P1	Oversize/Overdepth	4,081,960	-	-	816,392	816,392	816,392	816,392
P1	Lift Station Replacement (5 years)	3,139,362	-	-	627,872	627,872	627,872	627,872
P.2.1	12th Avenue Force Main Phase 3	5,472,655	-	-	-	2,736,328	2,736,328	-
P.2.2	3rd Ave Gravity Main Upsize	1,139,738	-	569,869	569,869	-	-	-
P.2.3	County Island 12-inch Gravity Main	984,265	-	-	-	-	-	-
P.2.4	Decommission of Guy Road LS and 15-inch Gravity Trunkline	3,595,018	-	-	-	-	1,797,509	1,797,509
P.2.5	Industrial Force Main Phase 2	5,754,899	-	-	-	-	-	-
P.2.6	Ohio Match Force Main Extension	470,007	-	-	-	-	-	-
P.2.7	Decommission Ohio Match, Maplewood LS - Alternative 2	2,351,233	-	-	-	-	-	-
	Pipeline Replacement (5 years)	2,022,376	-	-	-	-	-	-
	Oversize/Overdepth	1,078,142	-	-	-	-	-	-
	Lift Station Replacement (5 years)	3,139,362	-	-	-	-	-	-
	Masterplan Update	298,987	-	-	298,987	-	-	-

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - 2023\$

Unescalated Capital Cost								
ID	Description	2029	2030	2031	2032	2033	2034	2035
650.466	<u>Budgeted Capital</u>							
	Truck Replacement	-	-	-	-	-	-	-
	Facility Plan per EPA Permit	-	-	-	-	-	-	-
	Rate Study	-	-	-	-	-	-	-
	<u>WWTP</u>							
	<u>Liquid Stream</u>							
1.1	Headworks- Influent Box Mods	-	-	-	-	-	-	-
1.2	Headworks- 3rd Channel/Train	-	601,200	1,202,400	1,202,400	-	-	-
2.1	Equalization Modifications for OD 7 Feed Control	-	-	-	-	-	-	-
2.2	Equalization Tanks PS 2 and Tank 3	-	-	-	719,800	1,439,600	2,159,400	1,439,600
2.3	Equalization Tank 4 and Pumping	-	-	-	-	-	-	-
3	Biological Nutrient Removal (Train 7)	-	-	-	-	-	-	-
4	Biological Nutrient Removal (Train 8)	-	-	-	1,394,900	2,789,800	4,184,700	2,789,800
5	Biological Nutrient Removal (Train 9)	-	-	-	-	-	-	-
6	UB3, SC Splitter Box, and Scum Pumping	-	-	-	-	-	-	-
7	Secondary Clarifier No. 9	-	-	-	-	-	-	-
8	Secondary Clarifier No. 10	-	-	-	-	-	-	586,800
9	Secondary Clarifier No. 11	-	-	-	-	-	-	-
10.1	Intermediate Pumping 2 (IP2)	440,000	880,000	880,000	-	-	-	-
10.2	Tertiary Clarification 2 (TC2)	1,148,100	2,296,200	3,444,300	2,296,200	2,296,200	-	-
10.3	MF1 Module Capacity Expansion/Replacement	-	-	172,040	344,080	344,080	-	-
11	Chem Feed and Bulk Storage	-	-	-	-	-	-	224,300
12	Tertiary Membrane Filtration 2	-	-	-	-	-	-	-
13	UV Disinfection (Expansion of River Discharge)	-	-	-	-	102,000	204,000	204,000
14	Outfall Piping Improvements	495,600	-	-	-	-	-	-
15	Vactor Dump Station Improvements	-	-	-	-	-	-	-
16	Plant Drain Lift Station No. 1	-	-	-	-	-	-	-
17	Control Building Lift Station	-	-	-	-	-	-	-
18	Odor Control (Maintenance of Existing Facility)	-	-	-	-	-	-	-
19.1	Laboratory Facilities	-	-	-	-	-	-	-
19.2	Maintenance / Shop / Storage Facilities	-	-	-	-	-	-	-
19.3	Administration / Staff Building Improvements	-	605,400	1,210,800	1,210,800	-	-	-
20	Utility Water	-	82,200	164,400	164,400	-	-	-
21	Secondary Clarifier No. 1 and No. 2 Demo	-	-	-	-	-	66,600	133,200
22	Facility Plan Updates (~10yr interval)	-	-	-	300,000	-	-	-
23	Overall Process Eval Study - Tech Assess (Liquid/Solids stream)	-	300,000	-	-	-	-	-
24.1	Solids Stream Improvements - BFP 2	-	-	-	-	-	-	-
24.2	Solids Stream Improvements - Thickening	-	-	-	-	-	-	-
24.3	Solids Stream Improvements - BFP 3	-	-	781,700	1,563,400	2,345,100	1,563,400	1,563,400
24.4	Solids Stream Improvements - BFP 4	-	-	-	-	-	-	-
25.1	Reuse Improvements- Phase 1	-	-	2,110,000	4,220,000	6,330,000	4,220,000	4,220,000
25.2	Reuse Improvements- Phase 2 (A)	-	-	-	-	-	-	-
25.3	Reuse Improvements- Phase 2 (B)	-	-	-	-	-	2,554,900	5,109,800
25.4	Reuse Improvements- Phase 3 Land	3,265,000	3,265,000	3,265,000	3,265,000	3,265,000	3,265,000	3,265,000
25.4	Reuse Improvements- Phase 3	-	-	-	-	-	-	-
	<u>Budgeted Capital</u>							
	Solids Dewatering WRF Plant Upgrades	-	-	-	-	-	-	-
	WRF Lab Building Redesign	-	-	-	-	-	-	-
	Tertiary Treatment	-	-	-	-	-	-	-
	Outfall Upgrades	-	-	-	-	-	-	-
	Land Acquisition ITD Inerchange ROW	-	-	-	-	-	-	-
	Equipment to Equipment Tertiary Infrastructure	-	-	-	-	-	-	-
	WRF Crane	-	-	-	-	-	-	-
	WRF Lab Equipment	-	-	-	-	-	-	-
	WRF Utility Vehicle	-	-	-	-	-	-	-
	Trash Pump Piping	-	-	-	-	-	-	-
	Land Acquisition ITD Inerchange ROW	-	-	-	-	-	-	-
	Reuse Pickup	-	-	-	-	-	-	-
	Community Forest Recycled Water Side Dev.	-	-	-	-	-	-	-
	<u>Collection System Priority Improvements</u>							
P1	12th Avenue Force Main Phase 2	-	-	-	-	-	-	-
P1	Fisher Lift Station Upgrade	-	-	-	-	-	-	-
P1	Industrial Lift Station and Force Main Phase 1	-	-	-	-	3,119,629	3,119,629	-
P1	Pipeline Replacement (5 years)	269,650	-	-	-	-	-	-
P1	Oversize/Overdepth	816,392	-	-	-	-	-	-
P1	Lift Station Replacement (5 years)	627,872	-	-	-	-	-	-
P.2.1	12th Avenue Force Main Phase 3	-	-	-	-	-	-	-
P.2.2	3rd Ave Gravity Main Upsize	-	-	-	-	-	-	-
P.2.3	County Island 12-inch Gravity Main	-	-	-	984,265	-	-	-
P.2.4	Decommission of Guy Road LS and 15-inch Gravity Trunkline	-	-	-	-	-	-	-
P.2.5	Industrial Force Main Phase 2	-	-	-	-	-	-	2,877,449
P.2.6	Ohio Match Force Main Extension	470,007	-	-	-	-	-	-
P.2.7	Decommission Ohio Match, Maplewood LS - Alternative 2	-	1,175,616	1,175,616	-	-	-	-
	Pipeline Replacement (5 years)	-	404,475	404,475	-	-	-	-
	Oversize/Overdepth	-	215,628	215,628	404,475	404,475	404,475	-
	Lift Station Replacement (5 years)	-	627,872	627,872	215,628	215,628	215,628	-
	Masterplan Update	-	-	-	627,872	627,872	627,872	-

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - 2023\$

Unescalated Capital Cost								
ID	Description	2036	2037	2038	2039	2040	2041	2042
650.466	Budgeted Capital							
	Truck Replacement	-	-	-	-	-	-	-
	Facility Plan per EPA Permit	-	-	-	-	-	-	-
	Rate Study	-	-	-	-	-	-	-
	WWTP							
	Liquid Stream							
1.1	Headworks- Influent Box Mods	-	-	-	-	-	-	-
1.2	Headworks- 3rd Channel/Train	-	-	-	-	-	-	-
2.1	Equalization Modifications for OD 7 Feed Control	-	-	-	-	-	-	-
2.2	Equalization Tanks PS 2 and Tank 3	1,439,600	-	-	-	-	-	-
2.3	Equalization Tank 4 and Pumping	-	-	421,500	843,000	1,264,500	843,000	843,000
3	Biological Nutrient Removal (Train 7)	-	-	-	-	-	-	-
4	Biological Nutrient Removal (Train 8)	2,789,800	-	-	-	-	-	-
5	Biological Nutrient Removal (Train 9)	1,394,900	2,789,800	4,184,700	2,789,800	2,789,800	-	-
6	UB3, SC Splitter Box, and Scum Pumping	-	-	-	-	-	-	-
7	Secondary Clarifier No. 9	-	-	-	-	-	-	-
8	Secondary Clarifier No. 10	1,173,600	1,173,600	-	-	-	-	-
9	Secondary Clarifier No. 11	-	-	-	-	586,800	1,173,600	1,173,600
10.1	Intermediate Pumping 2 (IP2)	-	-	-	-	-	-	-
10.2	Tertiary Clarification 2 (TC2)	-	-	-	-	-	-	-
10.3	MF1 Module Capacity Expansion/Replacement	-	-	-	-	-	-	-
11	Chem Feed and Bulk Storage	448,600	672,900	448,600	448,600	-	-	-
12	Tertiary Membrane Filtration 2	3,625,000	7,250,000	10,875,000	7,250,000	7,250,000	-	-
13	UV Disinfection (Expansion of River Discharge)	-	-	-	-	-	-	-
14	Outfall Piping Improvements	-	-	-	-	-	-	-
15	Vactor Dump Station Improvements	-	-	-	-	-	-	-
16	Plant Drain Lift Station No. 1	-	-	-	-	-	-	-
17	Control Building Lift Station	-	-	-	-	-	-	-
18	Odor Control (Maintenance of Existing Facility)	-	-	-	-	-	-	-
19.1	Laboratory Facilities	-	-	-	-	-	-	-
19.2	Maintenance / Shop / Storage Facilities	-	-	-	-	-	-	-
19.3	Administration / Staff Building Improvements	-	-	-	-	-	-	-
20	Utility Water	-	-	-	-	-	-	-
21	Secondary Clarifier No. 1 and No. 2 Demo	133,200	-	-	-	-	-	-
22	Facility Plan Updates (~10yr interval)	-	-	300,000	-	-	-	-
23	Overall Process Eval Study - Tech Assess (Liquid/Solids stream)	-	-	-	-	-	-	-
24.1	Solids Stream Improvements - BFP 2	-	-	-	-	-	-	-
24.2	Solids Stream Improvements - Thickening	-	-	-	-	-	-	-
24.3	Solids Stream Improvements - BFP 3	-	-	-	-	-	-	-
24.4	Solids Stream Improvements - BFP 4	-	-	734,200	1,468,400	1,468,400	-	-
25.1	Reuse Improvements- Phase 1	-	-	-	-	-	-	-
25.2	Reuse Improvements- Phase 2 (A)	-	-	-	-	-	-	-
25.3	Reuse Improvements- Phase 2 (B)	7,664,700	5,109,800	5,109,800	-	-	-	-
25.4	Reuse Improvements- Phase 3 Land	3,265,000	3,265,000	3,265,000	-	-	-	-
25.4	Reuse Improvements- Phase 3	-	-	2,768,400	5,536,800	8,305,200	5,536,800	5,536,800
	Budgeted Capital							
	Solids Dewatering WRF Plant Upgrades	-	-	-	-	-	-	-
	WRF Lab Building Redesign	-	-	-	-	-	-	-
	Tertiary Treatment	-	-	-	-	-	-	-
	Outfall Upgrades	-	-	-	-	-	-	-
	Land Acquisition ITD Inerchange ROW	-	-	-	-	-	-	-
	Equipment to Equipment Tertiary Infrastructure	-	-	-	-	-	-	-
	WRF Crane	-	-	-	-	-	-	-
	WRF Lab Equipment	-	-	-	-	-	-	-
	WRF Utility Vehicle	-	-	-	-	-	-	-
	Trash Pump Piping	-	-	-	-	-	-	-
	Land Acquisition ITD Inerchange ROW	-	-	-	-	-	-	-
	Reuse Pickup	-	-	-	-	-	-	-
	Community Forest Recycled Water Side Dev.	-	-	-	-	-	-	-
	Collection System Priority Improvements							
P1	12th Avenue Force Main Phase 2	-	-	-	-	-	-	-
P1	Fisher Lift Station Upgrade	-	-	-	-	-	-	-
P1	Industrial Lift Station and Force Main Phase 1	-	-	-	-	-	-	-
P1	Pipeline Replacement (5 years)	-	-	-	-	-	-	-
P1	Oversize/Overdepth	-	-	-	-	-	-	-
P1	Lift Station Replacement (5 years)	-	-	-	-	-	-	-
P.2.1	12th Avenue Force Main Phase 3	-	-	-	-	-	-	-
P.2.2	3rd Ave Gravity Main Upsize	-	-	-	-	-	-	-
P.2.3	County Island 12-inch Gravity Main	-	-	-	-	-	-	-
P.2.4	Decommission of Guy Road LS and 15-inch Gravity Trunkline	-	-	-	-	-	-	-
P.2.5	Industrial Force Main Phase 2	2,877,449	-	-	-	-	-	-
P.2.6	Ohio Match Force Main Extension	-	-	-	-	-	-	-
P.2.7	Decommission Ohio Match, Maplewood LS - Alternative 2	-	-	-	-	-	-	-
	Pipeline Replacement (5 years)	-	-	-	-	-	-	-
	Oversize/Overdepth	-	-	-	-	-	-	-
	Lift Station Replacement (5 years)	-	-	-	-	-	-	-
	Masterplan Update	-	-	-	-	-	-	-

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - 2023\$

2023 Project Costs in Year

Unescalated Capital Cost								
ID	Description	Unescalated Total	2023	2024	2025	2026	2027	2028
P.3.1	Decommission Stateline Lift Station and Gravity Main Extension	690,062	-	-	-	-	-	-
P.3.2	Riverbend Lift Station Relocation	923,271	-	-	-	-	-	-
P.3.3	North Regional Lift Station	3,500,000	-	-	3,500,000	-	-	-
P.3.4	Fisher Force Main	2,818,848	-	-	-	-	-	-
P.3.5	12th Avenue Force Main Phase 4	6,134,000	-	-	3,067,000	3,067,000	-	-
P.3.6	12th Avenue Gravity Main Upsize	314,534	-	-	-	-	-	-
P.3.7	3rd Avenue Gravity Main Upsize	1,796,313	-	-	898,156	898,156	-	-
P.3.8	Greensferry 10-inch Parallel Gravity Line	651,791	-	-	-	-	-	-
P.3.9	Ponderosa Force Main Extension	1,204,319	-	-	-	-	-	-
P.3.10	Highway 41 15-inch Parallel Gravity Main	825,204	-	-	-	-	-	-
P.3.11	Seltice Adverse Slope Correction	130,358	-	-	-	-	-	-
P.3.12	Corbin Lift Station Relocation Replacement	2,800,000	900,000	1,900,000	-	-	-	-
P.3.13	Ponderosa Lift Station Upgrades	500,000	-	500,000	-	-	-	-
P.3.14	3rd Avenue Lift Station Upgrades	1,675,522	-	-	-	837,761	837,761	-
	Pipeline Replacement (10 years)	3,370,626	-	-	-	-	-	-
	Oversize/Overdepth	7,084,020	-	-	-	-	-	-
	Lift Station Replacement (10 years)	6,278,724	-	-	-	-	-	-
	Masterplan Update	298,987	-	-	-	-	-	-
	Seltice Way Force mains (Budgeted Capital)	4,705,000	-	-	2,352,500	2,352,500	-	-
	Bentley Lift Station Improvements	1,050,000	500,000	550,000	-	-	-	-
	Budgeted Capital							
	Lift Station Equipment Replacement	542,000	542,000	-	-	-	-	-
	Pipe Replacement	12,500	12,500	-	-	-	-	-
	Land Acquisition	50,000	50,000	-	-	-	-	-
	Oversizing Construction Costs	94,000	94,000	-	-	-	-	-
	Ponderosa Lift Station	-	-	-	-	-	-	-
	Decommission Prairie Falls/Gayling	400,000	400,000	-	-	-	-	-
	Seltice Way Force Main	-	-	-	-	-	-	-
	Collection Projects	19,830	19,830	-	-	-	-	-
	CCTV Camera Truck	250,000	-	250,000	-	-	-	-
	Collections Locator Equipment	15,000	-	15,000	-	-	-	-
	Collections Operator Truck	40,000	-	40,000	-	-	-	-
	WRF Collections Service Truck	225,000	-	225,000	-	-	-	-
	6th Ave Stormwater Project	300,000	-	300,000	-	-	-	-
		-						
	Total Capital Projects Before Completion Factor	\$ 411,071,402	\$ 12,435,113	\$ 31,428,669	\$ 37,512,627	\$ 23,196,060	\$ 18,856,312	\$ 13,931,623
	Completion Factor Impact	-	-	-	-	-	-	-
	Total Capital Projects	\$ 411,071,402	\$ 12,435,113	\$ 31,428,669	\$ 37,512,627	\$ 23,196,060	\$ 18,856,312	\$ 13,931,623
	Collector/Other	\$ 98,714,702	\$ 3,935,613	\$ 10,637,869	\$ 13,594,427	\$ 11,605,660	\$ 7,085,512	\$ 3,511,423
	WWTP	312,356,700	8,499,500	20,790,800	23,918,200	11,590,400	11,770,800	10,420,200
	Total	\$ 411,071,402	\$ 12,435,113	\$ 31,428,669	\$ 37,512,627	\$ 23,196,060	\$ 18,856,312	\$ 13,931,623
	Liquid Stream	\$ 162,091,200	\$ 7,982,000	\$ 14,969,000	\$ 8,258,000	\$ 8,325,400	\$ 8,505,800	\$ 7,155,200
	Reuse Ph 1,2,3	125,476,000	-	3,265,000	5,433,000	3,265,000	3,265,000	3,265,000
	Solids	24,522,000	250,000	2,556,800	10,227,200	-	-	-
	Other	267,500	267,500	-	-	-	-	-
	Total	\$ 312,356,700	\$ 8,499,500	\$ 20,790,800	\$ 23,918,200	\$ 11,590,400	\$ 11,770,800	\$ 10,420,200
	Coll Priority 1 (incl budget items)	\$ 25,656,442	\$ 2,535,613	\$ 7,118,000	\$ 2,907,914	\$ 1,713,914	\$ 1,713,914	\$ 1,713,914
	Coll Priority 2	26,306,681	-	569,869	868,856	2,736,328	4,533,837	1,797,509
	Coll Priority 3	46,751,579	1,400,000	2,950,000	9,817,656	7,155,418	837,761	-
	Total	\$ 98,714,702	\$ 3,935,613	\$ 10,637,869	\$ 13,594,427	\$ 11,605,660	\$ 7,085,512	\$ 3,511,423

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - 2023\$

Unescalated Capital Cost								
ID	Description	2029	2030	2031	2032	2033	2034	2035
P.3.1	Decommission Stateline Lift Station and Gravity Main Extension	-	-	-	-	-	-	690,062
P.3.2	Riverbend Lift Station Relocation	-	-	-	-	-	-	-
P.3.3	North Regional Lift Station	-	-	-	-	-	-	-
P.3.4	Fisher Force Main	-	1,409,424	1,409,424	-	-	-	-
P.3.5	12th Avenue Force Main Phase 4	-	-	-	-	-	-	-
P.3.6	12th Avenue Gravity Main Upsize	-	-	-	-	-	-	-
P.3.7	3rd Avenue Gravity Main Upsize	-	-	-	-	-	-	-
P.3.8	Greensferry 10-inch Parallel Gravity Line	-	-	-	-	-	-	-
P.3.9	Ponderosa Force Main Extension	-	-	-	-	-	-	-
P.3.10	Highway 41 15-inch Parallel Gravity Main	-	-	-	-	-	-	-
P.3.11	Seltice Adverse Slope Correction	-	-	-	-	-	-	-
P.3.12	Corbin Lift Station Relocation Replacement	-	-	-	-	-	-	-
P.3.13	Ponderosa Lift Station Upgrades	-	-	-	-	-	-	-
P.3.14	3rd Avenue Lift Station Upgrades	-	-	-	-	-	-	-
	Pipeline Replacement (10 years)	-	-	-	-	337,063	337,063	337,063
	Oversize/Overdepth	-	-	-	-	708,402	708,402	708,402
	Lift Station Replacement (10 years)	-	-	-	-	627,872	627,872	627,872
	Masterplan Update	-	-	-	-	-	-	-
	Seltice Way Force mains (Budgeted Capital)	-	-	-	-	-	-	-
	Bentley Lift Station Improvements	-	-	-	-	-	-	-
	Budgeted Capital							
	Lift Station Equipment Replacement	-	-	-	-	-	-	-
	Pipe Replacement	-	-	-	-	-	-	-
	Land Acquisition	-	-	-	-	-	-	-
	Oversizing Construction Costs	-	-	-	-	-	-	-
	Ponderosa Lift Station	-	-	-	-	-	-	-
	Decommission Prairie Falls/Gayling	-	-	-	-	-	-	-
	Seltice Way Force Main	-	-	-	-	-	-	-
	Collection Projects	-	-	-	-	-	-	-
	CCTV Camera Truck	-	-	-	-	-	-	-
	Collections Locator Equipment	-	-	-	-	-	-	-
	Collections Operator Truck	-	-	-	-	-	-	-
	WRF Collections Service Truck	-	-	-	-	-	-	-
	6th Ave Stormwater Project	-	-	-	-	-	-	-
	Total Capital Projects Before Completion Factor	\$ 7,532,622	\$ 11,863,016	\$ 17,063,656	\$ 18,913,221	\$ 24,952,722	\$ 24,258,942	\$ 24,776,748
	Completion Factor Impact	-	-	-	-	-	-	-
	Total Capital Projects	\$ 7,532,622	\$ 11,863,016	\$ 17,063,656	\$ 18,913,221	\$ 24,952,722	\$ 24,258,942	\$ 24,776,748
	Collector/Other	\$ 2,183,922	\$ 3,833,016	\$ 3,833,016	\$ 2,232,241	\$ 6,040,942	\$ 6,040,942	\$ 5,240,848
	WWTP	\$ 5,348,700	\$ 8,030,000	\$ 13,230,640	\$ 16,680,980	\$ 18,911,780	\$ 18,218,000	\$ 19,535,900
	Total	\$ 7,532,622	\$ 11,863,016	\$ 17,063,656	\$ 18,913,221	\$ 24,952,722	\$ 24,258,942	\$ 24,776,748
	Liquid Stream	\$ 2,083,700	\$ 4,765,000	\$ 7,073,940	\$ 7,632,580	\$ 6,971,680	\$ 6,614,700	\$ 5,377,700
	Reuse Ph 1,2,3	3,265,000	3,265,000	5,375,000	7,485,000	9,595,000	10,039,900	12,594,800
	Solids	-	-	781,700	1,563,400	2,345,100	1,563,400	1,563,400
	Other	-	-	-	-	-	-	-
	Total	\$ 5,348,700	\$ 8,030,000	\$ 13,230,640	\$ 16,680,980	\$ 18,911,780	\$ 18,218,000	\$ 19,535,900
	Coll Priority 1 (incl budget items)	\$ 1,713,914	\$ -	\$ -	\$ -	\$ 3,119,629	\$ 3,119,629	\$ -
	Coll Priority 2	\$ 470,007	\$ 2,423,592	\$ 2,423,592	\$ 2,232,241	\$ 1,247,976	\$ 1,247,976	\$ 2,877,449
	Coll Priority 3	\$ -	\$ 1,409,424	\$ 1,409,424	\$ -	\$ 1,673,337	\$ 1,673,337	\$ 2,363,399
	Total	\$ 2,183,922	\$ 3,833,016	\$ 3,833,016	\$ 2,232,241	\$ 6,040,942	\$ 6,040,942	\$ 5,240,848

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - 2023\$

Unescalated Capital Cost								
ID	Description	2036	2037	2038	2039	2040	2041	2042
P.3.1	Decommission Stateline Lift Station and Gravity Main Extension	-	-	-	-	-	-	-
P.3.2	Riverbend Lift Station Relocation	923,271	-	-	-	-	-	-
P.3.3	North Regional Lift Station	-	-	-	-	-	-	-
P.3.4	Fisher Force Main	-	-	-	-	-	-	-
P.3.5	12th Avenue Force Main Phase 4	-	-	-	-	-	-	-
P.3.6	12th Avenue Gravity Main Upsize	-	314,534	-	-	-	-	-
P.3.7	3rd Avenue Gravity Main Upsize	-	-	-	-	-	-	-
P.3.8	Greensferry 10-inch Parallel Gravity Line	-	651,791	-	-	-	-	-
P.3.9	Ponderosa Force Main Extension	-	-	1,204,319	-	-	-	-
P.3.10	Highway 41 15-inch Parallel Gravity Main	-	-	-	825,204	-	-	-
P.3.11	Seltice Adverse Slope Correction	-	-	-	130,358	-	-	-
P.3.12	Corbin Lift Station Relocation Replacement	-	-	-	-	-	-	-
P.3.13	Ponderosa Lift Station Upgrades	-	-	-	-	-	-	-
P.3.14	3rd Avenue Lift Station Upgrades	-	-	-	-	-	-	-
	Pipeline Replacement (10 years)	337,063	337,063	337,063	337,063	337,063	337,063	337,063
	Oversize/Overdepth	708,402	708,402	708,402	708,402	708,402	708,402	708,402
	Lift Station Replacement (10 years)	627,872	627,872	627,872	627,872	627,872	627,872	627,872
	Masterplan Update	-	-	298,987	-	-	-	-
	Seltice Way Force mains (Budgeted Capital)	-	-	-	-	-	-	-
	Bentley Lift Station Improvements	-	-	-	-	-	-	-
	Budgeted Capital							
	Lift Station Equipment Replacement	-	-	-	-	-	-	-
	Pipe Replacement	-	-	-	-	-	-	-
	Land Acquisition	-	-	-	-	-	-	-
	Oversizing Construction Costs	-	-	-	-	-	-	-
	Ponderosa Lift Station	-	-	-	-	-	-	-
	Decommission Prairie Falls/Gayling	-	-	-	-	-	-	-
	Seltice Way Force Main	-	-	-	-	-	-	-
	Collection Projects	-	-	-	-	-	-	-
	CCTV Camera Truck	-	-	-	-	-	-	-
	Collections Locator Equipment	-	-	-	-	-	-	-
	Collections Operator Truck	-	-	-	-	-	-	-
	WRF Collections Service Truck	-	-	-	-	-	-	-
	6th Ave Stormwater Project	-	-	-	-	-	-	-
	Total Capital Projects Before Completion Factor	\$ 27,408,458	\$ 22,900,762	\$ 31,283,843	\$ 20,965,499	\$ 23,338,037	\$ 9,226,737	\$ 9,226,737
	Completion Factor Impact	-	-	-	-	-	-	-
	Total Capital Projects	\$ 27,408,458	\$ 22,900,762	\$ 31,283,843	\$ 20,965,499	\$ 23,338,037	\$ 9,226,737	\$ 9,226,737
	Collector/Other	\$ 5,474,058	\$ 2,639,662	\$ 3,176,643	\$ 2,628,899	\$ 1,673,337	\$ 1,673,337	\$ 1,673,337
	WWTP	\$ 21,934,400	\$ 20,261,100	\$ 28,107,200	\$ 18,336,600	\$ 21,664,700	\$ 7,553,400	\$ 7,553,400
	Total	\$ 27,408,458	\$ 22,900,762	\$ 31,283,843	\$ 20,965,499	\$ 23,338,037	\$ 9,226,737	\$ 9,226,737
	Liquid Stream	\$ 11,004,700	\$ 11,886,300	\$ 16,229,800	\$ 11,331,400	\$ 11,891,100	\$ 2,016,600	\$ 2,016,600
	Reuse Ph 1,2,3	10,929,700	8,374,800	11,143,200	5,536,800	8,305,200	5,536,800	5,536,800
	Solids	-	-	734,200	1,468,400	1,468,400	-	-
	Other	-	-	-	-	-	-	-
	Total	\$ 21,934,400	\$ 20,261,100	\$ 28,107,200	\$ 18,336,600	\$ 21,664,700	\$ 7,553,400	\$ 7,553,400
	Coll Priority 1 (incl budget items)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Coll Priority 2	\$ 2,877,449	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Coll Priority 3	\$ 2,596,608	\$ 2,639,662	\$ 3,176,643	\$ 2,628,899	\$ 1,673,337	\$ 1,673,337	\$ 1,673,337
	Total	\$ 5,474,058	\$ 2,639,662	\$ 3,176,643	\$ 2,628,899	\$ 1,673,337	\$ 1,673,337	\$ 1,673,337

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - Escalated to Year of Construction

Escalated Capital Cost							
ID	Description	2023	2024	2025	2026	2027	2028
650.466	Budgeted Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Truck Replacement	500,000	-	-	-	-	-
	Facility Plan per EPA Permit	255,000	-	-	-	-	-
	Rate Study	25,000	-	-	-	-	-
	WWTP						
	Liquid Stream						
1.1	Headworks- Influent Box Mods	-	-	131,686	279,174	295,925	-
1.2	Headworks- 3rd Channel/Train	-	-	-	-	-	-
2.1	Equalization Modifications for OD 7 Feed Control	-	-	-	150,068	318,144	337,233
2.2	Equalization Tanks PS 2 and Tank 3	-	-	-	-	-	-
2.3	Equalization Tank 4 and Pumping	-	-	-	-	-	-
3	Biological Nutrient Removal (Train 7)	-	1,672,468	3,545,632	5,637,555	3,983,872	4,222,905
4	Biological Nutrient Removal (Train 8)	-	-	-	-	-	-
5	Biological Nutrient Removal (Train 9)	-	-	-	-	-	-
6	UB3, SC Splitter Box, and Scum Pumping	-	-	-	1,237,704	2,623,932	2,781,368
7	Secondary Clarifier No. 9	-	-	-	698,888	1,481,643	1,570,542
8	Secondary Clarifier No. 10	-	-	-	-	-	-
9	Secondary Clarifier No. 11	-	-	-	-	-	-
10.1	Intermediate Pumping 2 (IP2)	-	-	-	-	-	-
10.2	Tertiary Clarification 2 (TC2)	-	-	-	-	-	-
10.3	MF1 Module Capacity Expansion/Replacement	-	-	-	-	-	-
11	Chem Feed and Bulk Storage	-	-	-	-	-	-
12	Tertiary Membrane Filtration 2	-	-	-	-	-	-
13	UV Disinfection (Expansion of River Discharge)	-	-	-	-	-	-
14	Outfall Piping Improvements	-	-	-	-	312,842	663,225
15	Vactor Dump Station Improvements	-	128,048	271,462	287,749	-	-
16	Plant Drain Lift Station No. 1	-	380,116	1,611,692	-	-	-
17	Control Building Lift Station	-	95,400	404,496	-	-	-
18	Odor Control (Maintenance of Existing Facility)	-	138,648	587,868	-	-	-
19.1	Laboratory Facilities	-	462,160	1,959,558	-	-	-
19.2	Maintenance / Shop / Storage Facilities	-	-	766,295	1,624,546	1,722,019	-
19.3	Administration / Staff Building Improvements	-	-	-	-	-	-
20	Utility Water	-	-	-	-	-	-
21	Secondary Clarifier No. 1 and No. 2 Demo	-	-	-	-	-	-
22	Facility Plan Updates (~10yr interval)	-	-	-	-	-	-
23	Overall Process Eval Study - Tech Assess (Liquid/Solids stream)	-	-	-	-	-	-
24.1	Solids Stream Improvements - BFP 2	-	906,724	3,844,510	-	-	-
24.2	Solids Stream Improvements - Thickening	-	1,803,484	7,646,772	-	-	-
24.3	Solids Stream Improvements - BFP 3	-	-	-	-	-	-
24.4	Solids Stream Improvements - BFP 4	-	-	-	-	-	-
25.1	Reuse Improvements- Phase 1	-	-	-	-	-	-
25.2	Reuse Improvements- Phase 2 (A)	-	-	2,435,965	-	-	-
25.3	Reuse Improvements- Phase 2 (B)	-	-	-	-	-	-
25.4	Reuse Improvements- Phase 3 Land	-	3,460,900	3,668,554	3,888,667	4,121,987	4,369,307
25.4	Reuse Improvements- Phase 3	-	-	-	-	-	-
	Budgeted Capital						
	Solids Dewatering WRF Plant Upgrades	250,000	-	-	-	-	-
	WRF Lab Building Redesign	382,000	-	-	-	-	-
	Tertiary Treatment	6,800,000	11,978,000	-	-	-	-
	Outfall Upgrades	750,000	127,200	-	-	-	-
	Land Acquisition ITD Inerchange ROW	50,000	-	-	-	-	-
	Equipment to Equipment Tertiary Infrastructure	-	31,800	-	-	-	-
	WRF Crane	-	212,000	-	-	-	-
	WRF Lab Equipment	-	26,500	-	-	-	-
	WRF Utility Vehicle	-	21,200	-	-	-	-
	Trash Pump Piping	-	21,200	-	-	-	-
	Land Acquisition ITD Inerchange ROW	-	53,000	-	-	-	-
	Reuse Pickup	-	42,400	-	-	-	-
	Community Forest Recycled Water Side Dev.	-	477,000	-	-	-	-
	Collection System Priority Improvements						
P1	12th Avenue Force Main Phase 2	506,783	4,134,000	-	-	-	-
P1	Fisher Lift Station Upgrade	398,000	2,531,280	1,341,578	-	-	-
P1	Industrial Lift Station and Force Main Phase 1	-	-	-	-	-	-
P1	Pipeline Replacement (5 years)	-	-	302,979	321,157	340,427	360,853
P1	Oversize/Overdepth	-	-	917,298	972,336	1,030,676	1,092,517
P1	Lift Station Replacement (5 years)	-	-	705,477	747,806	792,674	840,235
P.2.1	12th Avenue Force Main Phase 3	-	-	-	3,259,010	3,454,551	-
P.2.2	3rd Ave Gravity Main Upsize	-	604,061	640,305	-	-	-
P.2.3	County Island 12-inch Gravity Main	-	-	-	-	-	-
P.2.4	Decommission of Guy Road LS and 15-inch Gravity Trunkline	-	-	-	-	2,269,314	2,405,472
P.2.5	Industrial Force Main Phase 2	-	-	-	-	-	-
P.2.6	Ohio Match Force Main Extension	-	-	-	-	-	-
P.2.7	Decommission Ohio Match, Maplewood LS - Alternative 2	-	-	-	-	-	-
	Pipeline Replacement (5 years)	-	-	-	-	-	-
	Oversize/Overdepth	-	-	-	-	-	-
	Lift Station Replacement (5 years)	-	-	-	-	-	-
	Masterplan Update	-	-	335,942	-	-	-

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - Escalated to Year of Construction

Escalated Capital Cost									
ID	Description	2029	2030	2031	2032	2033	2034	2035	2036
650.466	Budgeted Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Truck Replacement	-	-	-	-	-	-	-	-
	Facility Plan per EPA Permit	-	-	-	-	-	-	-	-
	Rate Study	-	-	-	-	-	-	-	-
	WWTP								
	Liquid Stream								
1.1	Headworks- Influent Box Mods	-	-	-	-	-	-	-	-
1.2	Headworks- 3rd Channel/Train	-	903,983	1,916,443	2,031,430	-	-	-	-
2.1	Equalization Modifications for OD 7 Feed Control	-	-	-	-	-	-	-	-
2.2	Equalization Tanks PS 2 and Tank 3	-	-	-	1,216,087	2,578,104	4,099,186	2,896,758	3,070,564
2.3	Equalization Tank 4 and Pumping	-	-	-	-	-	-	-	-
3	Biological Nutrient Removal (Train 7)	-	-	-	-	-	-	-	-
4	Biological Nutrient Removal (Train 8)	-	-	-	2,356,654	4,996,107	7,943,810	5,613,626	5,950,443
5	Biological Nutrient Removal (Train 9)	-	-	-	-	-	-	-	2,975,222
6	UB3, SC Splitter Box, and Scum Pumping	-	-	-	-	-	-	-	-
7	Secondary Clarifier No. 9	-	-	-	-	-	-	-	-
8	Secondary Clarifier No. 10	-	-	-	-	-	-	1,180,757	2,503,205
9	Secondary Clarifier No. 11	-	-	-	-	-	-	-	-
10.1	Intermediate Pumping 2 (IP2)	624,148	1,323,195	1,402,586	-	-	-	-	-
10.2	Tertiary Clarification 2 (TC2)	1,628,602	3,452,636	5,489,691	3,879,382	4,112,144	-	-	-
10.3	MF1 Module Capacity Expansion/Replacement	-	-	274,206	581,316	616,195	-	-	-
11	Chem Feed and Bulk Storage	-	-	-	-	-	-	451,336	956,832
12	Tertiary Membrane Filtration 2	-	-	-	-	-	-	-	7,731,865
13	UV Disinfection (Expansion of River Discharge)	-	-	-	-	182,666	387,253	410,488	-
14	Outfall Piping Improvements	703,018	-	-	-	-	-	-	-
15	Vactor Dump Station Improvements	-	-	-	-	-	-	-	-
16	Plant Drain Lift Station No. 1	-	-	-	-	-	-	-	-
17	Control Building Lift Station	-	-	-	-	-	-	-	-
18	Odor Control (Maintenance of Existing Facility)	-	-	-	-	-	-	-	-
19.1	Laboratory Facilities	-	-	-	-	-	-	-	-
19.2	Maintenance / Shop / Storage Facilities	-	-	-	-	-	-	-	-
19.3	Administration / Staff Building Improvements	-	910,298	1,929,831	2,045,621	-	-	-	-
20	Utility Water	-	123,598	262,029	277,750	-	-	-	-
21	Secondary Clarifier No. 1 and No. 2 Demo	-	-	-	-	-	126,427	268,025	284,106
22	Facility Plan Updates (~10yr interval)	-	-	-	506,844	-	-	-	-
23	Overall Process Eval Study - Tech Assess (Liquid/Solids stream)	-	451,089	-	-	-	-	-	-
24.1	Solids Stream Improvements - BFP 2	-	-	-	-	-	-	-	-
24.2	Solids Stream Improvements - Thickening	-	-	-	-	-	-	-	-
24.3	Solids Stream Improvements - BFP 3	-	-	1,245,911	2,641,331	4,199,717	2,967,800	3,145,868	-
24.4	Solids Stream Improvements - BFP 4	-	-	-	-	-	-	-	-
25.1	Reuse Improvements- Phase 1	-	-	3,363,019	7,129,601	11,336,066	8,010,820	8,491,469	-
25.2	Reuse Improvements- Phase 2 (A)	-	-	-	-	-	-	-	-
25.3	Reuse Improvements- Phase 2 (B)	-	-	-	-	-	4,849,963	10,281,922	16,348,255
25.4	Reuse Improvements- Phase 3 Land	4,631,465	4,909,353	5,203,914	5,516,149	5,847,118	6,197,945	6,569,821	6,964,011
25.4	Reuse Improvements- Phase 3	-	-	-	-	-	-	-	-
	Budgeted Capital								
	Solids Dewatering WRF Plant Upgrades	-	-	-	-	-	-	-	-
	WRF Lab Building Redesign	-	-	-	-	-	-	-	-
	Tertiary Treatment	-	-	-	-	-	-	-	-
	Outfall Upgrades	-	-	-	-	-	-	-	-
	Land Acquisition ITD Inerchange ROW	-	-	-	-	-	-	-	-
	Equipment to Equipment Tertiary Infrastructure	-	-	-	-	-	-	-	-
	WRF Crane	-	-	-	-	-	-	-	-
	WRF Lab Equipment	-	-	-	-	-	-	-	-
	WRF Utility Vehicle	-	-	-	-	-	-	-	-
	Trash Pump Piping	-	-	-	-	-	-	-	-
	Land Acquisition ITD Inerchange ROW	-	-	-	-	-	-	-	-
	Reuse Pickup	-	-	-	-	-	-	-	-
	Community Forest Recycled Water Side Dev.	-	-	-	-	-	-	-	-
	Collection System Priority Improvements								
P1	12th Avenue Force Main Phase 2	-	-	-	-	-	-	-	-
P1	Fisher Lift Station Upgrade	-	-	-	-	-	-	-	-
P1	Industrial Lift Station and Force Main Phase 1	-	-	-	-	5,586,780	5,921,987	-	-
P1	Pipeline Replacement (5 years)	382,504	-	-	-	-	-	-	-
P1	Oversize/Overdepth	1,158,068	-	-	-	-	-	-	-
P1	Lift Station Replacement (5 years)	890,649	-	-	-	-	-	-	-
P.2.1	12th Avenue Force Main Phase 3	-	-	-	-	-	-	-	-
P.2.2	3rd Ave Gravity Main Upsize	-	-	-	-	-	-	-	-
P.2.3	County Island 12-inch Gravity Main	-	-	-	1,662,895	-	-	-	-
P.2.4	Decommission of Guy Road LS and 15-inch Gravity Trunkline	-	-	-	-	-	-	-	-
P.2.5	Industrial Force Main Phase 2	-	-	-	-	-	-	5,789,994	6,137,393
P.2.6	Ohio Match Force Main Extension	666,714	-	-	-	-	-	-	-
P.2.7	Decommission Ohio Match, Maplewood LS - Alternative 2	-	1,767,692	1,873,754	-	-	-	-	-
	Pipeline Replacement (5 years)	-	608,181	644,672	683,352	724,353	767,815	-	-
	Oversize/Overdepth	-	324,225	343,679	364,300	386,158	409,327	-	-
	Lift Station Replacement (5 years)	-	944,088	1,000,733	1,060,777	1,124,424	1,191,889	-	-
	Masterplan Update	-	-	-	-	-	-	-	-

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - Escalated to Year of Construction

Escalated Capital Cost								
ID	Description	2037	2038	2039	2040	2041	2042	Escalated Total
	Budgeted Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
650.466	Truck Replacement	-	-	-	-	-	-	500,000
	Facility Plan per EPA Permit	-	-	-	-	-	-	255,000
	Rate Study	-	-	-	-	-	-	25,000
	WWTP							
	Liquid Stream							
1.1	Headworks- Influent Box Mods	-	-	-	-	-	-	706,785
1.2	Headworks- 3rd Channel/Train	-	-	-	-	-	-	4,851,855
2.1	Equalization Modifications for OD 7 Feed Control	-	-	-	-	-	-	805,445
2.2	Equalization Tanks PS 2 and Tank 3	-	-	-	-	-	-	13,860,699
2.3	Equalization Tank 4 and Pumping	-	1,010,149	2,141,516	3,405,011	2,406,208	2,550,580	11,513,465
3	Biological Nutrient Removal (Train 7)	-	-	-	-	-	-	19,062,432
4	Biological Nutrient Removal (Train 8)	-	-	-	-	-	-	26,860,640
5	Biological Nutrient Removal (Train 9)	6,307,470	10,028,877	7,087,073	7,512,298	-	-	33,910,939
6	UB3, SC Splitter Box, and Scum Pumping	-	-	-	-	-	-	6,643,004
7	Secondary Clarifier No. 9	-	-	-	-	-	-	3,751,073
8	Secondary Clarifier No. 10	2,653,397	-	-	-	-	-	6,337,358
9	Secondary Clarifier No. 11	-	-	-	1,580,119	3,349,852	3,550,844	8,480,815
10.1	Intermediate Pumping 2 (IP2)	-	-	-	-	-	-	3,349,929
10.2	Tertiary Clarification 2 (TC2)	-	-	-	-	-	-	18,562,455
10.3	MF1 Module Capacity Expansion/Replacement	-	-	-	-	-	-	1,471,716
11	Chem Feed and Bulk Storage	1,521,362	1,075,096	1,139,602	-	-	-	5,144,227
12	Tertiary Membrane Filtration 2	16,391,554	26,062,570	18,417,550	19,522,603	-	-	88,126,141
13	UV Disinfection (Expansion of River Discharge)	-	-	-	-	-	-	980,407
14	Outfall Piping Improvements	-	-	-	-	-	-	1,679,084
15	Vactor Dump Station Improvements	-	-	-	-	-	-	687,259
16	Plant Drain Lift Station No. 1	-	-	-	-	-	-	1,991,808
17	Control Building Lift Station	-	-	-	-	-	-	499,896
18	Odor Control (Maintenance of Existing Facility)	-	-	-	-	-	-	726,516
19.1	Laboratory Facilities	-	-	-	-	-	-	2,421,718
19.2	Maintenance / Shop / Storage Facilities	-	-	-	-	-	-	4,112,860
19.3	Administration / Staff Building Improvements	-	-	-	-	-	-	4,885,750
20	Utility Water	-	-	-	-	-	-	663,377
21	Secondary Clarifier No. 1 and No. 2 Demo	-	-	-	-	-	-	678,557
22	Facility Plan Updates (~10yr interval)	-	718,967	-	-	-	-	1,225,811
23	Overall Process Eval Study - Tech Assess (Liquid/Solids stream)	-	-	-	-	-	-	451,089
24.1	Solids Stream Improvements - BFP 2	-	-	-	-	-	-	4,751,234
24.2	Solids Stream Improvements - Thickening	-	-	-	-	-	-	9,450,256
24.3	Solids Stream Improvements - BFP 3	-	-	-	-	-	-	14,200,627
24.4	Solids Stream Improvements - BFP 4	-	1,759,553	3,730,252	3,954,068	-	-	9,443,873
25.1	Reuse Improvements- Phase 1	-	-	-	-	-	-	38,330,976
25.2	Reuse Improvements- Phase 2 (A)	-	-	-	-	-	-	2,435,965
25.3	Reuse Improvements- Phase 2 (B)	11,552,767	12,245,933	-	-	-	-	55,278,840
25.4	Reuse Improvements- Phase 3 Land	7,381,851	7,824,763	-	-	-	-	80,555,804
25.4	Reuse Improvements- Phase 3	-	6,634,632	14,065,419	22,364,017	15,803,905	16,752,139	75,620,112
	Budgeted Capital							
	Solids Dewatering WRF Plant Upgrades	-	-	-	-	-	-	250,000
	WRF Lab Building Redesign	-	-	-	-	-	-	382,000
	Tertiary Treatment	-	-	-	-	-	-	18,778,000
	Outfall Upgrades	-	-	-	-	-	-	877,200
	Land Acquisition ITD Inerchange ROW	-	-	-	-	-	-	50,000
	Equipment to Equipment Tertiary Infrastructure	-	-	-	-	-	-	31,800
	WRF Crane	-	-	-	-	-	-	212,000
	WRF Lab Equipment	-	-	-	-	-	-	26,500
	WRF Utility Vehicle	-	-	-	-	-	-	21,200
	Trash Pump Piping	-	-	-	-	-	-	21,200
	Land Acquisition ITD Inerchange ROW	-	-	-	-	-	-	53,000
	Reuse Pickup	-	-	-	-	-	-	42,400
	Community Forest Recycled Water Side Dev.	-	-	-	-	-	-	477,000
	Collection System Priority Improvements							
P1	12th Avenue Force Main Phase 2	-	-	-	-	-	-	4,640,783
P1	Fisher Lift Station Upgrade	-	-	-	-	-	-	4,270,858
P1	Industrial Lift Station and Force Main Phase 1	-	-	-	-	-	-	11,508,767
P1	Pipeline Replacement (5 years)	-	-	-	-	-	-	1,707,919
P1	Oversize/Overdepth	-	-	-	-	-	-	5,170,894
P1	Lift Station Replacement (5 years)	-	-	-	-	-	-	3,976,842
P.2.1	12th Avenue Force Main Phase 3	-	-	-	-	-	-	6,713,561
P.2.2	3rd Ave Gravity Main Upsize	-	-	-	-	-	-	1,244,366
P.2.3	County Island 12-inch Gravity Main	-	-	-	-	-	-	1,662,895
P.2.4	Decommission of Guy Road LS and 15-inch Gravity Trunkline	-	-	-	-	-	-	4,674,786
P.2.5	Industrial Force Main Phase 2	-	-	-	-	-	-	11,927,387
P.2.6	Ohio Match Force Main Extension	-	-	-	-	-	-	666,714
P.2.7	Decommission Ohio Match, Maplewood LS - Alternative 2	-	-	-	-	-	-	3,641,446
	Pipeline Replacement (5 years)	-	-	-	-	-	-	3,428,373
	Oversize/Overdepth	-	-	-	-	-	-	1,827,688
	Lift Station Replacement (5 years)	-	-	-	-	-	-	5,321,911
	Masterplan Update	-	-	-	-	-	-	335,942

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - Escalated to Year of Construction

Escalated Capital Cost							
ID	Description	2023	2024	2025	2026	2027	2028
P.3.1	Decommission Stateline Lift Station and Gravity Main Extension	-	-	-	-	-	-
P.3.2	Riverbend Lift Station Relocation	-	-	-	-	-	-
P.3.3	North Regional Lift Station	-	-	3,932,600	-	-	-
P.3.4	Fisher Force Main	-	-	-	-	-	-
P.3.5	12th Avenue Force Main Phase 4	-	-	3,446,081	3,652,846	-	-
P.3.6	12th Avenue Gravity Main Upsize	-	-	-	-	-	-
P.3.7	3rd Avenue Gravity Main Upsize	-	-	1,009,169	1,069,719	-	-
P.3.8	Greensferry 10-inch Parallel Gravity Line	-	-	-	-	-	-
P.3.9	Ponderosa Force Main Extension	-	-	-	-	-	-
P.3.10	Highway 41 15-inch Parallel Gravity Main	-	-	-	-	-	-
P.3.11	Seltice Adverse Slope Correction	-	-	-	-	-	-
P.3.12	Corbin Lift Station Relocation Replacement	900,000	2,014,000	-	-	-	-
P.3.13	Ponderosa Lift Station Upgrades	-	530,000	-	-	-	-
P.3.14	3rd Avenue Lift Station Upgrades	-	-	-	997,787	1,057,654	-
	Pipeline Replacement (10 years)	-	-	-	-	-	-
	Oversize/Overdepth	-	-	-	-	-	-
	Lift Station Replacement (10 years)	-	-	-	-	-	-
	Masterplan Update	-	-	-	-	-	-
	Seltice Way Force mains (Budgeted Capital)	-	-	2,643,269	2,801,865	-	-
	Bentley Lift Station Improvements	500,000	583,000	-	-	-	-
	Budgeted Capital						
	Lift Station Equipment Replacement	542,000	-	-	-	-	-
	Pipe Replacement	12,500	-	-	-	-	-
	Land Acquisition	50,000	-	-	-	-	-
	Oversizing Construction Costs	94,000	-	-	-	-	-
	Ponderosa Lift Station	-	-	-	-	-	-
	Decommission Prairie Falls/Gayling	400,000	-	-	-	-	-
	Seltice Way Force Main	-	-	-	-	-	-
	Collection Projects	19,830	-	-	-	-	-
	CCTV Camera Truck	-	265,000	-	-	-	-
	Collections Locator Equipment	-	15,900	-	-	-	-
	Collections Operator Truck	-	42,400	-	-	-	-
	WRF Collections Service Truck	-	238,500	-	-	-	-
	6th Ave Stormwater Project	-	318,000	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
	Total Capital Projects Before Completion Factor	\$ 12,435,113	\$ 33,314,389	\$ 42,149,187	\$ 27,626,878	\$ 23,805,660	\$ 18,643,655
	Completion Factor Impact	-	-	-	-	-	-
	Total Capital Projects	\$ 12,435,113	\$ 33,314,389	\$ 42,149,187	\$ 27,626,878	\$ 23,805,660	\$ 18,643,655
	Collector/Other	\$ 3,935,613	\$ 11,276,141	\$ 15,274,698	\$ 13,822,526	\$ 8,945,296	\$ 4,699,076
	WWTP	8,499,500	22,038,248	26,874,490	13,804,352	14,860,364	13,944,578
	Total	\$ 12,435,113	\$ 33,314,389	\$ 42,149,187	\$ 27,626,878	\$ 23,805,660	\$ 18,643,655
	Liquid Stream	\$ 7,982,000	\$ 15,867,140	\$ 9,278,689	\$ 9,915,685	\$ 10,738,377	\$ 9,575,272
	Reuse Ph 1,2,3	-	3,460,900	6,104,519	3,888,667	4,121,987	4,369,307
	Solids	250,000	2,710,208	11,491,282	-	-	-
	Other	267,500	-	-	-	-	-
	Total	\$ 8,499,500	\$ 22,038,248	\$ 26,874,490	\$ 13,804,352	\$ 14,860,364	\$ 13,944,578
	Coll Priority 1 (incl budget items)	\$ 2,535,613	\$ 7,545,080	\$ 3,267,333	\$ 2,041,299	\$ 2,163,777	\$ 2,293,604
	Coll Priority 2	-	604,061	976,246	3,259,010	5,723,864	2,405,472
	Coll Priority 3	1,400,000	3,127,000	11,031,119	8,522,217	1,057,654	-
	Total	\$ 3,935,613	\$ 11,276,141	\$ 15,274,698	\$ 13,822,526	\$ 8,945,296	\$ 4,699,076

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - Escalated to Year of Construction

Escalated Capital Cost									
ID	Description	2029	2030	2031	2032	2033	2034	2035	2036
P.3.1	Decommission Stateline Lift Station and Gravity Main Extension	-	-	-	-	-	-	1,388,540	-
P.3.2	Riverbend Lift Station Relocation	-	-	-	-	-	-	-	1,969,272
P.3.3	North Regional Lift Station	-	-	-	-	-	-	-	-
P.3.4	Fisher Force Main	-	2,119,253	2,246,408	-	-	-	-	-
P.3.5	12th Avenue Force Main Phase 4	-	-	-	-	-	-	-	-
P.3.6	12th Avenue Gravity Main Upsize	-	-	-	-	-	-	-	-
P.3.7	3rd Avenue Gravity Main Upsize	-	-	-	-	-	-	-	-
P.3.8	Greensferry 10-inch Parallel Gravity Line	-	-	-	-	-	-	-	-
P.3.9	Ponderosa Force Main Extension	-	-	-	-	-	-	-	-
P.3.10	Highway 41 15-inch Parallel Gravity Main	-	-	-	-	-	-	-	-
P.3.11	Seltice Adverse Slope Correction	-	-	-	-	-	-	-	-
P.3.12	Corbin Lift Station Relocation Replacement	-	-	-	-	-	-	-	-
P.3.13	Ponderosa Lift Station Upgrades	-	-	-	-	-	-	-	-
P.3.14	3rd Avenue Lift Station Upgrades	-	-	-	-	-	-	-	-
	Pipeline Replacement (10 years)	-	-	-	-	603,628	639,845	678,236	718,930
	Oversize/Overdepth	-	-	-	-	1,268,640	1,344,758	1,425,444	1,510,971
	Lift Station Replacement (10 years)	-	-	-	-	1,124,424	1,191,889	1,263,403	1,339,207
	Masterplan Update	-	-	-	-	-	-	-	-
	Seltice Way Force mains (Budgeted Capital)	-	-	-	-	-	-	-	-
	Bentley Lift Station Improvements	-	-	-	-	-	-	-	-
	Budgeted Capital								
	Lift Station Equipment Replacement	-	-	-	-	-	-	-	-
	Pipe Replacement	-	-	-	-	-	-	-	-
	Land Acquisition	-	-	-	-	-	-	-	-
	Oversizing Construction Costs	-	-	-	-	-	-	-	-
	Ponderosa Lift Station	-	-	-	-	-	-	-	-
	Decommission Prairie Falls/Gayling	-	-	-	-	-	-	-	-
	Seltice Way Force Main	-	-	-	-	-	-	-	-
	Collection Projects	-	-	-	-	-	-	-	-
	CCTV Camera Truck	-	-	-	-	-	-	-	-
	Collections Locator Equipment	-	-	-	-	-	-	-	-
	Collections Operator Truck	-	-	-	-	-	-	-	-
	WRF Collections Service Truck	-	-	-	-	-	-	-	-
	6th Ave Stormwater Project	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-
	Total Capital Projects Before Completion Factor	\$ 10,685,168	\$ 17,837,590	\$ 27,196,876	\$ 31,953,488	\$ 44,686,524	\$ 46,050,714	\$ 49,855,685	\$ 58,460,274
	Completion Factor Impact	-	-	-	-	-	-	-	-
	Total Capital Projects	\$ 10,685,168	\$ 17,837,590	\$ 27,196,876	\$ 31,953,488	\$ 44,686,524	\$ 46,050,714	\$ 49,855,685	\$ 58,460,274
	Collector/Other	\$ 3,097,935	\$ 5,763,439	\$ 6,109,245	\$ 3,771,323	\$ 10,818,406	\$ 11,467,511	\$ 10,545,616	\$ 11,675,772
	WWTP	7,587,233	12,074,151	21,087,630	28,182,165	33,868,118	34,583,203	39,310,069	46,784,502
	Total	\$ 10,685,168	\$ 17,837,590	\$ 27,196,876	\$ 31,953,488	\$ 44,686,524	\$ 46,050,714	\$ 49,855,685	\$ 58,460,274
	Liquid Stream	\$ 2,955,768	\$ 7,164,798	\$ 11,274,786	\$ 12,895,083	\$ 12,485,217	\$ 12,556,675	\$ 10,820,989	\$ 23,472,236
	Reuse Ph 1,2,3	4,631,465	4,909,353	8,566,933	12,645,750	17,183,184	19,058,728	25,343,212	23,312,266
	Solids	-	-	1,245,911	2,641,331	4,199,717	2,967,800	3,145,868	-
	Other	-	-	-	-	-	-	-	-
	Total	\$ 7,587,233	\$ 12,074,151	\$ 21,087,630	\$ 28,182,165	\$ 33,868,118	\$ 34,583,203	\$ 39,310,069	\$ 46,784,502
	Coll Priority 1 (incl budget items)	\$ 2,431,220	\$ -	\$ -	\$ -	\$ 5,586,780	\$ 5,921,987	\$ -	\$ -
	Coll Priority 2	666,714	3,644,187	3,862,838	3,771,323	2,234,935	2,369,031	5,789,994	6,137,393
	Coll Priority 3	-	2,119,253	2,246,408	-	2,996,692	3,176,493	4,755,622	5,538,379
	Total	\$ 3,097,935	\$ 5,763,439	\$ 6,109,245	\$ 3,771,323	\$ 10,818,406	\$ 11,467,511	\$ 10,545,616	\$ 11,675,772

City of Post Falls
Reclaimed Water Financial Plan
Capital Improvement Program - Escalated to Year of Construction

Escalated Capital Cost								
ID	Description	2037	2038	2039	2040	2041	2042	Escalated Total
P.3.1	Decommission Stateline Lift Station and Gravity Main Extension	-	-	-	-	-	-	1,388,540
P.3.2	Riverbend Lift Station Relocation	-	-	-	-	-	-	1,969,272
P.3.3	North Regional Lift Station	-	-	-	-	-	-	3,932,600
P.3.4	Fisher Force Main	-	-	-	-	-	-	4,365,660
P.3.5	12th Avenue Force Main Phase 4	-	-	-	-	-	-	7,098,927
P.3.6	12th Avenue Gravity Main Upsize	711,132	-	-	-	-	-	711,132
P.3.7	3rd Avenue Gravity Main Upsize	-	-	-	-	-	-	2,078,887
P.3.8	Greensferry 10-inch Parallel Gravity Line	1,473,638	-	-	-	-	-	1,473,638
P.3.9	Ponderosa Force Main Extension	-	2,886,221	-	-	-	-	2,886,221
P.3.10	Highway 41 15-inch Parallel Gravity Main	-	-	2,096,308	-	-	-	2,096,308
P.3.11	Seltice Adverse Slope Correction	-	-	331,156	-	-	-	331,156
P.3.12	Corbin Lift Station Relocation Replacement	-	-	-	-	-	-	2,914,000
P.3.13	Ponderosa Lift Station Upgrades	-	-	-	-	-	-	530,000
P.3.14	3rd Avenue Lift Station Upgrades	-	-	-	-	-	-	2,055,441
	Pipeline Replacement (10 years)	762,066	807,790	856,257	907,633	962,091	1,019,816	7,956,294
	Oversize/Overdepth	1,601,629	1,697,727	1,799,590	1,907,566	2,022,019	2,143,341	16,721,684
	Lift Station Replacement (10 years)	1,419,559	1,504,733	1,595,017	1,690,718	1,792,161	1,899,690	14,820,800
	Masterplan Update	-	716,539	-	-	-	-	716,539
	Seltice Way Force mains (Budgeted Capital)	-	-	-	-	-	-	5,445,134
	Bentley Lift Station Improvements	-	-	-	-	-	-	1,083,000
	Budgeted Capital							
	Lift Station Equipment Replacement	-	-	-	-	-	-	542,000
	Pipe Replacement	-	-	-	-	-	-	12,500
	Land Acquisition	-	-	-	-	-	-	50,000
	Oversizing Construction Costs	-	-	-	-	-	-	94,000
	Ponderosa Lift Station	-	-	-	-	-	-	-
	Decommission Prairie Falls/Gayling	-	-	-	-	-	-	400,000
	Seltice Way Force Main	-	-	-	-	-	-	-
	Collection Projects	-	-	-	-	-	-	19,830
	CCTV Camera Truck	-	-	-	-	-	-	265,000
	Collections Locator Equipment	-	-	-	-	-	-	15,900
	Collections Operator Truck	-	-	-	-	-	-	42,400
	WRF Collections Service Truck	-	-	-	-	-	-	238,500
	6th Ave Stormwater Project	-	-	-	-	-	-	318,000
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
	Total Capital Projects Before Completion Factor	\$51,776,424	\$74,973,550	\$53,259,740	\$ 62,844,031	\$26,336,236	\$27,916,411	\$ 741,807,592
	Completion Factor Impact	-	-	-	-	-	-	-
	Total Capital Projects	\$51,776,424	\$74,973,550	\$53,259,740	\$ 62,844,031	\$26,336,236	\$27,916,411	\$ 741,807,592
	Collector/Other	\$ 5,968,023	\$ 7,613,009	\$ 6,678,328	\$ 4,505,916	\$ 4,776,271	\$ 5,062,847	\$ 155,806,993
	WWTP	45,808,401	67,360,540	46,581,413	58,338,115	21,559,965	22,853,563	586,000,599
	Total	\$51,776,424	\$74,973,550	\$53,259,740	\$ 62,844,031	\$26,336,236	\$27,916,411	\$ 741,807,592
	Liquid Stream	\$26,873,783	\$38,895,660	\$28,785,741	\$ 32,020,030	\$ 5,756,060	\$ 6,101,424	\$ 295,415,413
	Reuse Ph 1,2,3	18,934,618	26,705,327	14,065,419	22,364,017	15,803,905	16,752,139	252,221,696
	Solids	-	1,759,553	3,730,252	3,954,068	-	-	38,095,990
	Other	-	-	-	-	-	-	267,500
	Total	\$45,808,401	\$67,360,540	\$46,581,413	\$ 58,338,115	\$21,559,965	\$22,853,563	\$ 586,000,599
	Coll Priority 1 (incl budget items)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 33,786,693
	Coll Priority 2	-	-	-	-	-	-	41,445,068
	Coll Priority 3	5,968,023	7,613,009	6,678,328	4,505,916	4,776,271	5,062,847	80,575,231
	Total	\$ 5,968,023	\$ 7,613,009	\$ 6,678,328	\$ 4,505,916	\$ 4,776,271	\$ 5,062,847	\$ 155,806,993

CITY OF POST FALLS
AGENDA REPORT
UNFINISHED BUSINESS/RETURNING ORDINANCES AND RESOLUTIONS
MEETING DATE: 6/18/2024

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Bryan Myers, Park Manager

SUBJECT: Q'emiln Well Rehabilitation Consulting Services Additional Services Authorization

ITEM AND RECOMMENDED ACTION:

City staff is seeking Council approval of the Consulting Services Additional Services Authorization to secure construction drawings for the renovation of well facilities at Q'emiln Park. If approved, the Mayor should sign the Additional Services Authorization.

DISCUSSION:

The Parks and Recreation Department desires to implement improvements to the Q'emiln domestic water well, in accordance with the Idaho Department of Environmental Qualities (IDEQ) Sanitary Survey dated July 14th 2022. Major deficiencies identified in the Sanitary Survey include failing/corroded well casing, no vent on well cap, wellhouse building and mechanical piping in disrepair. These items were found to not meet current IDPA rules and were in need of correction.

Previously, the city contracted with TO Engineers to produce a memorandum summarizing project tasks and recommended moving forward. The resulting memo has been reviewed by staff and is attached for your reference. This contract contains the necessary consulting services to complete the next steps outlined in this memo. Included in this contract are Project management associated with drafting a Water facility plan, Construction Plans, Specifications, and Preliminary Engineering report and Topographic Survey work required to design and construct the project. Included in the scope of work is submittal to IDEQ for review.

It should be noted that under the existing agreement the city has \$10,036 in anticipated fees retained as these services were not required through the initial design review and the associated IDEQ review.

The lump sum fee for services is \$62,290.32. This is to be paid by the General Fund, Parks and Recreation Avista M&O line item. Following the completion of this scope of work, it is anticipated the department will return to City Council with a request for a consulting services contract to administer the construction of this facility and publish a request for bids to construct the facilities.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

1/10/2023

APPROVED OR DIRECTION GIVEN:

City Council Approved the Q'emiln Well Rehabilitation Consulting Services Agreement

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

62,290.32

BUDGET CODE:

001-443.1658.62330

ATTACHMENTS:

1. 220689_Q'emiln Well Memo_Draft_v1
2. Executed Q'emiln Well Rehabilitation Consulting Services Agreement
3. 220689 Add. Services Auth. #24_001_WFP_PER_Well Rehab
4. Q'emiln WFP_Post Falls_Exhibit E.1 Budget Planning-Design



MEMO

To: City of Post Falls Parks Department - Bryan Myers, Parks Manager

From: Ardurra – Zach Thompson, Project Manager

Date: May 11, 2023

Re: Design Basis and Memorandum of Next Steps Q'emiln Well Rehab

Description of Project

The City of Post Falls owns and operates Public Water System (PWS) ID1280148 which serves the Q'emiln Park. The city desires to implement improvements to the Q'emiln domestic water well and wellhouse. The Idaho Department of Environmental Qualities (IDEQ) performed a Sanitary Survey (SS) on July 14th, 2022. The sanitary survey identified several significant deficiencies which require improvement. The City and IDEQ mutually agreed to a schedule to complete these improvements. There are however no known compliance agreement schedules or consent orders because of the major deficiencies. Major deficiencies identified in the SS include a failing/corroded well casing; no vent on the well cap; and wellhouse building and mechanical piping that is in disrepair and does not meet current IDAPA rules. This phase of the project includes planning and recommendations of possible solutions to address the current deficiencies. In addition, this memo will describe the recommended necessary next steps for the city.

Existing Well

Well Casing Rehabilitation

The existing visible portion of well casing is significantly corroded above ground. See Figure 1 below and IDEQ Sanitary Survey.



Figure 1

Investigation of the corroded well casing and possible solutions involved coordination with local well drillers and suppliers. As noted in the IDEQ SS, it appears that corrosion of the outside of the well casing is most likely due to a steel barrel that has been in place over the well head for the entirety of the well's life. There is no venting in the existing steel barrel which likely caused condensation on the outside of the well casing leading to significant corrosion.. If the corrosion of the well casing is localized to the exposed portion of the casing, then it may be possible to rehabilitate a short section instead of replacing the entire casing or relocating the well. Per correspondence with IDEQ this option would avoid triggering what they consider to be a material modification which would trigger the well meet all current IDAPA rules. Current IDAPA rules would require relocating and redrilling the well to meet setback requirements. See below for recommended solutions and next steps to rehabilitate the upper portion of the well casing.

- Pull the existing pump.
- Dig down 10' and cut off the existing casing and supporting piping.
- Install 10' of new 6" steel casing with 0.250" wall thickness.
- Install a new pitless weld on adapter.
- Reconnect the existing piping.
- Install a sleeve around the new casing, backfill and add casing seal in void, and remove sleeve.
- Reset piping and existing pump.
- Take bacteria samples.
- Install a locking well cap with vent.

Mechanical Piping and Electrical Building

Building

The existing building is old and in poor shape. Per the IDEQ SS, site photos and site visit the foundation is showing visible signs of failure with multiple cracks in the foundation. There is also evidence of surface water intrusion into the building. The building structure itself is above ground but all mechanical piping is sub-grade.

Per IDAPA 58.01.08.511.06.b: *"Pump houses shall be protected from flooding and shall be adequately drained. The ground surface shall be graded so as to lead surface drainage away from the pump house. Unless otherwise approved by the Department based on documentation provided by the design engineer, the floor surface shall be at least six (6) inches above the final ground surface and pump house components shall be located at least six (6) inches above the floor surface".*

It is recommended that the building be replaced in its entirety including all mechanical piping and electrical and control. It is recommended that the building be replaced with a new pre-cast concrete building.

Mechanical Piping/Distribution

If the building is replaced with a new building and above ground space for mechanical piping, then replacement of all existing mechanical piping infrastructure is recommended. The existing pressure tank and mechanical piping is below ground, aged and should be replaced as it is near the end of its usable life. Per IDAPA 58.01.08.511.06.g IDEQ requires hydropneumatic tanks be placed above the normal ground surface a minimum of 6". New piping, valving, sample tap, flow meters, hydroneumatic tank and piping from the well to the wellhouse are recommended. No upgrades to the remainder of the distribution system are anticipated.

Electrical

The existing electrical and control panels are aged and not reusable, and it is recommended they be replaced. In addition to replacing the electrical panels, an alarm system with an auto-dialer is recommended. No backup power is anticipated.

Recommended Next Steps

Based on the above findings and recommendations the following is a list of next steps for the city to consider:

1. Per previous discussion with the City and IDEQ, the above modifications to the wellhouse building, mechanical piping and electrical and control will trigger a material modification. Material modifications to a public water system require that the public water system must have a current water facility plan. The existing public water system does not have a current facility plan. IDEQ will require a facility plan prior to making modifications to the system. It is recommended that the city complete a facility plan for this system.
2. Once the facility plan is complete it is recommended that the city move forward with the design of the improvements recommended in this document. Following the design of the improvements the city may bid the proposed improvements and commence with construction.
3. Following construction, preparation of a complete comprehensive Operations and Maintenance Manual will be required by IDEQ.

Title: Consulting Services for The City of Post Falls – Q’emiln Well Investigation

Estimated Contract Value: \$21,183

Estimated Completion Date: October 30, 2024

Contract Type: Lump Sum – Engineering Design and Planning

CITY OF POST FALLS:

City of Post Falls Idaho

C/O City of Post Falls Public Services - Utilities Division

408 N. Spokane Street

Post Falls, ID 83854

City Contract Administrator: Jason Faulkner, Finance Director, Phone: (208)

773-3511 [Email: jfaulkner@postfallsidaho.org](mailto:jfaulkner@postfallsidaho.org)

City Project Manager: Bryan Myers, Parks Manager, Phone: (208) 457-3359

CONSULTANT:

T-O Engineers, Inc.

7950 N. Meadowlark Way, Suite A, Coeur d’Alene, ID 83815

Firm Project Manager: Zach Thompson, P.E., Phone: (208) 762-3644

Email: zthompson@to-engineers.com

THIS AGREEMENT made and entered into by and between City of Post Falls, a political subdivision of the State of Idaho, having offices for the transaction of business at 408 N. Spokane Street, Post Falls, Idaho 83854, hereinafter referred to as the "City," and T-O Engineers, Inc., having offices for the transaction of business at 7950 N. Meadowlark Way, Suite A, Coeur d’Alene, Idaho, hereinafter referred to as the "Consultant" jointly, hereinafter referred to along with the City as the "Parties."

WITNESSETH:

WHEREAS, pursuant to the provisions of the Idaho Code, the City Council of Post Falls has determined a need to for rehabilitation of the Q’emiln Well.; and

WHEREAS, the City has identified portions of key tasks in accordance with the Idaho Department of Environmental Quality Sanitary Survey dated July 14, 2022.

WHEREAS, pursuant to Resolution 21-02 dated 1/19/21 this Agreement is made and entered into effective from the date attested by the City Clerk of the Board, by and between City of Post Falls, a political subdivision of the State of Idaho hereinafter known as the “City” having offices for the transaction of business as listed above and the "Consultant", as named, and having offices for the transaction of business as listed above, jointly, hereinafter referred to as the "Parties".

NOW, THEREFORE, for and in consideration of the mutual covenants and conditions set forth herein, the Parties mutually agree as follows:

ARTICLE 1. SUBJECT AND PURPOSE

1.1. **PURPOSE:** The City hereby agrees to engage the Consultant and the Consultant hereby agrees to perform the services hereinafter set forth, which are generally described as consulting services to design and provide construction administration services for rehabilitation of the Q'emiln.

ARTICLE 2. SCOPE OF WORK AND PERSONNEL

2.1. **PROJECT LOCATION:** This project is located adjacent to the Grand Pavilion at Q'emiln park, on the northwest corner of Spokane St. and W Parkway Drive in Post Falls, ID.

2.2. **SCOPE/STATEMENT OF WORK:** The Consultant will provide the consulting services including investigation, due diligence and recommendations to correct deficiencies identified in the IDEQ sanitary survey. A more detailed Scope of Services is attached hereto as Exhibit "A", which is incorporated herein by reference. All of the services required hereunder will be performed by the Consultant or under Consultant's direct supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized under state and local law to perform such services. Work will be coordinated with the City Project Manager or his/her representative.

2.3. **PERSONNEL:** The Consultant represents that it has or will secure at its own expense all personnel required to perform its services under this Agreement. Such personnel shall not be employees of or have any contractual relationship with the City. It is expected that the Project Manager and other key employee(s) upon which the Consultant based its qualifications to perform the work will be the ones who perform the services on behalf of the Consultant. The Consultant's Project Manager and/or other key employee(s) may not be replaced without obtaining the City's approval, which will not be unreasonably withheld. The written request for substitution must describe why the action is being requested and be accompanied by the documentation for the person(s) as called for in the Request for Qualification's criteria section dealing with the competence of personnel and any applicable specialized experience. Based upon the City's review of the Consultant's documentation, and any supplemental information that may have been submitted at the City's request, the City, may at its sole option: (1) approve the Consultant's request in writing; or (2) deny the Consultant's request and call for other substitute(s) or replacement(s) to be submitted for review; or (3) terminate this Agreement for cause and remove the Consultant from the project.

2.4. **ASSIGNABILITY:** The Consultant may not assign or transfer any interest in this Agreement without the prior written consent of the City thereto. Provided, however, that claims for money due or to become due to the Consultant from the City under this Agreement may be assigned to a bank, trust company, or other financial institution without such approval. Notice of any such assignment or transfer shall be furnished promptly to the City. Likewise, the Consultant may not delegate duties or otherwise subcontract work or services under this Agreement without the prior written approval of the City.

2.5. **RELATIONSHIP OF THE PARTIES:** The Consultant shall perform its obligations hereunder as an independent contractor of the City. The City may administer this Agreement and monitor the Consultant's compliance with this Agreement but shall not supervise or otherwise direct the Consultant except to provide recommendations and to provide approvals pursuant to this Agreement.

2.6. **TERM:** Services shall be performed as expeditiously as is consistent with professional skill and care and the orderly progress of the work. Upon request of the City, and subject to the City's approval a schedule for the performance of the Services which may be adjusted as the Project proceeds, shall be submitted for review and approval. The schedule shall include allowances for periods of time required for the City's review and for the receipt of submissions by authorities having jurisdiction over the project.

ARTICLE 3. COMPENSATION

3.1. **BASIS OF COMPENSATION:** Consultant will be paid on a lump sum basis for design services and time and materials for construction administration services. The lump sum fee for design services to be provided is **\$21,183**. The portion of the lump sum that is invoiced monthly will be based on Consultant's estimate of percentage of scope of work completed. The portion of the time and materials that is invoiced monthly will be based on actual time spent at an hourly rate based on the rates listed in the Functional Fee Schedule, attached hereto as Exhibit "B".

3.2. **REIMBURSABLE EXPENSES:** Reimbursable expenses must have the prior written approval of the City. Reimbursable expenses will be billed at cost unless otherwise approved in writing by the Project Manager. Such reimbursable expenses are in addition to basic compensation addressed in Section 3.1 of this Article. Reimbursable expenses include expenses by the Consultant and the Consultant's employees in the interest of the Project. Ordinary expense charges will be based upon the Consultant's Billing Rates shown on the attached Exhibit "B".

3.3. **EXCLUSIONS FROM COMPENSATION:** Except as otherwise provided in this Agreement, the City shall not provide any additional compensation, payment, use of facilities, service or other thing of value to the Consultant in connection with performance of agreement duties. The parties understand and agree that, except as otherwise provided in this Article, administrative overhead and other indirect or direct costs the Consultant may incur in the performance of its obligations under this Agreement, including but not limited to, fees, licenses, and permits have already been included in computation of the Consultant's fee and may not be charged to the City.

3.4. **TIME OF PAYMENT:** Payments will be made in monthly installments based on an invoice of services rendered and costs incurred during the previous month. Each invoice will contain the project/contract number and be sequentially numbered beginning with "Pay Request 1". The invoice will be addressed to the Project Manager at the address listed above. The invoice will be paid within 30 days of receipt by the City contingent upon review and authorization by the City's Contract Administrator and Project Manager. Each monthly invoice must reflect the total work performed and approved to date. Past due amounts may bear a finance charge as stipulated by law not to exceed 1% of the past due amount per month.

3.5. **METHOD OF PAYMENT:** The, City, in its sole discretion, may elect to make payment by warrant (check), credit card (payment card or "P" card), Automated Clearing House (ACH) or Electronic Payment (E-payment or E-payables). The pricing submitted by the Consultant and accepted by the City is inclusive of applicable payment terms, as well as, any and all fees incurred by the Consultant through their financial institutions in accepting any of the above referenced payment methods. No additional fees or charges to the City shall apply, unless otherwise preapproved by the City.

3.6. **FINAL INVOICE:** In order for the Parties to close their books and records, the Consultant will state

"final invoice" or other words to that effect on its final or last billing to the City for the work of the Agreement. Since this Agreement will thereupon be closed and any budget balances deleted, the Consultant agrees that any further charges not properly included on this or previous billings will be waived in their entirety.

ARTICLE 4. INSURANCE

4.1. INSURANCE: The Consultant will maintain, at a minimum, the insurance coverage's set forth in this Article. Any exclusions must be pre-approved by the City of Post Falls Finance Department. Work under this contract may not commence until evidence of all required insurance is provided to, and approved by, the City Attorney. The Consultant's insurer must have a minimum A.M. Best's rating of A-VII and must be licensed to do business in the State of Idaho. Evidence of such insurance shall consist of a completed copy of the certificate of insurance, signed by the insurance agent for the Consultant. The insurance policy or policies will not be canceled, materially changed or altered without forty-five (45) days prior notice submitted to the City. The policy must be endorsed and the certificate must reflect that the City of Post Falls is named as an additional insured on the Consultant's general liability policy with respect to activities under this Agreement. The policy must provide and the certificate must reflect that the insurance afforded applies separately to each insured against whom claim is made or suit is brought except with respect to the limits of the company's liability. Additionally, the policy must be endorsed and the certificate must reflect that the insurance afforded therein shall be primary insurance for the Consultant. The certificate holder shall be City of Post Falls C/O City of Post Falls Public Services - Utilities Division, 408 N. Spokane Street, Post Falls, Idaho 83954. Any insurance or self-insurance carried by the City shall be excess and not contributory insurance to that provided by the Consultant.

4.2. GENERAL LIABILITY INSURANCE: The Consultant must have Commercial General Liability Insurance with limits of \$1,000,000.00 per occurrence, which includes general aggregate, products, completed operation, personal injury and fire damage. The General Liability Insurance must state that City of Post Falls, its officers, agents and employees, and any other entity specifically required by the provisions of this Agreement will be specifically named additional insured(s) for all coverage provided by this policy of insurance and shall be fully and completely protected by this policy from all claims.

4.3. AUTOMOBILE INSURANCE: The Consultant must carry, for the duration of this Agreement, comprehensive automobile liability coverage of \$1,000,000.00 for any vehicle used in conjunction with the provision of services under the terms of this Agreement. The policy must provide that it will not be canceled, materially changed, or renewed without forty five (45) days written notice prior thereto to City of Post Falls.

4.4. WORKERS COMPENSATION: The Consultant agrees to maintain Workmen's Compensation coverage on all employees, including employees of subcontractors, during the term of this Agreement as required by Idaho Code and to provide proof of Worker's Compensation coverage by providing its State Industrial Account Identification Number to the City. Should the Consultant fail to maintain such insurance during the entire term hereof, the Consultant will indemnify the City against any loss resulting to the City from such failure, either by way of compensation or additional premium liability.

4.5. PROFESSIONAL LIABILITY INSURANCE: The Consultant will carry Professional Liability insurance coverage in the minimum amount of this Agreement or \$1,000,000.00, whichever is more.

4.6. FAILURE TO COMPLY: Failure of the Consultant to fully comply with the above insurance requirements during the term of this Agreement will be considered a material breach of this Agreement and could be cause for immediate termination of the Agreement at the City's sole discretion. Alternatively, the City may procure and maintain, at the Consultant's sole expense, insurance up to the amount of the required coverage(s). The City may offset the cost of such insurance against any payment due to the Consultant due for work performed under this Agreement.

ARTICLE 5. CONTRACT TERMINATION

5.1. TERMINATION BY CONSULTANT: This Agreement may be terminated by the Consultant upon thirty (30) days' prior written notice to the City in the event of substantial failure by the City to perform in accordance with the terms of this Agreement through no fault of the Consultant.

5.2. TERMINATION BY CITY: This Agreement may be terminated by the City with or without cause immediately upon written notice to the Consultant. In the event of termination of a Contract through no fault of the Consultant, the City agrees to pay the Consultant for services rendered to the City's satisfaction up to the date of termination based upon actual costs and expenses incurred according to this Agreement. Payment will be based upon an itemized breakdown and documentation by the Consultant that services have been performed to the date of termination and acceptance of said documentation by the City. In the event of termination for cause, the Consultant, must reimburse the City for all reasonable costs associated with the replacement of the Consultant with a different entity to complete the work that is the subject of this Agreement.

5.3. CLOSE-OUT OF WORK: Immediately after sending a Termination Notice to the City or receiving a Termination Notice from the City, and except as otherwise directed by the City the Consultant must:

- (1) Stop work on the date and to the extent specified; and
- (2) Terminate and settle all orders and subcontracts relating to the performance of the terminated work; and
- (3) Transfer all work in process, completed work, and other material related to the terminated work to the City; and
- (4) Continue and complete all parts of the work that have not been terminated.

ARTICLE 6. INDEMNIFICATION

6.1. CONSULTANT TO INDEMNIFY CITY: The Consultant agrees to indemnify, defend (at the city's sole option), and hold the City harmless from any and all claims, including but not limited to reasonable attorney fees, demands, losses and liabilities to or by third parties to the extent arising from, resulting from, a negligent act, error or omission of the Consultant performed under this Agreement by the Consultant, its agents or employees to the fullest extent permitted by law. The Consultant's duty to indemnify the City shall not apply to liability for damages arising out of bodily injury to persons or damage to property caused by or resulting from the negligence of the City, its agents or employees. The Consultant's duty to indemnify the City for liability for damages arising out of bodily injury to persons or damage to property caused by or resulting from the concurrent negligence or (a) the City, its agents or employees, and (b) Consultant, its agents or employees shall apply only to the extent of negligence of the Consultant or its agents or employees. Consultant's duty to defend (at the city's sole option),

indemnify and hold the City harmless shall include, as to all claims, demands, losses and liability to which it applies, the City's personnel-related costs, reasonable attorney's fees, court costs and all other claim-related expenses. Consultant's defense obligation under the indemnity paragraph shall include only the reimbursement of reasonable defense costs to the extent of Consultant's actual, proportional indemnity obligation as determined by a court of law.

6.2. PROFESSIONAL LIABILITY: The Consultant's professional liability to the City (including Consultant's officers, directors, employees and agents) is limited to the amount payable under this Contract or one million dollars (\$1,000,000), whichever is less. This limitation applies to all lawsuits, claims or actions identified under any legal theory related to Consultant's services under this Agreement and any continuation or extension of such services.

6.3. U.C.C., LIENS, ETC. The Consultant's indemnification shall specifically include all claims for loss or liability because of wrongful payments under the Uniform Commercial Code, or other statutory or contractual liens or rights of third parties, including taxes, accrued or accruing as a result of this contract or work performed or materials furnished directly or indirectly because of this contract.

ARTICLE 7. INSTRUMENTS OF SERVICE/RECORDS

7.1. CITY OWNS INSTRUMENTS OF SERVICE: Drawings and other documents, including those in electronic form, prepared by the Consultant and Consultant's subcontractors are Instruments of Service. The City shall own all rights, title and interest in all of the Instruments of Service and all of the other materials conceived or created by the Consultant or its employees or subcontractors, either individually or jointly with others and which arise out of the performance of this Agreement, including any inventions, reports, studies, designs, drawings, specifications, notes, documents, software and documentation, computer-based training modules, electronically, magnetically or digitally recorded material, and other work in whatever form (hereafter "Materials"). All finished or unfinished Materials prepared by the Consultant under this Agreement shall be the property of the City whether or not the project is completed or this Agreement is canceled prior to expiration.

7.2. CONSULTANT TO ASSIGN RIGHTS: The Consultant hereby assigns to the City all rights, title and interest to the Materials. The Consultant will, upon request of the City, execute all papers and perform all other acts necessary to assist the City to obtain and register copyrights, patents or other forms of protection provided by law for the Materials such work being at additional expense to the City. The Materials created under this Agreement by the Consultant, its employees or subcontractors, individually or jointly with others, shall be considered "works made for hire" as defined by the United States Copyright Act. All of the Materials, whether in paper, electronic, or other form, shall be remitted to the City by the Consultant, its employees and any subcontractors, and the Consultant shall not copy, reproduce, allow or cause to have the Materials copied, reproduced or used for any purpose other than performance of the Consultant's obligations under this Agreement without the prior written consent of the City's Designated Representative except that the Consultant may retain copies necessary for record keeping, documentation and other such business purposes related to the Agreement.

7.3. STANDARD ELEMENTS: The foregoing shall not be construed to mean that the City shall acquire an exclusive possessory right, by copyright or otherwise, to the exclusion of the Consultant, in standard elements found in the Materials (such as standard details) generated and authored by the Consultant for its

regular, repeated and ongoing use in designs, plans and drawings for its customers in the regular course of its business. The City further waives any claim it might have against the Consultant for errors or omissions arising specifically from changes made by the City or others to the Materials after the completion of the work provided by this Agreement. This waiver does not extend to errors or omissions in the Materials unrelated to any such changes by the City or others. Any materials under this agreement shall only be used for the intended project.

7.4. INFRINGING ON OTHERS INTELLECTUAL PROPERTY: The Consultant represents and believes that Materials produced or used under this Agreement do not and will not infringe upon any intellectual property rights of another, including but not limited to patents, copyrights, trade secrets, trade names, and service marks and names. The Consultant shall indemnify and defend (at the City's sole option), the City at the Consultant's expense from any action or claim brought against the City to the extent that it is based on a claim that all or part of the Materials infringe upon the intellectual property rights of another. The Consultant shall be responsible for payment of any and all such claims, demands, obligations, liabilities, costs, and damages including, but not limited to, reasonable attorney fees arising out of this Agreement, amendments and supplements thereto, which are attributed to such claims or actions. This paragraph shall not apply to claims that arise from Materials specifically required by the City, or to portions of the Materials which the City directed the Consultant to include within said Materials. If such a claim or action arises, or in the Consultant's or the City's opinion is likely to arise, the Consultant will, at the City's discretion, either procure for the City the right or license to continue using the Materials at issue or replace or modify the allegedly infringing Materials. This remedy shall be in addition to and shall not be exclusive to other remedies provided by law.

7.5. FINDINGS CONFIDENTIAL: Any reports, information, data, etc., given to or prepared or assembled by the Consultant under this Agreement which the City requests to be kept confidential shall not be made available to any individual or organization by the Consultant without the prior written approval of the City.

7.6. MAINTENANCE OF RECORDS: The CONSULTANT will maintain, for at least three (3) years after completion of this contract, all relevant records pertaining to the contract. The CONSULTANT shall make available to the City, at any time during their normal operating hours, all records, books or pertinent information which the CONSULTANT shall have kept in conjunction with this Agreement and which the City may be required by law to include or make part of its auditing procedures, an audit trail or which may be required for the purpose of funding the services contracted for herein.

7.7. APPROVAL OF DOCUMENTS: The City's approval of documents resulting from the services provided by the CONSULTANT does not relieve the CONSULTANT from its responsibility to comply with the standard of care for performance of its services set forth in this Agreement.

7.8. ARTICLE APPLICABLE TO SUBCONSULTANTS: The CONSULTANT shall ensure that the substance of foregoing subsections is included in each subcontract for the Work under this Contract.

ARTICLE 8. GENERAL CONDITIONS

8.1. PAYMENT OF TAXES: This Contract is for the employment of the Consultant as an

independent contractor. The Consultant holds that they are an independent contractor doing business as listed above and is solely responsible for paying any and all taxes associated with the work of this Agreement including but not necessarily limited to income and social security taxes.

8.2. ENFORCEMENT COSTS: If any legal action or other proceeding is brought for the enforcement of this Agreement, or because of an alleged dispute, breach, default or misrepresentation in connection with any provisions of this Agreement, the successful or prevailing Party or Parties shall be entitled to recover reasonable attorney's fees, court costs, and all expenses (including taxes) even if not taxable as court costs (including, without limitation, all such fees, costs, and expenses incident to appeals), incurred in that action or proceeding, in addition to any other relief to which such Party or Parties may be entitled.

8.3. COMPLIANCE WITH LAWS: The Parties hereto specifically agree to observe federal, state and local laws, ordinances and regulations to the extent that they may have any bearing on either providing any money under the terms of this Agreement or the services actually provided under the terms of this Agreement.

8.4. MODIFICATION: No modification or amendment to this Agreement will be valid until the same is reduced to writing, in the form of a change order, and executed with the same formalities as this present Agreement.

8.5. VENUE STIPULATION: This Agreement has and shall be construed as having been made and delivered in the State of Idaho, and the laws of the State of Idaho shall be applicable to the construction and enforcement of this Agreement or any provision hereto. Any civil action arising from this Agreement shall be brought in the District Court for the First Judicial District of the State of Idaho at Coeur d'Alene, Kootenai County, Idaho and may not thereafter be removed to any State or Federal Court.

8.6. WAIVER: No officer, employee, agent or otherwise of the City, has the power, right or authority to waive any of the conditions or provisions of this Agreement. No waiver of any breach of this Agreement shall be held to be a waiver of any other or subsequent breach. All remedies afforded in this Agreement or a law shall be taken and construed as cumulative, that is, in addition to every other remedy provided herein or by law. Failure of the City to enforce at any time any of the provisions of this Agreement or to require at any time performance by the Consultant of any provision hereof, shall in no way be construed to be a waiver of such provisions, nor in any way affect the validity of this Agreement or any part hereof, or the right of the City to hereafter enforce each and every such provision.

8.7. HEADINGS: The Article and Section headings in this Agreement have been inserted solely for the purpose of convenience and ready reference. In no way do they purport to, and shall not be deemed to, define, limit, or extend the scope or intent of the Articles/Sections to which they appertain.

8.8. OTHER EMPLOYMENT: This Agreement is not an exclusive services Agreement. The Consultant may take on other professional assignments while completing work under this Agreement.

8.9. RECOVERY OF FUNDS: Whenever, under the Agreement, any sum of money shall be recoverable from or payable by the Consultant to the City, the same amount may be deducted from any sum due to the Consultant under the Contract or under any other contract between the Consultant and the City including reasonable attorney fees and or any other collection costs. The rights of City are in addition and without

prejudice to any other right the City may have to claim the amount of any loss or damage suffered by the City on account of the acts or omissions of the Consultant.

8.10. SEVERABILITY: In the event any term or condition of this Agreement or application thereof to any person or circumstances is held invalid, such invalidity shall not affect other terms, conditions, or applications of this Agreement, which can be given effect without the invalid term, condition, or application. To this end the terms and conditions of this Agreement are declared severable.

8.11. NOTIFICATION: All notices called for or provided for in this Agreement shall be in writing and must be served on any of the Parties either personally or by United States Mail to their respective addresses set forth above. All notices or other communications given hereunder and sent or delivered to the Party at the address set forth for such shall be deemed received: (1) when certified mail is deposited in the United States mail, postage prepaid; or (2) on the third day following the day on which the same have been mailed by first class delivery, postage prepaid; or (3) on the day such notices or other communications are received when sent by personal delivery, prepaid.

8.12. INTEREST OF MEMBERS OF CITY AND OTHERS: No officer, member, or employee of the City and no member of its governing body, and no other public official of the governing body shall participate in any decision relating to this Agreement which affects his personal interest or the interest of any corporation, partnership, or association in which he is, directly or indirectly, interested or has any personal or pecuniary interest, direct or indirect, in this Agreement or the proceeds thereof.

8.13. INTEREST OF CONSULTANT: The Consultant covenants that he presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement. The Consultant further covenants that in the performance of this Agreement, no person having any such interest shall be employed.

8.14. PERMITS: The Consultant shall acquire and maintain in good standing all permits, licenses and other documents necessary to its performance under this Agreement.

8.15. INTEGRATION: This instrument and all appendices and amendments hereto embody the entire agreement of the parties. There are no promises, terms, conditions, or obligations other than those contained herein; and this Agreement shall supersede all previous communications, representations or agreements, either oral or written, between the parties.

8.16 NONDISCRIMINATION: The Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Consultant shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such actions shall include, but not be limited to the following: employment, upgrading, demotions, or transfers; recruitment or recruitment advertising; layoffs or terminations; rates of pay or other forms of compensation; selection for training, including apprenticeship; and participation in recreational and educational activities. The Consultant agrees to post in conspicuous places available for employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause. The Consultant shall keep such records and submit such reports concerning the racial and ethnic origin of applicants for employment and employees as the City may require. The Consultant further agrees to comply with all the Nondiscrimination Requirements contained in **Exhibit "C"**, which by this reference is incorporated herein.

ARTICLE 9. CONTRACT DOCUMENTS

9.1. CONTRACT DOCUMENTS: The Contract Documents consist of this Agreement and the other documents listed below and all modifications and change orders issued subsequent thereto. These form a contract and all are as fully a part of the contract as if attached to this agreement or repeated herein. In the event of any inconsistency between the provisions of this Agreement and the documents listed below, the provisions of this Agreement will control and the order of precedence will be in the order listed. An enumeration of the contract documents is set forth below:

1. Change Orders; and
2. This Agreement; and
3. Exhibit "A" Scope of Services and Project Budget; and
4. Exhibit "B" Functional Fee Schedule; and
5. Exhibit "C" Nondiscrimination Requirements;
6. Exhibit "D" Additional State Requirements
7. Exhibit "E" Subconsultant Scope of Work United Crown
8. Exhibit "F" Subconsultant Scope of Work NWG
9. Exhibit "G" IDEQ Sanitary Survey
10. Exhibit "H" Hour Breakdown

END OF ARTICLES

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed on the day and year set forth herein above.

MAYOR OF POST FALLS, IDAHO



Ronald G. Jacobson, Mayor

ATTEST:

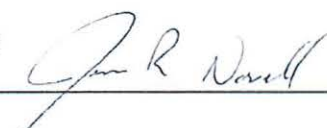
BY: 

Shannon Howard, City Clerk

1/17/23

Dated

CONSULTANT

By: 

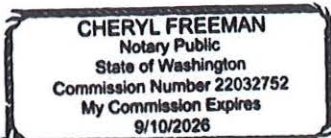
James R. Norvell

(print name)

Title: Director

(for CONSULTANT Signature)

I certify that I know or have satisfactory evidence that the above
James R. Norvell is the person who appeared before me, and said
person
acknowledged that he/she signed this instrument and acknowledged as the authorized agent for
the CONSULTANT to be the free and voluntary act of CONSULTANT for the uses and
purposes mentioned in this instrument.



NOTARY

STATE OF Washington

CITY OF Spokane

DATED this 9 day of January, 2022. 2023



Notary Signature

Notary Public In And For The State Of
Washington

residing at Spokane WA

My commission expires 9/10/2024

Q'emiln Well Improvements

EXHIBIT A SCOPE OF SERVICES AND PROJECT BUDGET FOR THE CITY OF POST FALLS

Presented To:

Bryan Myers
Parks Manager
City of Post Falls
408 N. Spokane Street
Post Falls, Idaho 83854

Presented By:

Zach Thompson, P.E.
Project Manager

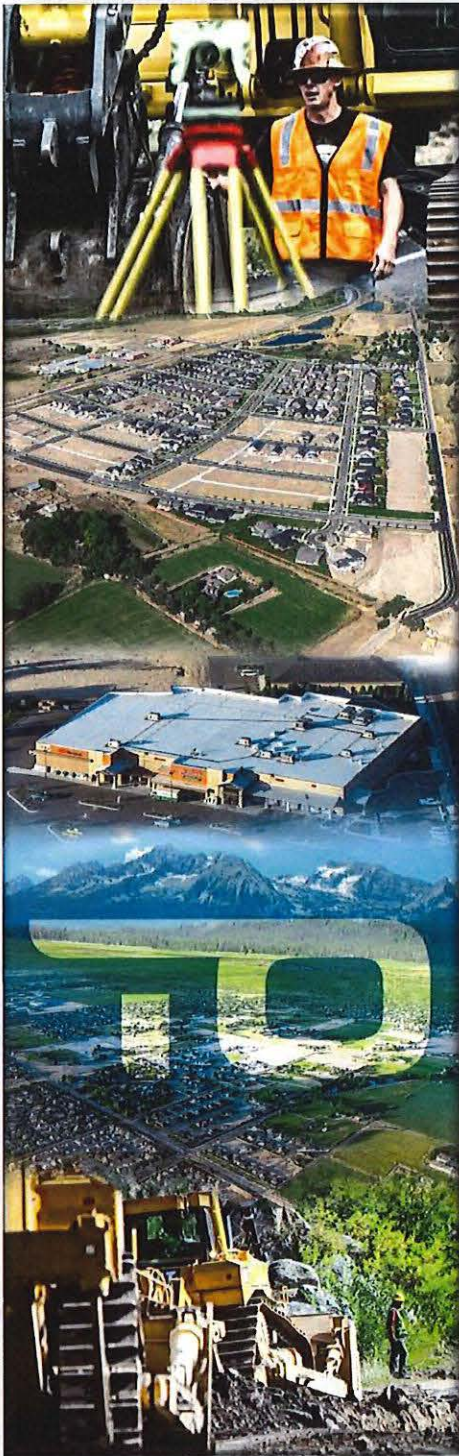


T-O ENGINEERS

CONSULTING ENGINEERS, SURVEYORS AND PLANNERS

7950 N. MEADOWLARK WAY, SUITE A
COEUR D'ALENE, IDAHO 83815
208-762-3644 • FAX 208-762-3708

January 5, 2023



Post Falls Q'emiln Well Improvements

T-O ENGINEERS is pleased to have the opportunity to present this scope of work and fee estimate to the City of Post Falls for design and planning services for the Q'emiln Well Improvements project.

SCOPE OF WORK

The City of Post Falls desires to implement improvements to the Q'emiln domestic water well in accordance with the Idaho Department of Environmental Qualities (IDEQ) Sanitary Survey (SS) dated July 14th, 2022. Major deficiencies identified in the SS include failing/corroded well casing, no vent on well cap, wellhouse building and mechanical piping is in disrepair and does not meet current IDAPA rules.

The following assumptions are made for this Scope of Services:

1. The City shall be responsible for payment of all agency review and/or application fees.
2. The existing well components will be reused and put back in place after the video survey.
3. Attendance at City Council meetings is not included but can be added at the City's request.
4. City Staff will provide coordination with the Public during investigation, design and construction.
5. Preparation of Traffic Control Plans is not included as part of this contract.

T-O proposes to provide the following engineering services to support the project.

1. Project Management and Coordination

Project Management: Conduct daily management of the project and administrative tasks of a general nature as required over the duration of the project. This task includes efforts for coordination, subconsultant coordination, quality control, communications, and general project management to maintain continuity and flexibility. This task also includes time for monthly billings and monitoring budget items.

Coordination with IDEQ: T-O will provide coordination with IDEQ as necessary for project requirements.

Coordination with City of Post Falls: Submit one (1) review to the City of Post Falls representatives, Each submittal assumes time for addressing any comments provided by the City. This task also includes general coordination with City representatives throughout the duration of the project.

2. Planning:

Data Collection: Assemble existing information, previously prepared plans, and other relevant data for use during design. United Crown will pull the existing pump and video the well as a subconsultant to T-O. See **Exhibit E** Northwest Groundwater (NWG) will review the video and summarize findings and recommendation regarding well casing as a subconsultant to T-O Engineers. In the event the existing well cannot be rehabilitated and the City authorizes, NWG will perform a well site evaluation to determine suitable location for a new well. See **Exhibit F**.

Memorandum of Next Steps: T-O will provide a memorandum summarizing project tasks and recommendations on moving forward to correct the major deficiencies identified by the IDEQ SS (see **Exhibit G**, and site investigation findings, including recommendations on well rehabilitation or replacement, pumphouse and piping rehabilitation or replacement.

The following project tasks are included:

- Address City review comments for up to one (1) submittal and revision cycle.
- Up to two (1) site visit.
- Review possibility of rehabilitation of existing well casing.
- Well Site Evaluation Report. (Upon City Authorization)
- Prepare Memorandum summarizing findings and recommendations.
- Coordination with Subconsultants.

Estimated Fees and Expenses:

The lump sum fee for services to be provided is included in this scope of work. The portion of the lump sum that is invoiced monthly will be based on Consultant's estimate of percentage of scope of work completed. If approved in writing by the City, additional services, if required, will be billed on an hourly rate in accordance with the attached Functional Fee Schedule, Exhibit B.

1. Design/Planning Services - Tasks 1 & 2 (Lump Sum)	\$ 21,183.00
Total	<u>\$ 21,183.00</u>

The following services are specifically excluded from this agreement, but may be added by written authorization of the Client:

- Master Planning and/or Capital Improvement Planning.
- Preparation of environmental studies such as wetlands delineation, biological assessment, endangered species documentation, environmental assessment, or environmental impact statements.
- Landscape design.
- Architectural or structural services.
- Laboratory fees.
- Preparation of a SWPPP.
- Preparation of stormwater report.
- Legal services.
- Agency submittal fees, review fees or permit fees.
- Client inspired changes or unforeseen changes arising due to regulatory decisions.
- Any services, product or professional responsibility not specifically described above.

**T-O ENGINEERS**

EXHIBIT ' B '
FUNCTIONAL FEE SCHEDULE
PROFESSIONAL SERVICES
Effective March 1, 2022

I. PERSONNEL	
Principal	\$225.00 - \$330.00 /hour
Project Manager	\$117.00 - \$330.00 /hour
Project Engineer	\$117.00 - \$210.00 /hour
Staff Engineer	\$90.00 - \$168.00 /hour
Environmental Specialist	\$90.00 - \$192.00 /hour
Aviation Planner	\$99.00 - \$252.00 /hour
Construction Manager	\$126.00 - \$180.00 /hour
GIS Specialist	\$90.00 - \$198.00 /hour
Inspector/Technician	\$72.00 - \$156.00 /hour
Information Technology	\$90.00 - \$168.00 /hour
Administrative	\$63.00 - \$156.00 /hour
II. LANDSCAPE ARCHITECT	
Landscape Architect	\$90.00 - \$192.00 /hour
III. SURVEYING	
Survey Manager	\$144.00 - \$270.00 /hour
Project Surveyor	\$135.00 - \$180.00 /hour
Survey Technician	\$63.00 - \$168.00 /hour
IV. SURVEY EQUIPMENT	
Aquatic Survey Vessel	\$200.00 /hour
GPS or Robotic Survey Equipment	\$75.00 /hour
Conventional Survey Equipment	\$25.00 /hour
GIS Data Logger	\$15.00 /hour
UAV Flight Charge	\$75.00 /hour
Drill and Generator	\$80.00 /day
V. COMPUTER SOFTWARE	
Property Database Research	\$50.00 /hour
Traffic Modeling Software	\$36.00 /hour
CADD and Other Technical Software	\$10.00 /hour
VI. REPRODUCTION	
In-House Reproduction	Hourly Labor Rates Apply
Outside Reproduction	Actual Cost + 10%
VII. MILEAGE	
Vehicle	0.65 - 0.75 /mile
ATV Vehicle	\$20.00 /hour
VIII. OTHER DIRECT CHARGES	
Direct costs for material or services incurred for the project	Actual Cost + 10%

- Notes:
1. When employees perform work that requires overtime, the billing rate for that overtime work will be increased to 130% of the rate established above. Overtime shall be defined as any work required of an employee in excess of 40 hours per week.
 2. When employees perform work that requires litigation or as a professional witness, the billing rate for that work will be increased to 200% of the rate established above.
 3. This fee schedule is subject to periodic adjustment.

Exhibit C
City of Post Falls
Nondiscrimination Requirements

This Attachment is to be inserted in every contract subject to Title VI of the Civil Rights Act of 1964 and associated Regulations.

During the performance of this contract, the contractor/consultant for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations

The contractor shall comply with the Regulations relative to non-discrimination in federally assisted programs of United States Department of Transportation (USDOT), Title 49, Code of Federal Regulations, part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination

The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of sub-contractors, including procurement of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

3. Solicitations for Sub-contracts, Including Procurement of Materials and Equipment

In all solicitations either by competitive bidding or negotiations made by the contractor for work to be performed under a sub-contract, including procurement of materials or leases of equipment, each potential sub-contractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to non-discrimination on the grounds of race, color, sex, or national origin.

4. Information and Reports

The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the contracting agency or the appropriate federal agency to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to ITD or the USDOT as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Non-compliance

In the event of the contractor's non-compliance with the non-discrimination provisions of this contract, the contracting agency shall impose such contract sanctions as it or the USDOT may determine to be appropriate, including, but not limited to:

- * Withholding of payments to the contractor under the contract until the contractor complies, and/or;
- * Cancellation, termination, or suspension of the contract, in whole or in part.

Incorporation of Provisions

The contractor shall include the provisions of paragraphs (1) through (5) in every sub-contract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any sub-contractor or procurement as the contracting agency or USDOT may direct as a means of enforcing such provisions including sanctions for non-compliance.

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request ITD enter into such litigation to protect the interests of the state and, in addition, the contractor may request the USDOT enter into such litigation to protect the interests of the United States.

Exhibit D

Additional Requirements of the State of Idaho. The clauses contained in this Article are required by the State of Idaho. The inclusion of these clauses in this Agreement by the City does not indicate the City's support or opposition to these clauses nor Agreement by the City that these clauses are relevant to the subject matter of this Agreement. Rather, these clauses are included solely to comply with Idaho state law.

Boycotting Israel: CONSULTANT certifies that it is not currently engaged in, and will not, for the duration of this Agreement, engage in a boycott of the goods or services of the state of Israel or territories under its control as those terms are defined in the "Anti-Boycott Against Israel Act" (Idaho Code 67-2346).

Contract with Abortion Providers: To the extent this agreement is subject to the use of public funds, CONSULTANT certifies that it is not, and will not, for the duration of this Agreement become, an abortion provider or an affiliate of an abortion provider as those terms are defined in the "No Public Funds for Abortions Act" Idaho Code Title 18, Chapter 87).

EXHIBIT E



November 2, 2022

City of Post Falls
408 N Spokane St.
Post Falls, ID 83854

Estimate #
20033

Pull Video & Set

To Our Valued Customer:

We are pleased to submit the following estimate to pull the existing well pump for video logging the existing well. Our Estimate is to pull the existing equipment out and store equipment until video logging. The well needs time for settling before video logging. Video the existing well and make copies for records. Reinstall the existing well pump with new pipe, wire, and probe conduit, sample and reenergize after absent samples. Your system will include the following:

Pull for Video Logging

- 1 ls. Labor to pull existing
- 1 ls. Video Logging of well
- 42 lf. 2" Galvanized drop pipe
- 1 ea. 2" DI Check valves
- 50 lf. #10/4 Flat Jacketed submersible pump cable
- 50 lf. 1" PVC probe conduit
- 1 ea. Motor, splice and tape
- 1 ea. Water bacteria samples
- 1 ls. Labor to install new well pump

Subtotal \$ 6,511.00

Total \$ 6,511.00

NOTE: You must provide proper access to the well site for servicing.

NOTE: The above estimate does not cover any (O&M) manuals.

NOTE: Due to the age of the existing equipment additional items may need to be replaced

Please note that the above estimate/proposal is based on estimated distances and materials required to complete the project. Actual distances, materials used, and/or additional labor to complete the project will be adjusted at final billing. If you need additional information on the equipment selected for this type of installation, please contact our office. Thank you for the opportunity to provide you with this estimate.

Estimate Good for 30 Days

United Crown Pump & Drilling

By: _____ Chris Agueros, Project Manager

Acceptance Signature: _____ / ____ / ____

3125 West Hayden Ave Hayden Idaho 83835
208-772-7867 Fax 208-772-7229

Exhibit F

PROFESSIONAL SERVICES AGREEMENT

This Professional Services Agreement ("Agreement") is entered into between Client, hereinafter defined, and NORTHWEST GROUNDWATER CONSULTANTS, LLC ("Consultant"):

T-O Engineers ("Client")

7950 N. Meadowlark Way, Suite A

Coeur d'Alene, ID 83815

Attn: Zach Thompson, PE

**NORTHWEST GROUNDWATER
CONSULTANTS, LLC ("Consultant")**

PO Box 2951

Coeur d'Alene, ID 83816

Client engages Consultant to provide professional services ("Services") in connection with the following project:
Q'emiln Park Hydrogeologic Consulting Services ("**Project**")

SCOPE OF SERVICES. Consultant shall provide the following consulting services for investigating the physical condition of the Q'emiln Park well.

Task 1 – Video Survey Oversight

Task 2 – Video Survey Technical Memorandum

Task 3 – Well Site Evaluation

ASSUMPTIONS

Consultant makes the following assumptions related to the Scope of Work and Anticipated budget:

- Client is responsible for providing physical access to the site.
- Client is responsible for the contracting of the pump contractor. Pump contractor is responsible for obtaining necessary permit(s), if any.
- Pump contractor is responsible for performing the video survey and any excavation, if required.

COMPENSATION. Client shall compensate Consultant as follows:

The estimated cost to perform the proposed work is **\$4,000**. This cost estimate does not represent a lump sum. Consultant bills for time and materials at a rate of \$150 per hour plus expenses (i.e., mileage). Charges for work that is not part of the proposed scope of work are not included in the budget estimate. Consultant may apply money from one task to another to complete the scope of work.

The estimated cost and proposed scope of work are based on information available to Consultant at this time. If conditions change, unforeseen circumstances are encountered, or work efforts are redirected, the cost estimate may require modification. Services outside of this scope to be provided on a time and materials basis at \$150 per hour.

SCHEDULE

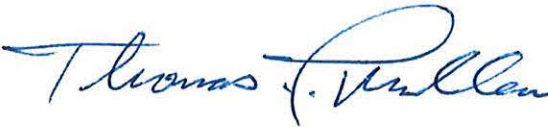
Consultant will begin work upon receiving authorization to proceed. Consultant expects to complete the report within three weeks after receiving this authorization. This proposal is valid for 30 days.

GENERAL CONDITIONS AND ADDENDA. This Agreement is governed by the Agreement For Subconsultant Services.

This Agreement is made effective this day _____ of _____, 2023.

By T-O Engineers:

By Northwest Groundwater Consultants, LLC:



Signature

Signature

Printed Name

Thomas F. Mullen, PG

Printed Name

Title

Principal Hydrogeologist

Title

Copyright 2023 Northwest Groundwater Consultants, LLC
Project No. P01153-04

EXHIBIT G



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

2110 Ironwood Parkway, Coeur d'Alene, ID 83814
(208) 769-1422

Brad Little, Governor
Jess Byrne, Director

July 14, 2022

Matthew Isch
City of Post Falls South Park (Q'emiln)
matti@postfallsidaho.org

Subject: Sanitary Survey conducted on 06/22/2022 – ID1280148

Dear Mr. Isch:

A sanitary survey was recently conducted by the Idaho Department of Environmental Quality (DEQ) for City of Post Falls South Park (Q'emiln) (ID1280148). Enclosed with this letter is a copy of the sanitary survey report and photos for your records.

There were significant deficiencies identified during the inspection. In this report are listed rule requirements/deficiencies for consideration upon system upgrades, along with recommendations. **Within 30 days of receipt of this report** consultation with DEQ and submittal of a corrective action plan are required. Please follow : 1) consult with DEQ regarding corrective actions, and 2) submit a corrective action plan with planned actions and a timeline for addressing the significant deficiencies identified.

Be advised that modifications to your public water system may require the assistance of an Idaho licensed professional engineer and require DEQ review and approval prior to making water system modifications or installing new components. Please contact this office before making modifications to your system.

Thank you for your help in completing the sanitary survey. Contact the DEQ Coeur d'Alene Regional Office at (208)-769-1422 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Cassandra Lemmons", is positioned above the typed name.

Cassandra Lemmons, MBA, REHS
Drinking Water Compliance & Enforcement Supervisor

CDL:AM:SKH

Enclosures (3)

c: Anna Moody, DEQ, anna.moody@deq.idaho.gov
Jim Williamson, DEQ, jim.williamson@deq.idaho.gov

Drinking Water System Sanitary Survey Report

Water System: City of Post Falls South Park (Q'emiln)
PWS#: ID1280148
Surveyor: Cassandra Lemmons
PWS Type: Transient noncommunity
Classification: VSWs

System Representative: Matthew Isch
Sources: Groundwater Well
County: Kootenai
Survey Date: June 22, 2022
Connections: 2
Population: 200

Narrative

The City of Post Falls South Park (Q'emiln) water system is classified as a transient non-community drinking water system. The City of Post Falls Water Department provides operational oversight of the potable water system (System) serving the City of Post Falls Q'Emiln Park. Irrigation for Q'Emiln Park is supplied by a secondary well physically separated from the potable supply. The potable system remains pressurized throughout the year to serve the Q'Emiln Park Trailhead Community Building. Wastewater from facilities is disposed of utilizing onsite subsurface sewage disposal systems.

Sources

The Driller's Report on file indicates the well supplying the System was air rotary drilled by Associated Drilling in 1975. The well was drilled to a completed depth of 60 feet below ground surface (bgs) and constructed with a 6-inch steel casing (0.250 inches in thickness) to 58 feet bgs. A surface seal comprised of puddling clay was provided to 20 feet bgs. The report indicates the well was drilled through sand and gravel, with static water level reported at 32 feet. Twenty perforations (¼-inch by 2-inch) were cut into the steel casing between 50 and 57 feet.

The well does not meet the minimum 50-foot setback radius from Spokane Street and Parkway Drive. As the well precedes adoption of the Idaho Rules for Public Drinking Water Systems (November 1977), setback requirements will be enforced in the event the well is subject to unresolvable contamination.

Prior surveys conducted by DEQ indicate the well is equipped with a 5 hp Red Jacket submersible pump. The well is retrofitted with a downturned vent off the casing wall above grade; the vent outlet is protected with 24-mesh screen. As the well head is not enclosed within a building, a steel structure was constructed to protect the well head from tampering. A poly line down the well casing allows for the static water levels to be monitored in the building housing well discharge appurtenances.

The steel structure is not equipped with venting, and it appears this may be creating increased condensation levels contributing to significant corrosion of the well casing exterior. In comparing the condition of the well casing at the time of this inspection to the photos obtained during the 2016 inspection, it appears the casing has further degraded, and the integrity is

compromised. Refer to photos 2-6 in the attached photo log. This is assessed as a significant deficiency requiring correction.

Per DEQ records, a Groundwater Under Direct Influence (GWUDI) evaluation was performed in 1999. The source was determined to be a groundwater source and not further evaluation was required. And no microscopic particulate analyses were performed or required. The source is less than 500' from the Spokane River. The operator indicated that there are changes to water quality in the spring during high water levels. The monitoring data does not suggest changes as there are no coliform bacteria detections in recent history. The operator indicated he would explore monitoring static water levels to determine if there are seasonal fluctuations.

The Source Water Assessment Report for the well was last updated by DEQ in 2002; the Potential Contaminant Inventory (PCI) was updated in May 2015. The PCI indicates the commercial building previously operated by the Hughes Greenhouse as the only potential contaminant source within the 0 to 3 year time of travel zone for the well. The complete report may be accessed at: <http://www2.deq.idaho.gov/water/swaOnline/Search>.

Pumphouse

The pumphouse structure is above-grade for ease of access, with the water appurtenances sitting below grade. The pumphouse is in disrepair. The well pump control conduit was broken at time of inspection, see photo 9. The cinder-block base of the structure shows damage and substantial cracks in between blocks. Interior of structure was very damp indicating possible intrusion of surface water through the cracks. Refer to photos 8, 10-14, 16, 19, & 21 in the attached photo log. This is assessed as a significant deficiency requiring correction.

The 2016 sanitary survey required the installation of pressure relief, or documentation that relief was not required. It is unclear whether installation was reviewed and approved by DEQ as required for material modifications. Additionally, it appears that during installation of pressure relief device the smooth-nosed sample tap was removed. The threaded sample tap with vacuum breaker hose bib was still intact. Although the location is not ideal for sampling for coliform bacteria as it is intended to drain the pressure tank.

Hydropneumatic Tanks

A hydropneumatic tank is installed in the pumphouse structure. The tank is showing signs of corrosion which could lead to bacteriological contamination of the water system, see photos 12-14. Corrosion appears to be similar to corrosion seen in 2016 photos. An isolation valve at the tank is not provided. The tank may be isolated via upstream ball valves if necessary. The tank maintains adequate pressure throughout the distribution system. The pressure gauge and pressure switch appeared to be in good working condition.

Distribution

The well discharges via a 2-inch PVC pit-less adaptor to a vault protected by a locked corrugated metal enclosure and equipped with adequate heating. A check valve and ball valve are installed on the discharge prior to a tee which supplies the two service connections: the Q'Emiln Trailhead Community Building and the Q'Emiln restrooms. Each of the services may be isolated via ball valves and are equipped with a separate instantaneous and totalizing flow meter. A pressure switch controls well actuation to the closed loop system. Each service connection is metered inside the pumphouse. Backflow protection devices are installed for each service connection and are tested annually.

Financial & Managerial Capacity

This water system is owned by the City of Post Falls. The operator indicated that the park is administered by the city's Parks & Recreation (P&R) department. Due to the system being regulated as a separate drinking water system, the system oversight is provided by the Public Works department. The operator indicated that an agreement between city departments places daily oversight and maintenance of the water system with the P&R department. There is no overall operations and maintenance manual for this system. They are current on their drinking water fees with the State. A licensed operator is not required due to the system classification, but one is provided by the city.

Findings

Significant Deficiencies

A significant deficiency as identified during a sanitary survey, is any defect in a system's design, operation, maintenance, or administration, as well as any failure or malfunction of any system component, that the Department or its agent determines to cause, or have the potential to cause, risk to health or safety, or that could affect the reliable delivery of safe drinking water (IDAPA 58.01.08.003.131). Failure to address significant deficiencies constitutes a violation of IDAPA 58.01.08.302 or 58.01.08.303. Corrective actions that include material modifications must be approved by the Department.

Step 1: Within 30 days of receiving this notification, consult with DEQ regarding proposed corrective actions

Step 2: Within 30 days of receiving this notification and after consultation, submit to DEQ in writing a corrective action plan including planned completion dates for each identified significant deficiency.

Step 3: Complete the planned action(s) by the "Planned Completion Date(s)" within 120 days, OR request and receive an extension when appropriate.

Step 4: After completing each planned action, and within 30 days, submit verification and certification that corrective actions are complete. This can neither be in writing or through email and with photo documentation.

1. The Well is not provided with a solid casing that prevents surface water and contaminants from entering the well (IDAPA 58.01.08.511.06.b). Well casing is substantially corroded. Pieces of casing have rusted completely off. Integrity of casing is questionable, and it is unclear whether cap seal is intact.
A properly cased well with a sanitary well cap prevents surface water and potential contaminants (bacteria, fertilizers, pesticides etc.) from descending along the outside wall of the well down to the zones of stored ground water thus minimizing the possibility of contamination.
2. The pump house is in a pit and is not in good repair (IDAPA 58.01.08.547.01.a, IDAPA 58.01.08.541.01.b & g). At the time of inspection, the pumphouse was in disrepair and there was evidence of water intrusion into the pumphouse.
The pumphouse is primarily in a pit and is not watertight. Damage to the pump house walls allowing environmental damage to pump or controls are an issue. Pumphouses must be constructed to prevent surface water entry.

Rule Requirements/Deficiencies:

(To be addressed during system upgrades or substantial changes.)

Groundwater Source:

1. The land surrounding the well has a condition that has the potential to cause a health hazard. Well is less than 50' from paved roads and parking. System was constructed prior to the rule requirement for a 50' well lot. This health hazard may create a danger to the consumer's health (IDAPA 58.01.08.008.01).

Land use increases the susceptibility of source water contamination.

2. The discharge pipe for Well does not provide a sample tap that is properly located, and the sample tap that is used to collect bacteria samples is not of the smooth-nosed type without interior or exterior threads (IDAPA 58.01.08.511.01).

A raw-water sample tap should be smooth-nosed with no interior or exterior threads, screen, aerator, or other attached appurtenances to allow for proper sampling techniques and to decrease the risk of contaminating a sample during collection.

3. There is not a complete operation and maintenance (O&M) manual for this public water system (IDAPA 58.01.08.501.12, 003.90, and 003.91). An O&M manual needs to be developed and implemented.

Submit an O&M manual for review and approval. Upon approval, the operator must operate the system in accordance with the approved O&M manual. At a minimum, include the following items in the O&M manual:

- daily, weekly, monthly, and yearly operating instructions
- information specific to a particular type of treatment
- location of valves and other key distribution system features
- pertinent telephone and address contact information including the responsible charge water system operator and water system owner
- operator safety procedures
- alarm system and emergency procedures
- trouble-shooting advice
- water quality testing procedures
- response plan for depressurization events
- customer service procedures
- response plan for customer complaints
- maintenance information and checklists
- manufacturer's product information including troubleshooting information
- parts list, spare parts list, and parts order form
- necessary special tools

An O&M manual provides procedures to operate and maintain a facility's various systems and equipment. It is important to analyze and evaluate a facility from the system level, then develop procedures to attain the most efficient systems integration. Lack of an O&M manual can lead to system failures and contamination of drinking water.

Recommendations:

Groundwater Source:

The Well should be protected from unauthorized access through fencing around the source and/or use of a locking well cap.

Hydropneumatic Tanks:

Hydropneumatic tanks should be tested for structural integrity every 5 years or be replaced with a pressure tank of the same volume that meets American Society of Mechanical Engineers (ASME) code requirements.

The pre-charge of one or more bladder tanks has not been tested in the last year. Testing the pre-charge of the bladder tank requires the tank to be isolated and drained. The pre-charge air pressure should be five psi below the setting at which the pump turns on (the low operating pressure for the system) (IDAPA 58.01.08.547.03.a).

EXHIBIT H

Project Budget
Q'emiln Well Rehabilitation
Design Services - Person-hour Estimate
November 10, 2022

ITEM NO.	DESCRIPTION OF WORK	Total Man-hour	Project Advisor	Project Manager	Survey Manager	Survey PC	Survey Assistant	Survey/CAD Tech	Engineer Intern	Clerical
1	Project Management/ Coordination									
	Project Management	20		14						6
	Coordination with IDEQ	2		2						
	Coordination with City of Post Falls	12		12						
2	Planning									
	Data Collection/Investigation	6		2					4	
	Memorandum of Next Steps	16		12					4	
	TOTAL OF ESTIMATED HOURS	56	0	42	0	0	0	0	8	6

A. Summary Estimated Man-Hour Costs

T-O Total Labor Cost	56	\$10,280.00
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B. Estimated Expenses

	No.	Unit Cost		
Copies, Postage, Misc				\$300.00
Vehicles (mileage)	160	\$0.575		\$92.00
Total Estimated Expenses				\$392.00

C. Subconsultants

AEI	\$0.00
United Crown	\$6,511.00
NW Groundwater	\$4,000.00
Structural	\$0.00
Total Estimated Expenses	\$10,511.00

TOTAL	\$21,183.00
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T·O ENGINEERS

An  **ARDURRA** Company

7950 N. Meadowlark Way, Ste A
Coeur d'Alene, ID 83815
Ph: (208) 762-3644 • Fax: (208) 466-0944

ADDITIONAL SERVICES AUTHORIZATION #1

(Please expedite return of signed form.)

DATE: 4-29-2024

Contract/Project No: 220689 **Project Name:** Q'Emiln Water Facility Plan

Name of Client: City of Post Falls

Address: 408 N. Spokane Street

City/State: Post Falls, ID **Zip Code:** 83854 **Telephone:** 208-457-3359

Description of Services to be Provided by Consultant: _____

See attached Exhibit B for scope of work.

Ardurra Billing Reference Description: Additional Services #1

Budget Estimate: \$62,290.32 (Lump Sum) ☒ **Lump Sum (Not to Exceed)** ☐ **T & M (Not to Exceed)**

(Additional services are performed on a time and materials basis unless otherwise shown in writing)

Additional Service Requested By: Bryan Myers

Additional Service Request Rec'd By: Zach Thompson **via x** ☒ **Verbal** ☐ **Written**

Special Conditions: _____

The Terms and Conditions of the original contract, Q'emiln Well Investigations, dated 01/17/2023, above are incorporated and made a part of this Agreement.

**Offered by T-O Engineers an Ardurra Company
(Consultant):**

Accepted by Client:



Signature **Date** 4/29/2024

Signature **Date**

Zach Thompson/Project Manager

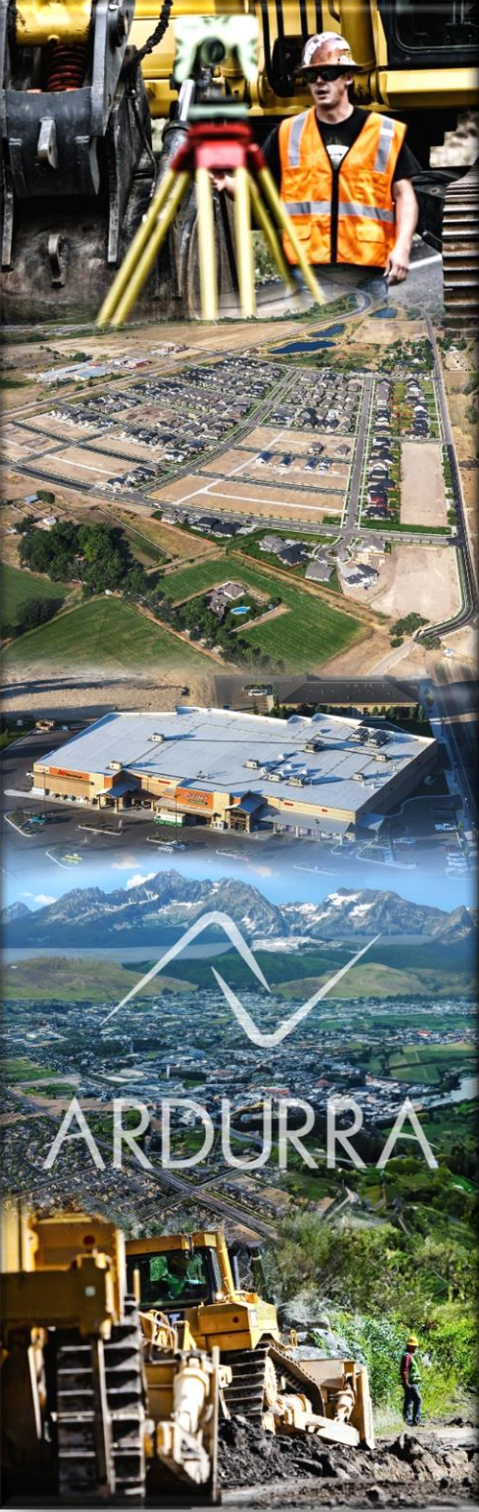
Printed Name/Title

Printed Name/Title

Name of Client

☒ Work will not proceed until authorization is signed by client

☐ Work will proceed based on Client's verbal and or email authorization



Q'emiln Well Improvements ASA #1 Water Facility Plan and Construction Drawings

EXHIBIT A SCOPE OF SERVICES AND PROJECT BUDGET FOR THE CITY OF POST FALLS

Presented To:

Bryan Myers
Parks Manager
City of Post Falls
408 N. Spokane Street
Post Falls, Idaho 83854

Presented By:

Zach Thompson, P.E.
Project Manager



T·O ENGINEERS

An  **ARDURRA** Company

CONSULTING ENGINEERS, SURVEYORS AND PLANNERS
7950 N. MEADOWLARK WAY, SUITE A
COEUR D'ALENE, IDAHO 83815
208-762-3644 • FAX 208-762-3708

April 29, 2024

Post Falls Q'emiln Well Improvements

Ardurra is pleased to have the opportunity to present this scope of work and fee estimate to the City of Post Falls for additional services for the Q'emiln Well Improvements project.

SCOPE OF WORK

The City of Post Falls desires to implement improvements to the Q'emiln domestic water well in accordance with the Idaho Department of Environmental Qualities (IDEQ) Sanitary Survey (SS) dated July 14th, 2022. IDEQ requires a facility plan be prepared and approved for the water system prior to any substantial modifications. IDEQ considers rehabilitation of the well and construction of a new well house to be a substantial modification therefore triggering the need for facility plan. Major deficiencies identified in the SS include failing/corroded well casing, no vent on well cap, wellhouse building and mechanical piping is in disrepair and does not meet current IDAPA rules.

The following assumptions are made for this Scope of Services:

1. The City shall be responsible for payment of all agency review and/or application fees.
2. The existing well components will be reused and put back in place after the video survey.
3. Attendance at City Council meetings is not included but can be added at the City's request.
4. City Staff will provide coordination with the Public during investigation, design and construction.
5. Preparation of Traffic Control Plans is not included as part of this contract.

Ardurra proposes to provide the following engineering services to support the project.

1. Project Management and Coordination

Project Management: Conduct daily management of the project and administrative tasks of a general nature as required over the duration of the project. This task includes efforts for coordination, subconsultant coordination, quality control, communications, and general project management to maintain continuity and flexibility. This task also includes time for monthly billings and monitoring budget items.

Coordination with IDEQ: Ardurra will provide coordination with IDEQ as necessary for project requirements.

Coordination with City of Post Falls: Submit one (1) review to the City of Post Falls representatives. Each submittal assumes time for addressing any comments provided by the City. This task also includes general coordination with City representatives throughout the duration of the project.

2. Planning and Design:

Data Collection: Assemble existing information, previously prepared plans, and other relevant data for use during planning and design.

Prepare Base Maps: Ardurra will work with City staff to develop a base map of the existing water infrastructure for use in preparing a hydraulic model and a completed water facility plan in accordance with IDAPA 58.01.08.502.

Water Facility Plan: Ardurra will prepare a water facility plan for the Q'emiln park water system as required by IDEQ and in accordance with requirements set forth in IDAPA 58.01.08.502. The facility plan includes preparing a hydraulic model in accordance with IDEQ requirements. It is assumed that the existing service area and number of connections will remain the same with no additions. Environmental studies including a SERP are not included, and it is assumed they are not required since the project is not funded by IDEQ SRF funds. It is assumed that the City will provide Ardurra with general locations of existing water infrastructure, size of existing water lines and usage data.

Construction Plans, Specifications and Preliminary Engineering Report: Prepare hydraulic calculations for sizing of piping, valves, and other appurtenances for the well house modifications and rehabilitation of the well casing. Prepare an Engineering Technical Memorandum (abbreviated PER) summarizing the calculations and recommendations for submittal to IDEQ with the construction plans. See attached Exhibit C design basis memorandum dated April 15, 2024, for a list of anticipated modifications to the system. Prepare construction plans, specifications, and details for the well casing rehabilitation, wellhouse improvements, including piping and mechanical plans, and electrical and control upgrades. Design of electrical and control upgrades will be provided by AEI Engineering as a sub-consultant to Ardurra (see Exhibit D). Scope and budget estimate assume that the modifications to the wellhouse building will be replacing the existing with a new pre-manufactured utility building, new mechanical piping and valves, and site grading plan. No modifications to the existing well pump and motor are anticipated. Bidding coordination, construction management, record drawings, and preparation of an O&M manual are not included in this scope and will be prepared at a later date.

3. Topographic Survey:

Ardurra will provide topographic survey services for the design of the wellhouse upgrades as well as for elevations and locations of key water infrastructure for use in developing the hydraulic model for the water facility plan. Ardurra will collect above ground features as necessary for development of the hydraulic model. It is assumed that City staff will be on site during the survey to show Ardurra existing water fixture locations, buildings with water service, and approximate water main locations. Boundary survey and collection of park features such as parking lots, benches, trees, boulders, trails, and other items not related to the water system are not included. Ardurra will prepare a base map in Civil 3D to reflect the topographic survey.

The following project tasks are included:

- Address City review comments for up to one (1) submittal and revision cycle.
- Address IDEQ review comments for up to one (1) submittal and revision cycle.
- Up to two (2) site visits.
- Water Facility Plan, preliminary engineering report, construction drawings and specifications.
- Coordination with Subconsultants.

Estimated Fees and Expenses:

The lump sum fee for services to be provided is included in this scope of work. The portion of the lump sum that is invoiced monthly will be based on Consultant’s estimate of percentage of scope of work completed. If approved in writing by the City, additional services, if required, will be billed on an hourly rate in accordance with the attached Functional Fee Schedule, Exhibit B.

1. Design/Planning Services - Tasks 1, 2, & 3 (Lump Sum)	\$ 52,632.00
a. Sub-Consultants	\$9,658.32
Total	<u>\$ 62,290.32</u>

The following services are specifically excluded from this agreement, but may be added by written authorization of the Client:

- Capital Improvement Planning.
- Preparation of environmental studies such as wetlands delineation, biological assessment, endangered species documentation, environmental assessment, or environmental impact statements.
- Landscape design.
- Architectural or structural services.
- Laboratory fees.
- Preparation of a SWPPP
- USACE Permitting.
- Preparation of stormwater report.
- Legal services.
- Agency submittal fees, review fees or permit fees.
- Client inspired changes or unforeseen changes arising due to regulatory decisions.
- Any services, product or professional responsibility not specifically described above.



1038 W. Davidson Avenue | Coeur d'Alene, ID 83814
208.666.4001 | Fax 208.666.4021 | www.aei-engineering.com

April 25, 2024

Ardurra
7950 N. Meadowlark Way, Suite A
Coeur d' Alene, ID 83815

Attention: Mr. Zach Thompson, P.E.

Subject: City of Post Falls, Q'emiln Well
Proposal for Electrical Engineering Services

Dear Zach:

Thank you for the opportunity to submit this proposal for electrical engineering services to assist T-O Engineers with the subject project. We have prepared this proposal and associated engineering fee estimate based on the information provided.

UNDERSTANDING OF PROJECT

The City plans to replace the Q'emiln well and wellhouse. The retrofit will include a new pump, well house and new electrical controls.

The main elements of the project include:

- Submersible well upgrade.
- New wellhouse ventilation, heat, lighting and receptacles.
- New electrical service equipment.
- New pump controls.
- New flow meter.
- New autodialer alarm system.
- Provisions for future cellular modem or SCADA VPN/firewall.

APPROACH AND DELIVERABLES

During the initial (pre-design) phase of this project, we will meet with T-O Engineers and the City to determine the specific design and operational requirements of the lift station. AEI will participate in the PER process, developing initial P&ID's, One-line, and Opinion of Cost.

Following this effort, we will prepare detailed construction documents (plans and specifications) for competitive bidding of the lift station electrical. We will also prepare a project construction cost estimate for use in analyzing bid results.

A detailed list of design tasks and associated deliverables are identified below:

PRE-DESIGN PHASE TASKS

1. Participate in an initial project engineering meeting with the Design Team.
2. Conduct site visit to evaluate and field verify existing conditions and equipment.

3. Perform Electric Utility coordination.
4. Develop initial P&ID and One-Line drawings.
5. Assist with PER development.

DESIGN PHASE TASKS

1. Prepare preliminary (+/- 30%) bid documents (plans and specifications) for review purposes.
2. Submit mid-design (90%) set of plans and specifications to the Design Team and City for review.
3. Prepare a preliminary project construction cost estimate.
4. Meet with T-O Engineers to review 90% design submittal.
5. Finalize plans and specifications.
6. Finalize project construction cost estimate.

ASSISTANCE DURING BID PHASE TASKS

1. Not included.

ASSISTANCE DURING CONSTRUCTION PHASE TASKS

1. Not included.

ASSUMPTIONS

1. An initial on-site project kick-off meeting will be required to discuss and determine the specific design requirements for the desired lift station system improvements.
2. The required electrical plan drawings will be produced based on background drawings provided by T-O Engineers which show the intended location of the improvements.
3. A detailed electrical construction cost estimate for this project is required as part of this proposed scope of work.
4. Design submittals (drawings and specifications) will be limited to 30%, 90% and 100% submittals.
5. Bid and construction phase services will not be required as part of this proposed scope of work.

STANDARDS

AEI Engineering Inc. shall perform this work in accordance with the applicable sections of the following standards organizations during the design of this project:

- NFPA No. 70 - National Electrical Code (NEC)
- Instrumentation Society of America (ISA)
- National Electrical Manufacturers Assoc. (NEMA)
- Underwriters Laboratories (UL)
- Institute of Electrical and Electronics Engineers (IEEE)

BID DOCUMENT FORMAT

All drawings will be prepared in AutoCAD Release 2024. All specifications will be prepared in CSI format using Word for Windows.

SCHEDULE

AEI Engineering is prepared to begin work on this project upon notice to proceed and will work to support the project schedule.

PRICE AND TERMS OF COMPENSATION

AEI Engineering proposes to work on this project on a time-and-materials, not-to-exceed basis at the rates depicted in the attached fee estimate worksheets for the skill categories indicated. We will not exceed the estimated total amount without prior authorization from Ardurra. Invoices will be sent monthly, indicating percent complete or hours expended in each skill category with the appropriate rate and the total amount of the invoice. Invoices will be due and payable when received. A 1.75% fee will be added to the invoice after 60 days.

We appreciate this opportunity to provide our services to you and the City. After you have had a chance to review this proposal information, we would be happy to meet with you to discuss any questions, comments or concerns you may have. We look forward to working with you on this interesting project.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Raymond J. Watkins, P.E.



1038 W. Davidson Avenue | Coeur d'Alene, ID 83814
208.666.4001 | Fax 208.666.4021 | www.aei-engineering.com

ENGINEERING FEE ESTIMATE

Client Ardurra **Date** 4/25/2024
Address 7950 N. Meadowlark Way, Suite A **Proposal No.** P22175r1a
City Coeur d'Alene **State** ID **ZIP** 83815 **File Name**
Phone 208-762-3644 **Client Job No.**

Project Post Falls Q'emiln Well Upgrade

Description of Tasks	PM \$250.00	SE \$218.00	ENG III \$201.00	ENG II \$160.00	DRAFT \$160.00	ADMIN \$117.00	Total
Task 1 Project Management							
Task 2 Preliminary Design Tasks							
Task 3 Final Design Tasks							
SubTotal	2		32.5		15.5	1	\$9,629.50
Expenses							\$28.82
Total							\$9,658.32
Total Hours	2		32.5		15.5	1	
TOTAL							\$9,658.32



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208.666.4001 | Fax 208.666.4021 | www.aei-engineering.com

ENGINEERING FEE ESTIMATE

Client	Ardurra			Date	4/25/2024
Address	7950 N. Meadowlark Way, Suite A			Proposal No.	P22175r1a
City	Coeur d'Alene	State	ID	ZIP	83815
Phone	208-762-3644			File Name	
				Client Job No.	

Project Post Falls Q'emiln Well Upgrade

Description of Tasks		PM \$250.00	SE \$218.00	ENG III \$201.00	ENG II \$160.00	DRAFT \$160.00	ADMIN \$117.00	Total
Task 1	Project Management							
1.1	Project correspondence and status reports						1	\$117.00
Task 2	Preliminary Design Tasks							
2.1	Utility Coordination and Site Review	1		2				\$652.00
Task 3	Final Design Tasks							
3.1	Prepare electrical drawings							
3.1.1	Sheet E1 - Electrical Legend and Notes			0.5		0.5		\$180.50
3.1.2	Sheet E2 - Electrical Site Plan			4		3		\$1,284.00
3.1.3	Sheet E3 - Electrical One-Line Diagram & Schedules			4		2		\$1,124.00
3.1.4	Sheet E4 - Electrical Power and Control Plan			6		4		\$1,846.00
3.1.5	Sheet E5 - Control Wiring Diagram & Elevation			4		2		\$1,124.00
3.1.6	Sheet E6&E7 - Wiring Diagrams			2		2		\$722.00
3.1.7	Sheet E8 - Electrical Details			2		2		\$722.00
3.2	Prepare Specifications							
3.2.1	Electrical Division 16			6				\$1,206.00
3.3	Construction Cost Estimate			2				\$402.00
3.4	Quality Control / Assurance	1						\$250.00
Total Hours		2		32.5		15.5	1	

SubTotal \$9,629.50

Expenses \$28.82

TOTAL \$9,658.32

Reimbursable Expense Details:

Mileage	\$28.82
Reproducibles	
Package Delivery	
Misc.	
Total Expenses	\$28.82



MEMO

To: City of Post Falls Parks Department - Bryan Myers, Parks Manager

From: Ardurra – Zach Thompson, Project Manager

Date: April 15, 2024

Re: Design Basis and Memorandum of Next Steps Q'emiln Well Rehab

Description of Project

The City of Post Falls owns and operates Public Water System (PWS) ID1280148 which serves the Q'emiln Park. The city desires to implement improvements to the Q'emiln domestic water well and wellhouse. The Idaho Department of Environmental Qualities (IDEQ) performed a Sanitary Survey (SS) on July 14th, 2022. The sanitary survey identified several significant deficiencies which require improvement. The City and IDEQ mutually agreed to a schedule to complete these improvements. There are however no known compliance agreement schedules or consent orders because of the major deficiencies. Major deficiencies identified in the SS include a failing/corroded well casing; no vent on the well cap; and wellhouse building and mechanical piping that is in disrepair and does not meet current IDAPA rules. This phase of the project includes planning and recommendations of possible solutions to address the current deficiencies. In addition, this memo will describe the recommended necessary next steps for the city.

Existing Well

Well Casing Rehabilitation

The existing visible portion of well casing is significantly corroded above ground. See Figure 1 below and IDEQ Sanitary Survey.



Figure 1

Investigation of the corroded well casing and possible solutions involved coordination with local well drillers and suppliers. As noted in the IDEQ SS, it appears that corrosion of the outside of the well casing is most likely due to a steel barrel that has been in place over the well head for the entirety of the well's life. There is no venting in the existing steel barrel which likely caused condensation on the outside of the well casing leading to significant corrosion.. If the corrosion of the well casing is localized to the exposed portion of the casing, then it may be possible to rehabilitate a short section instead of replacing the entire casing or relocating the well. Per correspondence with IDEQ this option would avoid triggering what they consider to be a material modification which would trigger the well meet all current IDAPA rules. Current IDAPA rules would require relocating and redrilling the well to meet setback requirements. See below for recommended solutions and next steps to rehabilitate the upper portion of the well casing.

- Pull the existing pump.
- Dig down 10' and cut off the existing casing and supporting piping.
- Install 10' of new 6" steel casing with 0.250" wall thickness.
- Install a new pitless weld on adapter.
- Reconnect the existing piping.
- Install a sleeve around the new casing, backfill and add casing seal in void, and remove sleeve.
- Reset piping and existing pump.
- Take bacteria samples.
- Install a locking well cap with vent.

Mechanical Piping and Electrical Building

Building

The existing building is old and in poor shape. Per the IDEQ SS, site photos and site visit the foundation is showing visible signs of failure with multiple cracks in the foundation. There is also evidence of surface water intrusion into the building. The building structure itself is above ground but all mechanical piping is sub-grade.

Per IDAPA 58.01.08.511.06.b: *"Pump houses shall be protected from flooding and shall be adequately drained. The ground surface shall be graded so as to lead surface drainage away from the pump house. Unless otherwise approved by the Department based on documentation provided by the design engineer, the floor surface shall be at least six (6) inches above the final ground surface and pump house components shall be located at least six (6) inches above the floor surface".*

It is recommended that the building be replaced in its entirety including all mechanical piping and electrical and control. It is recommended that the building be replaced with a new pre-cast concrete building.

Mechanical Piping/Distribution

If the building is replaced with a new building and above ground space for mechanical piping, then replacement of all existing mechanical piping infrastructure is recommended. The existing pressure tank and mechanical piping is below ground, aged and should be replaced as it is near the end of its usable life. Per IDAPA 58.01.08.511.06.g IDEQ requires hydropneumatic tanks be placed above the normal ground surface a minimum of 6". New piping, valving, sample tap, flow meters, hydroneumatic tank and piping from the well to the wellhouse are recommended. No upgrades to the remainder of the distribution system are anticipated.

Electrical

The existing electrical and control panels are aged and not reusable, and it is recommended they be replaced. In addition to replacing the electrical panels, an alarm system with an auto-dialer is recommended. No backup power is anticipated.

Recommended Next Steps

Based on the above findings and recommendations the following is a list of next steps for the city to consider:

1. Per previous discussion with the City and IDEQ, the above modifications to the wellhouse building, mechanical piping and electrical and control will trigger a material modification. Material modifications to a public water system require that the public water system must have a current water facility plan. The existing public water system does not have a current facility plan. IDEQ will require a facility plan prior to making modifications to the system. It is recommended that the city complete a facility plan for this system.
2. Once the facility plan is complete it is recommended that the city move forward with the design of the improvements recommended in this document. Following the design of the improvements the city may bid the proposed improvements and commence with construction.
3. Following construction, preparation of a complete comprehensive Operations and Maintenance Manual will be required by IDEQ.



Project Budget
Q'emiln Well Rehabilitation ASA#1 WFP
Design Services - Person-hour Estimate
April 9, 2024

ITEM NO.	DESCRIPTION OF WORK	Total Man-hour	Project Advisor	Project Manager	Survey Manager	Survey PC	Survey Assistant	Survey/CAD Tech	Engineer Intern	Clerical
1	Project Management/ Coordination									
	Project Management	20		14						6
	Coordination with IDEQ	2		2						
	Coordination with City of Post Falls	12		12						
2	Planning and Design									
	Data Collection/Investigation	6		2					4	
	Prepare Base Maps	10		2					8	
	Water Facility Plan	124	4	20					100	
	Construction Plans and PER	102	2	20					80	
	Topographic Survey	25		1	6	16			2	
	TOTAL OF ESTIMATED HOURS	301	6	73	6	16	0	0	194	6

A. Summary Estimated Man-Hour Costs

Personnel	Man-hour	Rate	Extension
Ardurra Total Labor Cost	301		\$52,240.00

B. Estimated Expenses

	No.	Unit Cost	
Copies, Postage, Misc			\$300.00
Vehicles (mileage)	160	\$0.575	\$92.00
Total Estimated Expenses			\$392.00

C. Subconsultants

AEI	\$9,658.32
United Crown	\$0.00
NW Groundwater	\$0.00
Structural	\$0.00
Total Estimated Expenses	\$9,658.32

TOTAL **\$62,290.32**

CITY OF POST FALLS
AGENDA REPORT
UNFINISHED BUSINESS/RETURNING ORDINANCES AND RESOLUTIONS
MEETING DATE: 6/18/2024

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Andrew Arbini, Projects Division Manager

SUBJECT: Spokane Street Rehabilitation, Cooperative Agreement with The Idaho Transportation Department

ITEM AND RECOMMENDED ACTION:

City Council approves and authorizes the Mayor to sign the Cooperative Agreement with The Idaho Transportation Department (ITD).

DISCUSSION:

In March, the city opened construction bids for the Spokane Street Rehabilitation project funded by the Strategic Initiatives Grant. Following the construction contract award, ITD approached the city with a proposal to extend the Spokane Street paving limits to include the section of Spokane street between Seltice Way and the I-90 Eastbound ramps. ITD is the responsible entity for maintenance of this section of street. Adding this work to the city's project will rehabilitate this section of street as a single project, providing benefits to both ITD and the City.

This section of Spokane Street is in poor condition. Through the partnership with ITD, the road will be improved on an accelerated timeline. If this cooperative agreement is not pursued, ITD has communicated a plan to improve the road in several years.

The ITD Cooperative Agreement authorizes ITD to pay the City \$700,000 for project costs related to the additional paving work. This lump sum payment of \$700k is developed from the Engineer's estimate. If project costs exceed the agreed upon amount, the city will be reimbursed the difference from ITD. Following Council approval of the Cooperative Agreement, the city and Welch Comer will negotiate a change order with the city's Contractor. Following a review and final approval by ITD, Staff will present a change order recommendation or status update at a future City Council meeting.

Project completion is anticipated by the end of the 2024 construction season. Project expenses for this additional work will be tracked separately from the city's original project. Project completion is anticipated by the end of the 2024 construction season.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

May 7, 2024 – Staff Report and Project Update
April 2, 2024 – Engineering Services Contract Amendment
February 6, 2024 – Strategic Initiatives Grant Award
July 18, 2023 – Staff Report with project update
March 7, 2023 – BNSF Surface Crossing Installation Agreement
March 7, 2023 – Construction Phase Services Amendment
February 1, 2022 – Engineering Services Contract

APPROVED OR DIRECTION GIVEN:

Items were reviewed and approved as applicable.

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

Funding for the additional paving work and as described in this memo is provided by ITD as outlined in the Cooperative Agreement. This Agreement authorizes a lump sum payment to the City of Post Falls in the amount of \$700,000.

BUDGET CODE:

001-431.1811.95040

ATTACHMENTS:

1. 6-18-24 Spokane Street Rehabilitation - ITD Paving
2. Spokane Street Resurfacing-I-90 to Seltice Way - Cith of Post Falls

Spokane Street Reconstruction Extension of Paving Limits

Andrew Arbini
Projects Division Manager, Public Works
June 18, 2024

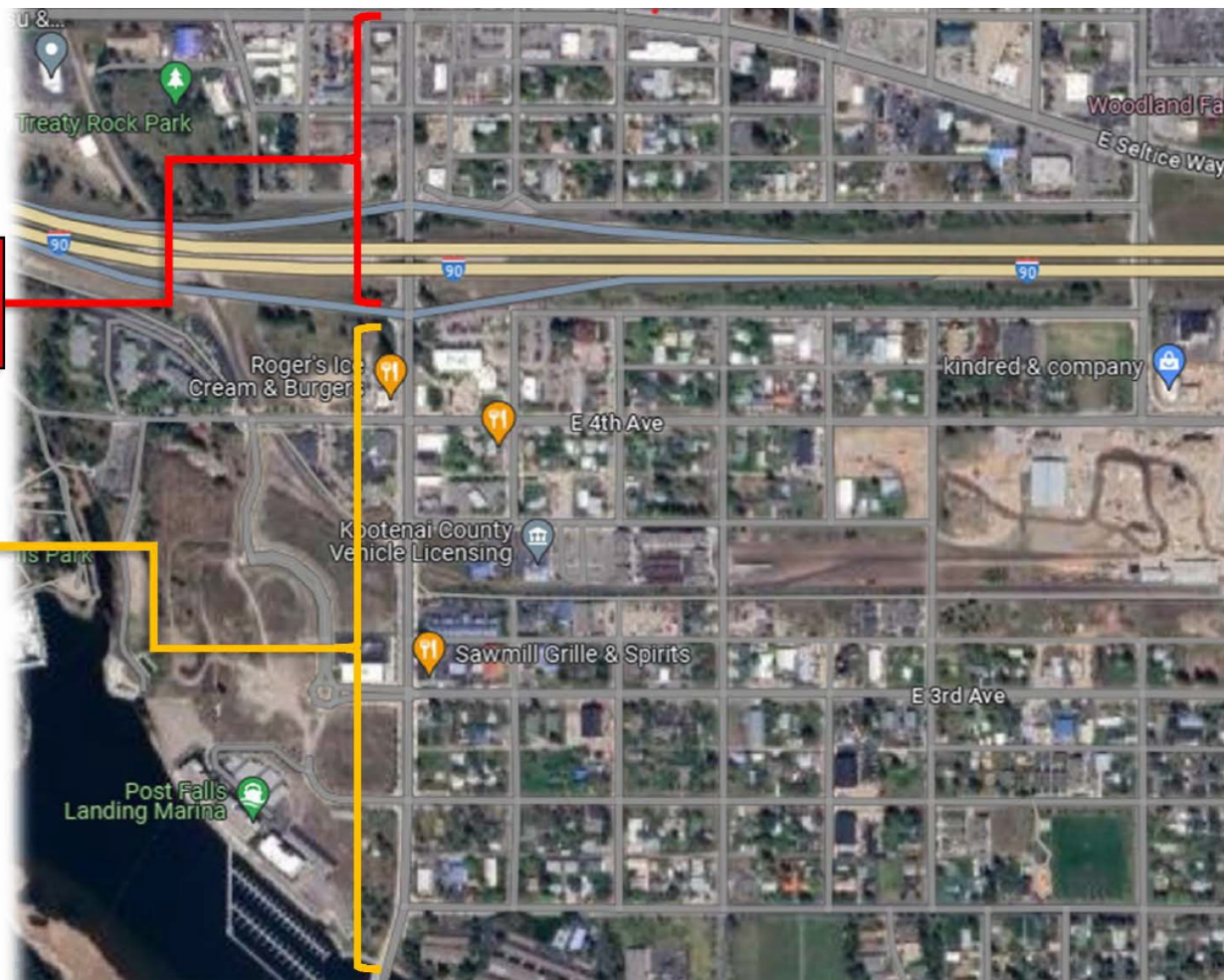


Original Project Limits



Funded with \$1.17 Million ITD Strategic Initiatives Grant (FY 2024)

Proposed Paving Limits



D1 Pavement
Restoration Work

City of Post Falls
LTGP Grant



- I-90 to Seltice Way
- Pavement is in poor condition
- Requested and funded by ITD

Summary

3C: ITD payment for additional work : \$700,000

4C: Contract Amendment for Design and Construction Management: \$90,000

Next Steps:

- Design and negotiate construction change order with the contractor
- Staff recommendation or status update at a future Council Meeting

Projects Timeline



Spokane Street Rehabilitation

Start Construction: July 2024

Project completion: October 2024

Post Falls Highway District Bridge Project

Start Construction: May 6, 2024

Project completion: October 2024

Questions



**COOPERATIVE AGREEMENT
SPOKANE STREET RESURFACING – I-90 TO SELTICE WAY
POST FALLS,
KOOTENAI COUNTY**

PARTIES

THIS COOPERATIVE AGREEMENT is made and entered into this ____ day of _____, 2024, by and between the **IDAHO TRANSPORTATION DEPARTMENT**, hereafter called ITD, and the **City of Post Falls**, hereafter called the City.

PURPOSE

The City of Post Falls is resurfacing Spokane Street (SMA-7505) south of Interstate 90, to the Spokane River. To address current surfacing failures, ITD has requested that the City expand their project to include resurfacing the Interstate 90 Business Loop portion of Spokane Street (0.28 miles) from, and including the I-90 interchange up to Seltice Way, but not to include the intersection of Seltice Way and Spokane Street. This agreement will set out the terms and conditions for the work, standards and materials, and funding.

Authority for this Agreement is established by Section 40-317, Idaho Code.

SECTION I. That ITD will:

1. Upon execution of this Agreement, pay the City the lump sum of \$700,000.00 to be ITD's portion of the cost for materials and labor for roadway improvements. Exhibit "A" shows project extents.
2. Designate personnel, as ITD deems necessary, to inspect the improvements to Spokane Street in accordance with the City's plans and specifications.
3. Provide any additional funding to address unforeseen conditions requiring additional expense to complete the State's improvements identified in the purpose and shown on the City's construction plans thereof.

SECTION II. That the City will:

1. Program construction of roadway surfacing improvements on Spokane Street as described in the Purpose Section above and execute all necessary agreements and permits.
2. Roadway resurfacing shall include confirmation and correction, if necessary, of adjoining pedestrian ramps to comply with current PROWAG standards. Work does not include modification or revisions to existing traffic signals, pedestrian signals or push buttons.

3. Provide ITD with construction plans which meet City Standard Specifications.
4. Notify ITD of any planned changes or modification to the approved plans.
5. Notify ITD when roadway improvements are complete. Allow ITD to inspect the road upon completion and agree to correct or fix any issues related to construction that does not meet City standards.
6. Ensure Spokane Street is safe and passable for highway traffic detoured during construction, including coordination with the I90/SH41 Interchange project (KN20442).

SECTION III. It is agreed that:

1. ITD will pay their portion of the project costs upon execution of this Agreement.
2. Sufficient Appropriation. It is understood and agreed that ITD and the City are governmental agencies, and this Agreement shall in no way be construed so as to bind or obligate ITD or the City beyond the term of any particular appropriation of funds by the Federal Government, the State Legislature or the City of Post Falls as may exist from time to time. ITD and the City reserve the right to terminate this Agreement if, in either agency's sole judgement, the Federal Government, legislature of the State of Idaho, or the City of Post Falls City Council fails, neglects, or refuses to appropriate sufficient funds as may be required for ITD or the City. Any such termination shall take effect immediately upon notice and be otherwise effective as provided in this Agreement.
3. This Agreement shall become effective on the first date mentioned above and shall remain in full force and effect until amended or replaced upon the mutual consent of ITD and the City.

[The remainder of this page is intentionally left blank.]

EXECUTION

This Agreement is executed for ITD by its District Engineer, and executed for the City, by its Mayor and City Clerk, all of whom are authorized signatories for their respective agencies.

IDAHO TRANSPORTATION DEPARTMENT



Damon Allen, P.E.
District Engineer

CITY OF POST FALLS

Ronald G. Jacobson
Mayor

Shannon Howard
City Clerk

EXHIBIT "A"



CITY OF POST FALLS
AGENDA REPORT
UNFINISHED BUSINESS/RETURNING ORDINANCES AND RESOLUTIONS
MEETING DATE: 6/18/2024

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Andrew Arbini, Projects Division Manager

SUBJECT: Spokane Street Rehabilitation, Engineering Services Contract Amendment

ITEM AND RECOMMENDED ACTION:

City Council approves and authorizes the Mayor to sign the Amendment with Welch Comer Engineers for design and Construction Management Services to extend the project paving limits as agreed to in the Cooperative Agreement with the Idaho Transportation Department (ITD).

DISCUSSION:

In March, the city opened construction bids for the Spokane Street Rehabilitation project funded by the Strategic Initiatives Grant. Following the construction contract award, ITD approached the city with a proposal to extend the Spokane Street Paving limits to include the section of Spokane Street between Seltice Way and the I-90 Eastbound ramps. ITD is the responsible entity for maintenance of this section of street. Adding this work to the city's project will rehabilitate this section of street as a single project, benefiting both ITD and the city.

This Amendment with Welch Comer includes the engineering and construction management phase services needed to add this work to the city's original project. This amendment is a lump sum total in the amount of \$90,000. The cost of this agreement will be reimbursed with the funds specified in the Cooperative Agreement with ITD, a separate agenda item presented concurrently.

Following Council approval of the Cooperative Agreement and this contract Amendment, the city and Welch Comer will negotiate a change order with the city's contractor. Following a review and final approval by ITD, city staff will present a change order recommendation or status update at a future City Council meeting. Project completion is anticipated by the end of the 2024 construction season.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

May 7, 2024 - Staff Report and Project Update
April 7, 2024 - Engineering Services Contract Amendment
February 6, 2024 - Strategic Initiatives Grant Award
July 18, 2023 - Staff Report with Project Update
March 7, 2023 - BNSF Surface Crossing Installation Agreement
March 7, 2023 - Construction Phase Services Amendment
February 1, 2022 - Engineering Services Agreement

APPROVED OR DIRECTION GIVEN:

Items were reviewed and approved as applicable.

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

Council approval is requested in the total amount of \$90,000. Funding for this work is provided entirely by ITD.

BUDGET CODE:

001-431.1811.95040

ATTACHMENTS:

1. Additional Services Agreement No. 5

Authorization for Additional Services Amendment 5

The Effective Date of this Authorization is: _____

Background Data:

Effective Date of Owner-Engineer Agreement: February 1, 2022

Owner: City of Post Falls, Idaho

Engineer: Welch Comer & Associates, Inc.

Project: Spokane Street Rehabilitation

Description of Additional Services:

1. Design Services – Spokane St Extension to Seltice Way

- A. Pre-Design/Pre-Construction Conference: Facilitate a Pre-Design/Pre-Construction Conference prior to commencement of Work at the Site. Attendees to include ITD, Owner, Contractor, and Engineer. Topics will include project items such as: public outreach strategy, team communication, traffic control options, and schedule.
- B. Survey: No design topographic survey is required. Aerial imagery will be used for design documents. It is assumed that Contractor will reference and replace the roadway surface to maintain existing drainage patterns.
- C. Geotechnical Engineering: No Geotech is required. The Owner will provide the desired roadway section materials and thicknesses, or, the existing road section will be matched.
- D. ADA Ramp Field Investigation: Engineer will physically measure each pedestrian ramp for current ADA compliance. Those outside of current requirements will be upgraded. It is assumed all existing ramps that need to be upgraded can be done within the existing Right of Way.
- E. Rehab Design: Existing conditions will be shown on aerial imagery. These design plans will be accompanied by typical sections and details as necessary. Plans will show project limits, approximate roadway widths, ADA ramps to be replaced, and any minor curb/sidewalk modifications. It is assumed only horizontal information will be provided.
- F. Specifications: Using EJCDC & ISPWC specifications, Engineer will amend current specifications, as necessary, to clearly describe project requirements.
- G. Traffic Control During Construction: Provide plans in accordance with City of Post Falls and MUTCD requirements. It is assumed that one (1) round of comments from the Owner, ITD, and the Contractor, and corresponding revisions will be sufficient.
- H. Stormwater Pollution Prevention Plan: It is assumed that the Contractor will amend the current SWPPP in accordance with the applicable City, State, and Federal requirements. Engineer will assist Contractor with SWPPP amendments as needed.
- I. Assumptions:
 - a) Any ADA upgrades are limited to the pedestrian ramps only. Signal pushbutton upgrades are not included.

- b) Direct coordination between the Engineer and ITD is excluded unless noted otherwise. Owner will perform any additional coordination with ITD.
- c) City of Post Falls construction standards shall be used. ITD standards will not be required.
- d) Owner will provide ITD staff contact information to Engineer.

2. Construction Phase Services (CPS)

- A. General Administration of Construction Contract: Consult with Owner and act as Owners's Engineering representative.
- B. Construction Surveying: No construction surveying is included in this scope of work. However, up to four (4) hours of office time and four (4) hours of field survey time are included for miscellaneous survey needs.
- C. Site Visits and Construction Observation: Expand the scope of construction observation to include observation of up to fifteen (15) working days or working nights of additional construction duration. The scope of construction observation services shall remain as noted in prior Amendments, with the following modifications.
 - a) Engineer shall separate payment quantities related to work in the ITD Right-of-Way from quantities related to work in the Owner's Right-of-Way and prepare brief funding breakdowns accompanying each pay request noting items and amounts to be reimbursed from ITD to Owner.
- 2. Substantial Completion: Promptly after notice from Contractor that Contractor considers the entire work ready for its intended use, in company with Owner, ITD, and Contractor, conduct an inspection to determine if the work is substantially complete. If after considering any objections of Owner and/or ITD, Engineer considers the work substantially complete, Engineer shall deliver a certificate of substantial completion to Owner, ITD, and Contractor.
- 3. Duration of Construction Phase: The scope of services and associated estimation of man-hours and expenses which established the Engineer's budget are based upon a construction contract period of ten (10) working days and five (5) working nights. It is also based on RPR services being provided an average of 45 hours per week. Should the contract times be extended by the Owner, or if the Engineer is directed to work additional hours per week, Engineer may request a Supplemental Agreement for additional budget required for services during the extended periods. The Engineer shall additionally participate within a one (1) year warranty walk-through of the project and compile and issue a letter to the contractor of any deficiencies identified as part of the warranty walk-through.
- 4. Produce an engineer's certification letter for the project, distributing to Owner and to ITD. As-built drawings of the scope described in this amendment are not included.

Description of Modification of Payment to Engineer:

Owner shall pay Engineer for services described on a lump sum basis as follows:

Phase	Payment Type	Amount
Design Phase Services	Lump Sum	\$40,000
Construction Phase Services	Lump Sum	\$50,000

The Lump Sum portion of the compensation amount billed monthly for Engineer's Services will be based upon Engineer's estimate of the percentage of the total Services actually completed during the billing period.

Engineer may alter the distribution of compensation between individual phases of the work to be consistent with services actually rendered but shall not exceed the total estimated compensation amount unless approved in writing by Owner.

Agreement Summary:

Original Agreement amount:

Design Phase (Lump Sum)	\$	26,500.00
Railroad Coordination (Hourly)	\$	22,400.00
Amendment 1 (Lump Sum)	\$	4,000.00
Amendment 2 (Hourly)	\$	96,000.00
Amendment 3 (Lump Sum) amount:	\$	4,000.00
Amendment 4 (Hourly) amount:	\$	21,250.00
Amendment 5 (Lump Sum) amount:	\$	90,000.00

Adjusted Agreement amount: **\$ 264,150.00**

Owner and Engineer hereby agree to modify the above-referenced Agreement as set forth in this Authorization. All provisions of the Agreement not modified by this or previous Amendments remain in effect. Welch Comer & Associates, Inc is authorized to perform the work described in this Amendment.

OWNER: City of Post Falls

ENGINEER: Welch Comer & Associates, Inc.

By: _____

By:  _____

Print name: Ronald G. Jacobson

Print name: Matt Gillis, P.E.

Title: Mayor

Title: Vice President

Date Signed: _____

Date Signed: 05/14/2024

PM Approval: MRG

CITY OF POST FALLS
AGENDA REPORT
UNFINISHED BUSINESS/RETURNING ORDINANCES AND RESOLUTIONS
MEETING DATE: 6/18/2024

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: Jonathon Manley, Planning Manager
SUBJECT: Landmark Place Annexation Ordinance File No. ANNEX-23-2019

ITEM AND RECOMMENDED ACTION:

Review and approve the submitted annexation ordinance that corresponds with file no. ANNEX-23-2019

DISCUSSION:

In 2019, the applicant is sought annexation of approximately 11 acres located north of Centennial Trail, south of I-90 and east of McGuire Road (major collector). The land is currently vacant without any significant topology or vegetation. The applicant sought Single-Family (R-1) zoning in an area with single family zoning to the north and northwest, industrial zoning to the northeast and RMPH (mobile home park) to the southeast. The Future Land Use Map designation for the area is Residential at the time of application. Water and sewer service is to be provided by the City of Post Falls. The City Council approved this request on August 9th, 2019 and the Reasoned Decision on October 1st, 2019.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

The City Council approved this request on August 9th, 2019 and the Reasoned Decision on October 1st, 2019.

APPROVED OR DIRECTION GIVEN:

The submitted ordinance is consistent with the Reasoned Decision on October 1st, 2019.

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

NA

BUDGET CODE:

NA

ATTACHMENTS:

1. Landmark Annexation Ordinance

ORDINANCE NO.____

ANNEXATION & ZONE CLASSIFICATION OF PROPERTY

All that certain real property being parcels 50N05W-04-3975 & a portion of 50N05W-04-4425 in the Northwest Quarter of Section 4, Township 50 North, Range 5 West, Boise Meridian in the County
11.148 acres generally located along the east side of North McGuire Road; south of I-90 and along the north side of the Centennial Trail.
(File No. ANNX-0003-2019)

AN ORDINANCE OF THE CITY OF POST FALLS, A MUNICIPAL CORPORATION OF THE STATE OF IDAHO ANNEXING PARCELS 50N05W-04-3975 & A PORTION OF 50N05W-04-4425 CONSISTING OF APPROXIMATELY 11.148 ACRES, LOCATED IN THE NORTHWEST QUARTER OF SECTION 4, TOWNSHIP 50 NORTH, RANGE 5 WEST, BOISE MERIDIAN, KOOTENAI COUNTY, IDAHO AND ZONING THE ANNEXED PROPERTY AS LOW DENSITY SINGLE-FAMILY RESIDENTIAL (R-1); PROVIDING FOR THE AMENDMENT TO THE OFFICIAL ZONING MAP; AND PROVIDING FOR AN EFFECTIVE DATE HEREOF:

WHEREAS, the owners of the real property described in Section 1 of this ordinance requested that the City Council of the City of Post Falls annex the property.

WHEREAS, public hearings were held before both the Planning and Zoning Commission on July 9, 2019 and the City Council August 20, 2019, in accordance with law and a Reasoned Decision was reached; and

WHEREAS, the City Council has determined that the land in question adjoins the city limits and that R-1 zoning is suitable and compatible with surrounding land uses and provisions of the Post Falls Comprehensive Plan and that said land uses would fit in with the general development of the City and would be in the best interest of the City of Post Falls.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF POST FALLS, IDAHO, AS FOLLOWS:

SECTION 1: That the property legally described in Exhibit A and depicted in Exhibit B, which is adjacent and contiguous to the City of Post Falls, is hereby annexed into the City of Post Falls.

SECTION 2: That the lands described in Section 1 of this Ordinance are hereby zoned Low Density Single-Family Residential (R-1). Further, the Official Zoning Map of the City of Post Falls will be modified to include the annexed property within the City and to reflect the assigned zoning district.

SECTION 3: That this Ordinance takes effect upon its passage and publication according to law.

Enacted as an ordinance of the City of Post Falls, Idaho, at a meeting of the City Council held on the _____ day of _____, 2024.

CITY OF POST FALLS

BY: _____
Ronald G. Jacobson, MAYOR

ATTEST

BY: _____
Shannon Howard, CITY CLERK

SUMMARY OF POST FALLS ORDINANCE NO. _____

The City of Post Falls, Kootenai County, Idaho hereby gives notice of the adoption of Post Falls Ordinance No. _____, annexing parcels 50N05W-04-3975 & a portion of 50N05W-04-4425 consisting of approximately 11.148 acres, located in the Northwest Quarter of Section 4, Township 50 North, Range 5 West, Boise Meridian, Kootenai County, Idaho and zoning said annexed property as Low Density Single-Family Residential (R-1) as more fully described in Exhibit A; providing repeal of conflicting ordinances and providing severability. The ordinance is effective upon publication of this summary. The full text of Ordinance No. _____ is available at Post Falls City Hall, 408 Spokane Street, Post Falls, ID 83854 in the office of the city clerk.

Shannon Howard, City Clerk

Publish once in the City's official newspaper.

STATEMENT OF LEGAL ADVISOR

I, Field K. Herrington, am legal advisor for the City of Post Falls, Idaho. I have examined the attached summary of Post Falls Ordinance No. _____, annexing real property and find it to be a true and complete summary of said ordinance which provides adequate notice to the public of the contents thereof.

DATED this day of , 2024.

Field K. Herrington, City Attorney

Exhibit 'A'

Annexation of Parcels 50N05W-04-3975 & A Portion of 50N05W-04-4425

Legal Description

All that certain real property located in the Northwest Quarter, Section 4, T50N, R5W, B.M., Kootenai County, Idaho, more particularly described as follows:

Commencing at the West Quarter corner of said Section 4;

Thence N 66° 46' 23" E, 2,661.14 feet, to a monument stamped "Idaho State Highway 198+00 221.65R Right-Of-Way", marking a point of the southerly Right-Of-Way of Interstate Highway 90; Thence, along said southerly Right-Of-Way, S 78°15'01" W, 9.14 feet to the westerly line of that parcel of land described as "Exception to Parcel II of Warranty Deed", Instrument No. 1648584, records of Kootenai County, and the **Point of Beginning**;

Thence along said westerly line, S 19°35'12" E, 115.84 feet to the northerly line of the abandoned C.M.S.P.R.R. as shown on that Record of Survey filed in Book 30, Page 204, records of Kootenai County;

Thence, coincident with said northerly line the following five (5) courses;

- 1) S 71°53'39" W, 972.56 feet to the beginning of a curve, concave northwesterly, having a radius of 5,680.00 feet;
- 2) Southwesterly along said curve, 236.49 feet, having a chord of S 73°05'13" W, 236.47 feet;
- 3) N 1°20'20" E, 20.92 feet to the beginning of a non-tangent curve, concave northwesterly, having a radius of 5,660.00 feet;
- 4) From a tangent line having a bearing of S 74°13'03" W, southwesterly along said curve, 708.61 feet, having a chord of S 77°48'15" W, 708.15 feet;
- 5) S 81°23'27" W, 609.18 feet to the easterly Right-Of-Way of McGuire Road;

Thence, leaving said northerly line, N 89°03'01" W, 50.00 feet to the westerly Right-of Way of said McGuire Road;

Thence along said westerly Right-of Way N 0°56'59" E, 191.11 feet;

Thence leaving said westerly Right-of-Way S 89°03'01" E, 50.00 feet to said easterly Right-of-Way and the southerly Right-Of-Way of Interstate Highway No. 90;

Thence, coincident with said southerly Right-Of-Way, the following three (3) courses;

- 1) N 79°26'48" E, 1318.46 feet;
- 2) N 10°26'13" W, 36.58 feet to a monument stamped "Idaho State Highway 186+69.82 259.82R Right-Of-Way";
- 3) N 78° 15'01" E, 1136.93 feet to the **Point of Beginning**.

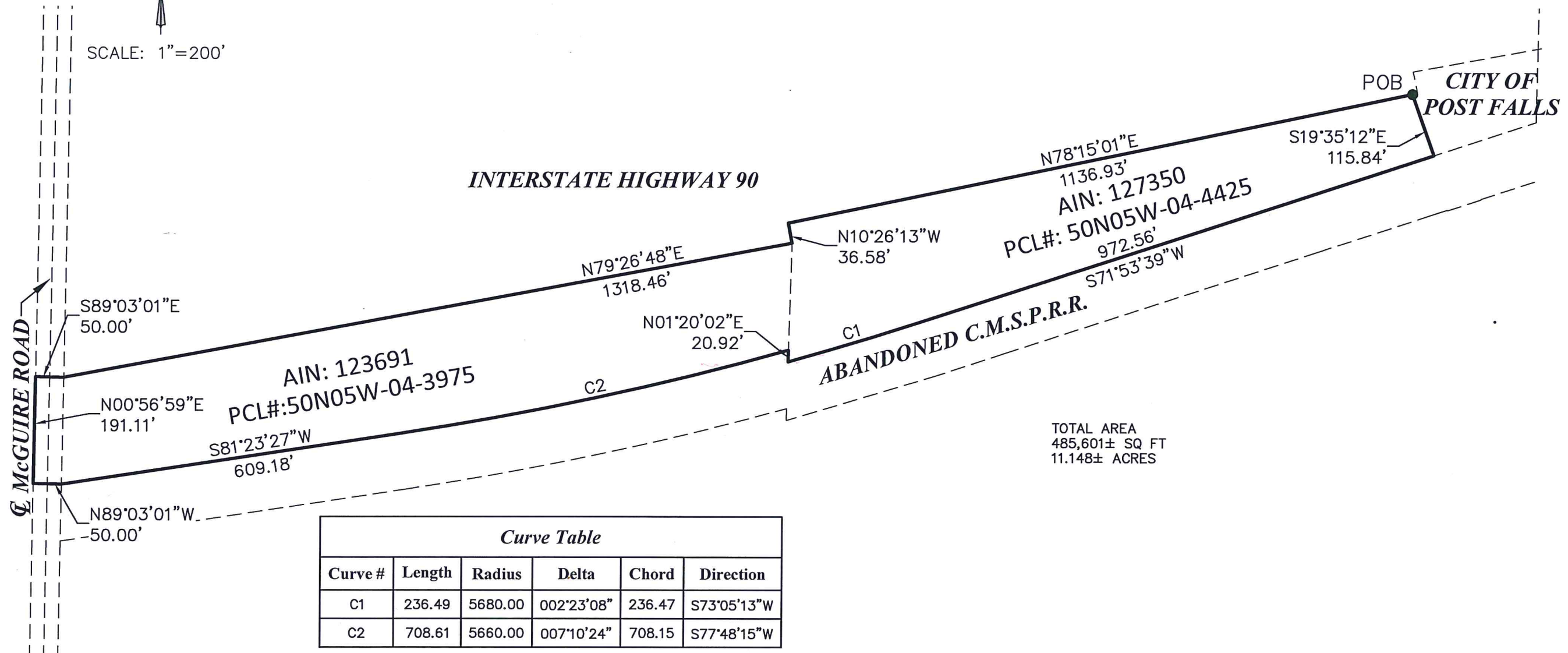
Containing 485,601 sq. ft., 11.148 acres, more or less

EXHIBIT B ANNEXATION

PORTION OF THE NORTHWEST QUARTER OF SECTION 4,
TOWNSHIP 50 NORTH, RANGE 5 WEST, BOISE MERIDIAN,
KOOTENAI COUNTY, IDAHO



SCALE: 1"=200'



Curve Table

Curve #	Length	Radius	Delta	Chord	Direction
C1	236.49	5680.00	002°23'08"	236.47	S73°05'13"W
C2	708.61	5660.00	007°10'24"	708.15	S77°48'15"W

609 N. Calgary Court, Suite 7,
Post Falls, Idaho 83854
PHONE: (208) 777-1854
FAX: (208) 777-2128
www.acesolutions.pro



ISSUE DATE:	DRAWN BY: BLO
PROJ. # 19-029	SCALE: 1"=200'
DWG FILE: 19-029 Legal Exhibit	PLT DATE: 8/26/19
SHEET TITLE:	EXHIBIT B ANNEXATION

Z:\2019\19029 LANDMARK PLACE\DWG\SURVEY\CALC\19-029 LEGAL EXHIBIT.DWG

**CITY OF POST FALLS
AGENDA REPORT
NEW BUSINESS
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: Jason Faulkner, Finance Director
SUBJECT: Accounts Receivable Write-Offs

ITEM AND RECOMMENDED ACTION:

Approve staff to write off various balances in Accounts Receivable.

DISCUSSION:

There are various items in accounts receivable that are from 2007 to 2021 and are deemed uncollectible.

Business Licenses: \$50.00
Misc - A/R \$250.00
Park Fees \$9,380.00
PD Reimbursements: \$2,500.00
Sewer Cap Fees: \$660.48
Water Tower Rent: \$101.13

1. Business licenses for \$50.00 are from 2017 and no longer invoiced through A/R.
2. Miscellaneous A/R of \$250.00 is from 10/9/2009.
3. Park fees invoiced for \$9,380 are related to unpaid sports field usage and range from 9/8/2014 until 10/15/2020.
4. PD Reimbursements of \$2,500.00 are invoices to other entities for usage of the License Plate Recognition Database from 2017, 2018, and 2020.
5. Sewer Cap Fees of \$660.48 have been collected and are no longer invoices through A/R. Sewer Cap Fee agreements are invoiced through Utility Billing for tracking and collecting.
6. Water Tower Rent of \$101.13 is dated from 3/18/2016. All water tower cell phone rent has been collected. Payment just wasn't applied against A/R.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

N/A

APPROVED OR DIRECTION GIVEN:

Staff recommendation that the A/R balances are written off, as presented.

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

\$12,941.61

BUDGET CODE:

Various

ATTACHMENTS:

None

**CITY OF POST FALLS
AGENDA REPORT
NEW BUSINESS
MEETING DATE: 6/18/2024**

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: Field Herrington, City Attorney
SUBJECT: Aggressive Solicitation Ordinance

ITEM AND RECOMMENDED ACTION:

Aggressive Solicitation Ordinance to fix conformity with Idaho Statute. Staff recommends adoption of the ordinance.

DISCUSSION:

This update re-inforces a reference in PFMC that cites the amended Idaho Code. New language will now account for subsequent amendments and clarify the ordinance's intent.

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

This item has not been previously reviewed by the council.

APPROVED OR DIRECTION GIVEN:

N/A

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

There does not appear to be a fiscal impact as the ordinance merely corrects language and statutory references.

BUDGET CODE:

N/A

ATTACHMENTS:

1. 2024.06.11 ORD Aggressive Solicitations

ORDINANCE NO. [Category]

AN ORDINANCE OF THE CITY OF POST FALLS, KOOTENAI COUNTY, A MUNICIPAL CORPORATION OF THE STATE OF IDAHO, REPEALING AND REPLACING SECTION 9.20.010 A. RELATING TO SOLICITATION; PROVIDING THAT REMAINING SECTIONS OF POST FALLS CITY CODE SHALL REMAIN IN EFFECT; PROVIDING FOR SEVERABILITY; PROVIDING FOR THIS ORDINANCE TO BE IN FULL FORCE AND EFFECT FROM AND AFTER ITS PASSAGE, APPROVAL, AND PUBLICATION ACCORDING TO LAW.

WHEREAS, the Mayor and City Council find that it is in the public's interest to update the Post Falls Municipal Code reference to Idaho State law's definition of highways for purposes of prohibitions on aggressive solicitation practices; and

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Council of the City of Post Falls as follows:

SECTION 1. That Post Falls Municipal Code Section 9.20.010 A. is hereby repealed and replaced as follows:

9.20.010. PROHIBITING AGGRESSIVE SOLICITATION PRACTICES AND SOLICITATION OF FUNDS FROM OCCUPANTS OF MOTOR VEHICLES:

A. Solicitation of vehicle occupants is prohibited in public highway right-of-way open to vehicular traffic. It shall be unlawful for any person to solicit business or contributions from the occupants of any vehicle on a highway, as defined in Idaho Code § 49-109(4), or its successor.

SECTION 2. All provisions of the current Post Falls Municipal Code or ordinances of the City of Post Falls and parts of ordinances in conflict with this ordinance are hereby repealed to the extent of such conflict.

SECTION 3. Neither the adoption of this ordinance nor the repeal of any ordinance shall, in any manner, affect the prosecution for violation of such ordinance committed prior to the effective date of this ordinance or be construed as a waiver of any license or penalty due under any such ordinance or in any manner affect the validity of any action heretofore taken by the City of

Post Falls City Council or the validity of any such action to be taken upon matters pending before the City Council on the effective date of this ordinance.

SECTION 4. The provisions of this ordinance are severable and if any provision, clause, sentence, subsection, word, or part thereof is held illegal, invalid, or unconstitutional or inapplicable to any person or circumstance, such illegality, invalidity or unconstitutionality or inapplicability shall not affect or impair any of the remaining provisions, clauses, sentences, subsections, words or parts of this ordinance or their application to other persons or circumstances. It is hereby declared to be the legislative intent that this ordinance would have been adopted if such illegal, invalid, or unconstitutional provision, clause sentence, subsection, word, or part had not been included therein, and if such person or circumstance to which the ordinance or part thereof is held inapplicable had been specifically exempt therefrom.

SECTION 5. After its passage and adoption, a summary of this Ordinance, under the provisions of the Idaho Code, shall be published once in the official newspaper of the City of Post Falls, and upon such publication shall be in full force and effect.

Passed under suspension of rules upon which a roll call vote was duly taken and duly enacted an Ordinance of the City of Post Falls at a regular session of the City Council on June ____ 2024.

APPROVED, ADOPTED and SIGNED this day of June, 2024.

Ronald G. Jacobson, Mayor

ATTEST:

Shannon Howard, City Clerk

SUMMARY OF POST FALLS ORDINANCE NO. [Category]

AN ORDINANCE OF THE CITY OF POST FALLS, KOOTENAI COUNTY, A MUNICIPAL CORPORATION OF THE STATE OF IDAHO, REPEALING AND REPLACING SECTION 9.20.010 A. RELATING TO SOLICITATION; PROVIDING THAT REMAINING SECTIONS OF POST FALLS CITY CODE SHALL REMAIN IN EFFECT; PROVIDING FOR SEVERABILITY; PROVIDING FOR THIS ORDINANCE TO BE IN FULL FORCE AND EFFECT FROM AND AFTER ITS PASSAGE, APPROVAL, AND PUBLICATION ACCORDING TO LAW.

The City of Post Falls, Kootenai County Idaho hereby gives notice of the adoption of Post Falls Ordinance No. [Category], which repeals and replaces PFMC 9.20.010 A. relating to solicitation of vehicle occupants; providing repeal of conflicting ordinances and providing severability. The ordinance is effective upon publication of this summary. The full text of Ordinance No. [Category] is available at Post Falls City Hall, 408 Spokane Street, Post Falls, ID 83854 in the office of the City Clerk. Dated this ____ day of June, 2024.

/s/

Shannon Howard, City Clerk

STATEMENT OF LEGAL ADVISOR

I, Field K. Herrington, the legal advisor for the City of Post Falls, I have examined the attached summary of Ordinance No. [Category], which repeals and replaces PFMC 9.20.010 A. relating to solicitation of vehicle occupants, and find it to be a true and complete summary of said ordinance and provides adequate notice of the contents to the public.

Dated this ____ day of June, 2024.

Field K. Herrington, City Attorney

CITY OF POST FALLS
AGENDA REPORT
ADMINISTRATIVE / STAFF REPORTS
MEETING DATE: 6/18/2024

TO: HONORABLE MAYOR AND CITY COUNCIL
FROM: Robbie Quinn, Parks Planner
SUBJECT: Black Bay Construction Update

ITEM AND RECOMMENDED ACTION:

Parks staff will update the Mayor and City Council on the ongoing construction at Black Bay Park. Discussions will include completed construction tasks, current and future tasks, project delays, and anticipated construction completion timelines.

DISCUSSION:

N/A

ITEM / PROJECT PREVIOUSLY REVIEWED BY COUNCIL ON:

N/A

APPROVED OR DIRECTION GIVEN:

N/A

FISCAL IMPACT OR OTHER SOURCE OF FUNDING:

N/A

BUDGET CODE:

N/A

ATTACHMENTS:

None