



PARKS & PUBLIC WORKS COUNCIL COMMITTEE & COMMITTEE OF THE WHOLE HYBRID MEETING

Tuesday, October 03, 2023, at 5:00 PM

Snoqualmie City Hall, 38624 SE River Street & Zoom

COMMITTEE MEMBERS

Ethan Benson, Chair

Bryan Holloway, Councilmember

Jolyon Johnson, Councilmember

This meeting will be conducted in person and remotely using teleconferencing technology provided by Zoom.

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CALL TO ORDER & ROLL CALL

AGENDA APPROVAL

PUBLIC COMMENTS

MINUTES

1. Approval of minutes dated September 19, 2023.

AGENDA BILLS

2. **AB23-110:** Eagle Lake Water Reclamation Basin Improvements Amendment to RH2 Services Agreement

DISCUSSION

3. Presentation: CIP Project Update
4. The Line at Snoqualmie Point Park Update
5. Totem History and Sign Board
6. Solid Waste RFQ & Rate Increase
7. Council Priority Tracker
8. Community Center Update

ADJOURNMENT



PARKS & PUBLIC WORKS COUNCIL COMMITTEE & COMMITTEE OF THE WHOLE HYBRID MEETING MINUTES SEPTEMBER 19, 2023

This meeting was conducted in person and remotely using teleconferencing technology provided by Zoom

CALL TO ORDER

Chair Ethan Benson called the meeting to order at 5:00 pm.

Committee Members: Councilmembers Ethan Benson, Bryan Holloway, and Jo Johnson (remote) were present.

Mayor Katherine Ross was also present.

City Staff:

Mike Chambless, Interim City Administrator; Deana Dean, City Clerk; Patrick Fry, Project Engineer; Jeff Hamlin, Interim Parks & Public Works Director; Nicole Wiebe, Community Liaison; Don Harris, Fleet and Facilities Supervisor; Brian Lynch, Interim Police Chief; Janna Walker, Budget Analyst; and Andy Latham, IT Support.

AGENDA APPROVAL – The agenda was approved as presented.

PUBLIC COMMENTS – There was no public comment.

MINUTES

1. The minutes from the September 6, 2023, meeting were approved as presented.

AGENDA BILLS

2. **AB23-116:** Resolution xxxx Declaring Surplus Property and Authorizing the Sale of City Property. Interim Chief Lynch spoke to this item indicating the jail transport van is no longer being used and of no use to the department. Don Harris, Fleet and Facilities Supervisor, spoke to the lifecycle and value of the vehicle. Discussion and committee questions followed. This item is approved to move forward at the September 25, 2023, City Council meeting on the consent agenda.
3. **AB23-117:** Resolution No. xxxx Awarding the 2023 Sidewalk Repair & Replacement Project to RRJ Company LLC. Patrick Fry, Project Engineer, reviewed this item and locations of proposed sidewalk replacements. RRJ Company is the lowest bidder at \$173,912. Discussion followed including ranking of sidewalk repairs based on severity. Committee questions answered by Patrick Fry, Mike Chambless, and Jeff Hamlin. This item is approved to move forward at the September 25, 2023, City Council meeting on the consent agenda.

DISCUSSION

4. **AB23-114:** Old Library Future Use. Nicole Wiebe, Community Liaison, spoke to this item including the history of the old library building, current use, and a proposed RFP for future uses. Discussion followed with Nicole and Mike Chambless answering committee questions. This matter may be brought back to this committee for future action or discussion.
5. Community Center Update. Mike Chambless, Interim City Administrator, provided an update via PowerPoint presentation including conceptual design option #6 and floor plan. Design discussions will continue as well as a site visit to the Skagit YMCA in Mount Vernon. This matter may be brought to Council once the phasing plan is developed.
6. Director Reports: Interim Parks and Public Works Director Jeff Hamlin provided updates on the following:
 - a. Staffing – Two vacancies in water and two in wastewater. Interviews will occur this week for parks employees. They are continually trying to get fully staffed. They recently promoted two employees, Tim Barrett to Parks Supervisor, and Ryan Barnett to Parks Lead.
 - b. Project status – Parkway paving is complete with a few things still to do including striping which will be done within the next two weeks, and the ADA features are nearly complete. Williams Addition on 384th is waiting on parts. They are finishing street trees on Autumn and a notice to proceed hopefully this week on Sandy Cove. There is a project currently underway to repair two bridges/culverts on Meadowbrook, hoping to bid in the spring.

ADJOURNMENT - The meeting was adjourned at 5:58 pm.

Minutes taken by Deana Dean, City Clerk.

Recorded meeting audio is available on the City website after the meeting.

Minutes approved at the _____ Parks & Public Works Committee Meeting.



BUSINESS OF THE CITY COUNCIL CITY OF SNOQUALMIE

AB23-110
October 9, 2023

Choose an item.

Item 2.

AGENDA BILL INFORMATION

TITLE:	AB23-110: Eagle Lake Water Reclamation Basin Improvements Amendment to RH2 Services Agreement	<input type="checkbox"/> Discussion Only
PROPOSED COUNCIL ACTION:	Approve an amendment to the agreement with RH2 Engineering for design services	<input checked="" type="checkbox"/> Action Needed: <input checked="" type="checkbox"/> Motion <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution

REVIEW:	Department Director/Peer	Jeff Hamlin	9/27/2023
	Finance	Janna Walker	9/27/2023
	Legal	David Linehan	9/28/2023
	City Administrator	Mike Chambless	Click or tap to enter a date.

DEPARTMENT:	Parks & Public Works		
STAFF:	Andrew Vining		
COMMITTEE:	Parks & Public Works	COMMITTEE DATE: October 3, 2023	
MEMBERS:	Bryan Holloway	Ethan Benson	Jo Johnson
EXHIBITS:	1. Amendment to Rh2 Services Agreement 2. Map - Class A Reclaimed Water Distribution System 3. Reclaimed Water Distribution System Engineering Report- Preliminary 4. CIP Excerpt – Eagle Lake Water Reclamation Basin Improvements Project		

AMOUNT OF EXPENDITURE	\$ 658,722
AMOUNT BUDGETED	\$ 321,000
APPROPRIATION REQUESTED	\$ \$444,192

SUMMARY

INTRODUCTION

This agenda bill seeks to amend the existing services agreement with RH2 Engineering to design and permit a new reclaimed water reservoir and update the reclaimed water system plan. The City produces and distributes Class A reclaimed water during dry season months for reuse as irrigation supply. This reclaimed water improvement project will upgrade the dated reclaimed water distribution system and bring it in to compliance with the Department of Ecology mandated Reclaimed Water Rule.

BACKGROUND

In January 2018 the Washington Department of Ecology (Ecology) adopted Reclaimed Water Rule WAC 173-219 which establishes the framework for the distribution of reclaimed water for beneficial uses. Among other requirements, this rule requires facilities delivering reclaimed water to properly treat and disinfect the water

prior to delivery in order to protect public health. The City utilizes sand filtration enhanced treatment followed by ultraviolet disinfection to treat reclaimed water to Class A standards in compliance with the Reclaimed Water Rules and City National Pollutions Discharge Elimination System (NPDES) Permit. Following treatment Class A water is then pumped to Eagle Lake Reservoir for temporary storage prior to distribution as irrigation water to various locations on the ridge including Snoqualmie Ridge Golf Course, City parks and right-of-way, and the Snoqualmie Ridge Business Park. While Ecology originally determined that the distribution system complied with the interim reclaimed water standards established in 1997, it does not comply with the current Reclaimed Water Rule. Specifically, the City distribution system requires additional cross-connection control improvements necessary to protect Class A water used in public spaces from contamination by lower-quality water sources- such as urban stormwater runoff.

In May of 2021 the City of Snoqualmie Water Reclamation Facility (WRF) received from Ecology a renewed NDPS discharge permit which authorizes continued production, distribution, and use of Class A water, provided that the City meets requirements to implement added these cross-control improvements with the following compliance schedule milestones:

- July 1, 2023 - Draft Engineering Report (Complete)
- December 31, 2023 – Final Engineering Report (Underway)
- December 31, 2024 – Final Plans and Specifications
- June 30, 2026 –Construction Completion

This year RH2 Engineering prepared a Reclaimed Water Distribution System Engineering Report (Exhibit 4) which evaluates alternatives that will bring the reclaimed water distribution system into compliance with current standards and preliminary design of a new reservoir. Preliminary cost estimates for this project range between 6.3 and 7 million and exceed those costs assumed in the 2023-2028 CIP due to the following reasons:

- Larger reservoir size is necessary to provide reliable service.
- Complex retrofitting needed to connect to the existing irrigation pump station (IPS).
- Site improvements necessary to provide security and integration with existing utilities.
- Increased inflation and construction cost escalation.

These updated project costs will be incorporated into the next utility rate study and capital improvement planning.

Included with this contract amendment, RH2 will update the 2015 reclaimed water system plan to align with the 2018 Reclaimed Water Rule and identify a schedule of capital improvements for the next 20-year planning period. Appendices of the reclaimed water system plan must be updated to comply with the reclaimed water rules and NPDES Permit requirements. The updated plan will address these requirements and guide future operations budgets, utility rates, and capital improvements to support the reclaimed water system.

ANALYSIS

The City of Snoqualmie has for two decades demonstrated successful production, distribution, and reuse of Class A reclaimed water resulting in water quality and water supply benefits. On average the City distributes 18 million gallons of reclaimed water annually. To comply with state permit requirements and continue distribution of Class A water the City must begin design of a new reclaimed water reservoir. Based on the engineering report evaluation the construction of a new reclaimed water reservoir is the lowest cost solution that will bring the existing distribution system into compliance with current regulations. Six different reservoir sites were evaluated and the City is pursuing the lowest cost available site. Permitting efforts have begun with outside agencies to assist with finalizing the reservoir site. City and state permitting, and design will begin in 2023 to maintain schedule and meet project milestones. the reclaimed water system plan update will

identify, and schedule reclaimed water system improvements that correct existing deficiencies and ensure a safe and reliable reclaimed water system for customers.

BUDGET IMPACTS

Administration recommends approving an amendment to the contract with RH2, Inc. in the amount of \$658,722 to complete the design of Eagle Lake Water Reclamation Basin Improvements. This project is incorporated in the 2023-2028 Capital Improvement Plan (CIP) (See Exhibit #4) with a life-of-project budget of \$3,332,000. The 2023-24 Amended Budget appropriates \$321,000 for this project. In the current biennium, \$49,722 has been spent and \$56,748 has been encumbered for contracts within the Eagle Lake Improvements Project. With the addition of the RH2 contract, the project is \$444,192 over budget for the current biennium, as shown in the table below.

Eagle Lake Water Reclamation Basin Improvements

	Life-of-Project Budget (Multiple Bienniums)	2023-2024 Biennial Budget
Beginning Budget	\$ 3,332,000	\$ 321,000
Expenditures	\$ (49,722)	\$ (49,722)
Outstanding Contract Value (Previously Approved)	\$ (56,748)	\$ (56,748)
Current Available Budget	\$ 3,225,530	\$ 214,530
Value of this Contract (AB23-110)	\$ (658,722)	\$ (658,722)
Available Budget / (Shortfall) after AB23-110	\$ 2,566,808	\$ (444,192)

Of the contract amendment, \$74,186 relates to a reclaimed water system plan update, which will be paid from the operations budgets of the Water Utility (#401) and the Sewer Utility (#402). In addition, the Administration intends to delay the Pressure Reducing Valve Stations Project, a project from the 2023-2028 CIP within the Utility Capital Fund (#417) and appropriated within the 2023-24 Biennial Budget, to support the project's overall budget shortfall. Delaying the Pressure Reducing Valve project will result in a reallocation of \$321,000 in budget appropriation to the Eagle Lake Project. As a result, the City will need an additional \$49,006 appropriation to fund this phase of the project and anticipates introducing the amendment as part of the mid-biennium review process.

Eagle Lake Water Reclamation Basin Improvements

	Life-of-Project Budget (Multiple Bienniums)	2023-2024 Biennial Budget
Available Budget / (Shortfall) after AB23-110	\$ 2,566,808	\$ (444,192)
Water Utility (#401)	\$ 37,093	\$ 37,093
Sewer Utility (#402)	\$ 37,093	\$ 37,093
Pressure Reducing Valve	\$ 321,000	\$ 321,000
Acceleration of Project Budget into Current Biennium	\$ 49,006	\$ 49,006
Available Budget after AB23-088	\$ 3,011,000	\$ -

NEXT STEPS

The new reservoir site will be finalized following feedback from outside permitting agencies, including Bonneville Power Administration. Permitting with City and state agencies will continue as the project seeks SEPA approval and approval of the Reclaimed Water Distribution System Engineering Report. City staff will submit a Clean Water State Revolving Fund (CWSRF) application to Ecology to requesting state funding for design and construction costs.

PROPOSED ACTION

Move to approve an amendment to the Eagle Lake Water Reclamation Basin Improvements services agreement with RH2 Engineering.

CITY OF SNOQUALMIE
 AGREEMENT FOR CONSULTANT SERVICES
 Amendment No. 1
 Eagle Lake Water Reclamation Basin Improvements

This Amendment No. 1 to Agreement for Consulting Services is entered into by and between the City of Snoqualmie, a Washington municipal corporation, (“City”) and RH2 Engineering, Inc., a Washington corporation, (“Consultant”). City and Consultant are collectively referred to herein as “the Parties.”

WHEREAS, the City and Consultant previously entered into an Agreement for Consultant Services on December 2, 2022 (“Agreement”), which provided for Consultant to complete an engineering report and design cross-control improvements to the Class A reclaimed water distribution system; and

WHEREAS, the City has requested Consultant to provide additional services including final design and permitting of the Eagle Lake Water Reclamation Basin Improvements, and update the City’s Reclaimed Water System Plan; and

WHEREAS, Consultant has the resources and capability to perform this work and has provided a scope of work and an hour and fee estimate for such additional work;

NOW, THEREFORE, the Parties mutually agree as follows:

Section 1. Scope of Work Amended. Exhibit A (“Scope of Work”) to the Agreement dated December 2, 2022, is hereby amended to add the additional work tasks set forth in Exhibit A to this Amendment No. 1.

Section 2. Compensation Amended. Section 2 of the Agreement dated December 2, 2022, entitled (“Compensation”), is hereby amended to increase the total compensation to be paid Consultant for the work from \$106,470 to \$765,192.

Section 3. Exhibit B Amended. Exhibit B to the Agreement dated December 2, 2022, is hereby amended to add the additional compensation and fee estimate details set forth in Exhibit B to this Amendment No. 1.

Section 4. Exhibit C Amended. Exhibit C to the Agreement dated December 2, 2022, is hereby amended to revise the rates and charges in Exhibit C to this Amendment No. 1.

Section 5. No Other Provisions Affected. Except as modified in this Amendment No. 1, all other provisions of the Agreement dated December 2, 2022, remain in full force and effect.

Section 6. Effective Date. This Amendment No. 1 is effective as of the date of the last signature affixed below.

///

ACKNOWLEDGED AND AGREED TO BY:

CITY OF SNOQUALMIE

CONSULTANT
RH2 ENGINEERING, INC.

By: _____
Katherine Ross, Mayor

By: _____
Name _____
Its: _____

Date: _____

Date: _____

ATTEST:

Deana Dean, City Clerk

APPROVED AS TO FORM:

David Linehan, City Attorney

EXHIBIT A
Scope of Work
Amendment No. 1
City of Snoqualmie
Reclaimed Water Distribution System
Design and Services During Bidding
September 2023

Background

The City of Snoqualmie (City) owns and operates a potable water system, a reclaimed water system, and an irrigation system. The City's Water Reclamation Facility (WRF) supplies Class A reclaimed water to Eagle Lake, where it is stored as irrigation supply for the City and its customers, including the Snoqualmie Ridge Golf Course (Golf Course). The main customers are fed irrigation water from the Parkway/Parks Irrigation Pump Station (IPS), including City of Snoqualmie, City of Snoqualmie Stormwater, Snoqualmie Business Park Owners Association, Snoqualmie Residential Owners Association, and the Snoqualmie Ridge Joint Commission. The Golf Course irrigation system is owned and operated by the Golf Course and is separate from City operations.

The Washington State Department of Ecology (Ecology) has required the City to evaluate options to add cross-connection controls to the Class A distribution system, including separation of the City's irrigation system (not the Golf Course) from Eagle Lake to meet the requirements of the Reclaimed Water Rule, Chapter 173-219 Washington Administrative Code (WAC). The City requested the services of RH2 Engineering, Inc., (RH2) to prepare an Engineering Report to evaluate options to improve the reclaimed water distribution system for Ecology review and approval. The Engineering Report recommended the City install an approximately 500,000-gallon closed water reservoir to separate the City's reclaimed water allotment from Eagle Lake and to meet the City's updated National Pollutant Discharge Elimination System (NPDES) Permit requirements.

This Scope of Work includes the tasks necessary for RH2 to update the City's 2015 *Reclaimed Water System Plan*, prepare bid-ready design documents and permitting support for the closed water reservoir, and provide services during bidding for the reclaimed water distribution system improvements that have been approved by Ecology.

The previous scope of work included the following task:

- **Task 1 – Reclaimed Water Engineering Report**

This Scope of Work and Fee Estimate includes the addition of the following tasks:

- **Task 2 – Project Management**
- **Task 3 – Reclaimed Water System Plan Update**
- **Task 4 – Loan and Grant Application Assistance**
- **Task 5 – Preliminary Design**

- Task 6 – Final Design
- Task 7 – Permitting
- Task 8 – Services During Bidding
- Task 9 – Management Reserve

Future tasks include the following:

- Task 10 – Services During Construction
- Task 11 – SCADA Programming

General Assumptions

In preparing this Scope of Work, the following assumptions were made:

- *The Reclaimed Water Distribution System Engineering Report prepared by RH2 (June 2023) as part of the original scope of work is currently being reviewed by Ecology and the Washington State Department of Health (DOH) and will satisfy the requirements of WAC 246-290-110; therefore, a separate Project Report submittal to DOH will not be required as part of the project's preliminary design.*
- *The reclaimed water reservoir site is still in the process of being selected. Depending on siting, design and permitting costs may change. It is assumed that the City will select a reservoir site prior to starting preliminary design.*
- *RH2 will rely upon the accuracy and completeness of information, data, and materials generated or produced by the City or others in relation to this Scope of Work. RH2 assumes that the entity providing such information to RH2 is either the owner of such information or has obtained written authorization from the owner to distribute said information.*
- *Deliverables will be submitted in electronic format (PDF) unless otherwise noted.*
- *The City will pay permit and public notice fees and costs directly.*
- *RH2 will perform the services described up to the amounts included in the attached Fee Estimate. If additional effort is needed, that extra work will be mutually determined and agreed upon by the City and RH2.*

Task 2 – Project Management

Objective: Manage RH2's project team and maintain frequent client communications, including progress meetings. Maintain project schedule and prepare monthly invoices and budget status summaries.

Approach:

- 2.1 Perform Project Management – Provide direction, coordination, and oversight to the RH2 project team. Organize, manage, and coordinate technical disciplines as described herein and

implement quality assurance and quality control (QA/QC) reviews to execute this Scope of Work in close coordination with City staff. Document and retain information generated during the execution of the project.

- 2.2 Prepare Invoices – Prepare monthly invoices and budget status summaries.
- 2.3 Prepare for and Attend Progress Meetings – Prepare for and attend progress meetings with City staff as requested. Prepare meeting agendas and minutes. *A total of four (4) progress meetings are assumed in the Fee Estimate, in addition to the other milestone and review meetings identified elsewhere in this Scope of Work.*
- 2.4 Prepare Schedule – Provide overall project schedule aligned with NPDES milestones. Update schedule throughout the project.

RH2 Deliverables:

- Monthly progress reports with schedule, budget, work performed and billed to date updates.
- Meeting agendas and minutes.

Task 3 – Reclaimed Water System Plan Update

Objective: Update the City’s 2015 *Reclaimed Water Reuse Plan* (Plan), including the preparation of a 20-year capital improvement program (CIP). Prepare Class A system operations and maintenance (O&M) procedures and an irrigation system cross-connection control plan to include as appendices.

Approach:

- 3.1 Coordinate with City and Agencies – Attend a virtual project kick-off meeting with City staff. Provide coordination with Ecology and DOH. *This task is assumed to be limited to a total of sixteen (16) hours for phone calls and email correspondence with the City and reviewing agencies.*
- 3.2 Collect and Review Data – Visit the WRF and reclaimed water system facilities with City staff to collect information, observe equipment layouts, and obtain maintenance staff input/complaints about the existing system. Prepare and submit a list of data and mapping needs. Perform an in depth review of the information provided by the City and coordinate with City staff during the data collection process.
- 3.3 Prepare Chapter 1 – Introduction – Prepare a summary description of the reclaimed water system, the City’s current NPDES Permit, Ecology *Reclaimed Water Facilities Manual* (Purple Book) standards, and related planning documents. Prepare a color figure of the existing system. Prepare a description of the existing reclaimed water system facilities, including the pipelines, pump stations, and equipment. Reference the City’s latest General Sewer Plan for background information.
- 3.4 Prepare Hydraulic Model – Create a simple hydraulic model of the City’s reclaimed water system in Bentley WaterGEMS from the WRF to the point of use. Review facility as-builts and update the model to reflect existing piping and facilities. Coordinate with the City to review the

operational setpoints and controls for facilities. *It is assumed the hydraulic model will be created based on available information and existing as-builts and will not be calibrated at this time. Manufacturer's pump curves will be input into the model and may not reflect actual facility operation.* Prepare a color figure of the existing hydraulic profile.

- 3.5 Prepare Chapter 2 – Class A Water Production and Use – Prepare a description of the existing Class A water production and use, the equivalent residential units, and existing users. Perform a monthly analysis on the water demands versus the available Class A water supply. Calculate irrigation water demands based on the average day demand (ADD). Prepare tables summarizing the results of the demand analyses and integrate the tables within the chapter text.
- 3.6 Prepare Chapter 3 – Facility Documentation and Analysis – Prepare a limited desktop evaluation of the existing system components and prepare a list of proposed improvements. Briefly describe each improvement and purpose/benefit of the improvements. Prepare planning-level approximate cost estimates for each improvement based on current industry prices. Coordinate with City staff to prioritize and schedule the improvements. Provide tables documenting the development of the 20-year CIP and integrate them within the chapter text. Prepare color figures of the proposed water system improvements and proposed improvements hydraulic profile.
- 3.7 Prepare Chapter 4 – Policies and Agreements – Review the City's standards pertaining to the reclaimed water system policies and criteria. Recommend additional or revised policies so that future City facilities can meet minimum and acceptable design criteria and standards. Summarize the City's current policies and agreements in the chapter text.
- 3.8 Coordinate Financial Analysis Chapter – Coordinate with the City's financial consultant during the project and attend one (1) phone conference to provide information in support of the financial analysis chapter to be prepared by the City's financial consultant. *It is assumed the City will contract directly with a financial consultant for these services.* Review the financial analysis chapter produced by the City's financial consultant, format the document for consistency with other chapters, and incorporate the financial chapter into the Plan.
- 3.9 Prepare Class A O&M Procedures Appendix – Prepare Class A transmission, reservoir, and distribution system O&M procedures to comply with NPDES Permit No. WA0022403 R6.C. requirements and include as an appendix to the Plan.
- 3.10 Prepare Cross-Connection Control Plan Appendix – Review the City's existing cross-connection control ordinance and programs. Incorporate elements necessary for consistency and prepare a cross-connection control plan to comply with NPDES Permit No. WA0022403 R4.C. requirements and WAC 173-219-310, and include as an appendix to the Plan.
- 3.11 Prepare Draft Plan and Appendices – Prepare a draft of the Plan and miscellaneous appendices for the City's review and comment, as follows:
 - Prepare an Executive Summary, including a summary of key elements of the Plan.

- Prepare miscellaneous appendices to include in the Plan, including copies of the City's current NPDES Permit and any reclaimed water system agreements.
- Prepare a cover format that includes the Plan's name and revision date.
- Meet with City staff to present the draft Plan.
- Revise the Plan per City review comments.
- Create an electronic PDF version of the Plan with Professional Engineer stamps and signatures.
- Submit the draft Plan to Ecology and DOH for review and comment.

Assumptions:

- *At the completion of this Task, the Plan will be in final format, ready for review by the regulatory agencies. Once submitted, Ecology and DOH have at least ninety (90) days to review the Plan. The number of comments, meetings, and amount of required modifications from review by the regulatory agencies are difficult to predict. Therefore, RH2 will prepare a separate Scope of Work and Fee Estimate to address review comments, review meetings, and final Plan modifications upon receipt of all review comments from Ecology and DOH.*
- *No date is warranted or implied for agency responses or Plan approval.*

Provided by City:

- 2015 Reclaimed Water Reuse Plan.
- Attendance at virtual project kick-off meeting and draft Plan review meeting.
- Required information from data list.

RH2 Deliverables:

- Attendance at virtual project kick-off meeting and draft Plan review meeting with City. Meeting minutes via email to participants.
- List of required data and mapping.
- Draft Plan for submittal to City, Ecology, and DOH.

Task 4 – Loan and Grant Application Assistance

Objective: Complete a Clean Water State Revolving Fund (SRF) application for submittal to Ecology to assist with procuring project funding.

Approach:

- 4.1 Prepare SRF Application – Prepare SRF application for the design, permitting, bidding, construction, and construction contract administration of the Reclaimed Water Distribution System project using the opinion of probable construction cost (OPCC) and project definitions prepared in Task 5.

Assumptions:

- *No date is warranted or implied for agency response or approval of the loan application.*

Provided by City:

- Assistance with various sections of the application that request information only the City can provide.
- Review and sign the loan application.

RH2 Deliverables:

- SRF loan application submitted online.

Task 5 – Preliminary Design

Objective: Acquire survey data for the project site, perform a limited geotechnical investigation, and perform hydraulic analyses. Prepare preliminary reservoir construction plans and OPCC for review by the City.

Approach:

- 5.1 Coordinate and Obtain Topographic Survey – Coordinate with Surveying and Mapping Companies, LLC, (SAM) to acquire up to date survey data of the project site for design purposes. Attend one (1) site visit to evaluate the utility locates and survey limits with the City. Review and revise the survey data for the reservoir design.
- 5.2 Perform Geotechnical Investigations – Review available geologic, groundwater, and geotechnical information for the reservoir site. Perform a limited geotechnical investigation, including test pits, to confirm the subgrade conditions at the proposed reservoir location and to establish geotechnical and structural design criteria. *It is assumed two (2) test pits will be excavated. The City will provide the operator and backhoe needed for the test pit excavations.* Prepare a geotechnical memorandum for the reservoir site based on the results of the investigation. Describe subgrade conditions, bearing capacities and earth pressures, and groundwater conditions, including shoring and dewatering requirements. Prepare recommendations for subgrade preparation and backfilling for the reservoir excavation and include other pertinent information required for the design and construction of the proposed reservoir.
- 5.3 Perform Hydraulic Analyses – Perform hydraulic analyses using the existing model RH2 has developed in Task 3.2 to provide recommendations for the reservoir overflow height and operational strategies with the existing irrigation pump station, including the City's supervisory control and data acquisition (SCADA) system, altitude valves, pressure reducing valves, and reservoir fill and draw setpoints. An analysis of the existing capacity and adequacy of the IPS pumps will not be performed.
- 5.4 Prepare Design Criteria Checklist and Attend Kick-Off Meeting – Summarize criteria, standards, guidance, and/or codes governing the design. Develop a checklist for presenting design choices

to the City. Maintain the checklist during design and submit to the City when revisions are made. Establish structural design criteria using geology and location to identify seismic design parameters per United States Geological Survey data and to design snow and wind loads, soil loads, live loads, unbalanced load criteria, and load combinations. Attend one (1) design kick-off meeting to present criteria and checklist to the City. Prepare kick-off meeting agenda and minutes.

5.5 Prepare 30-Percent Design Plans and OPCC – Prepare 30-percent design plans and OPCC for the reservoir as follows:

- Prepare cover sheet, existing site plan, and erosion and sedimentation control (ESC) plan.
- Prepare preliminary construction and finished grading plans and details.
- Prepare preliminary site, water utility, and sewer utility plans and details. Profile views will be generated to check for conflicts with known utilities. Establish planting zones and areas with special planting considerations, such as screening.
- Prepare preliminary stormwater collection system design plans.
- Prepare preliminary reservoir plan and elevation views to illustrate the reservoir shape, size, elevations, geometry, and to show the location of the proposed reservoir and its appurtenances.
- Prepare preliminary mechanical plans detailing reservoir piping, mechanical components, and potential mixing system.
- Prepare preliminary design of the main reservoir structural elements. Determine the general configuration of the tank walls and floor, foundation, roof shape, and support system. Prepare schematic structural drawings of the tank structure, including reservoir elevations, foundation and floor plans, and roof plan. Develop schematic structural details of the tank structure to convey the City's preferences, including accessory/appurtenance preferences.
- Prepare preliminary design of the electrical/control components. Identify electrical, control, monitoring, and security features and appurtenances for the proposed reservoir for review and discussion with the City. Provide a list of features and appurtenances that would be typical for reservoirs.
- Prepare a 30-percent OPCC.
- Perform in-house QA/QC review of the preliminary design plans.
- Prepare for and attend one (1) 30-percent review meeting with City staff. Prepare and distribute meeting agenda and minutes.

Assumptions:

- *SAM will coordinate the on-site utility locates and provide stamped topographic survey drawings and AutoCAD existing base map files for design.*

- *Reservoir overflow and site stormwater drainage will be allowed to discharge into Eagle Lake via site runoff and the existing pipeline supplying Eagle Lake. If Ecology determines that additional on-site stormwater improvements are necessary, additional effort related to those improvements will be mutually determined and agreed upon by the City and RH2.*
- *Specifications will not be provided as part of this Task. The design criteria developed during this stage will be further expanded based on City preferences established as part of this Task. Results of the geotechnical investigation are to be incorporated into the design criteria.*

Provided by City:

- Review comments on 30-percent design plans.

RH2 Deliverables:

- Survey files in AutoCAD and PDF.
- Geotechnical memorandum.
- Design criteria checklist.
- Kick-off and 30-percent design review meetings agendas and minutes.
- List of features and appurtenances that would be typical for reservoirs.
- 30-percent OPCC.
- 30-percent design plans.

Task 6 – Final Design

Objective: Prepare 60- and 90-percent plans, specifications, and OPCC for City review and comment. Prepare bid-ready plans, specifications, and construction contract documents for the proposed reservoir.

Approach:

- 6.1 Prepare Structural Calculations – Prepare structural calculations for the reservoir, including lateral analysis, roof, shell, and reservoir foundation. Provide QA/QC review of structural calculations. Make recommended updates and additions to calculations per QA/QC review comments. Prepare and format calculations, with supporting documentation, for the Commercial Building Permit application.
- 6.2 Prepare Design Documents – Prepare design plans, including plans, sections, elevations, and details, technical specifications, construction contract documents, and OPCC as follows.
 - Prepare site and utility plans to show the major utility appurtenances, such as isolation valves, manholes, catch basins, power poles, and light poles. Landscaping plans will show the layout of specific plant material with a suggested palette for the City’s permitting process review.

- Prepare downstream stormwater improvements to accommodate the reservoir overflow and site drainage water.
- Prepare sewer system improvements to accommodate tank drainage for maintenance.
- Provide a detailed design of the reservoir foundation, walls, and roof. Develop plans showing the geometry, joint geometry, seismic cables, and reinforcing steel.
- Prepare details for the configuration of the reservoir piping and mechanical components and size the piping systems for the reservoir inlet, outlet, overflow, drain, and the foundation under the drain. Plans will include equipment selection, pipe sizes and materials, thrust restraint, vault sizing, selection, and drainage. Review hydraulics and develop mechanical design criteria for supplying the existing irrigation pump station from the proposed reservoir.
- Prepare plans that show the reservoir appurtenances, including access hatches, vents, exterior and interior ladders or stairs, exterior roof access, roof platform, and safety cages, as requested or required.
- Prepare electrical design plans, including the following:
 - Develop design of electrical systems for operating appurtenances at the reservoir. Work includes designing the lighting system, sizing raceways and conductors, and preparing design details.
 - Coordinate the power supply requirements and meet with Puget Sound Energy (PSE) and the City to discuss the design criteria, review the power supply design, and present PSE with design criteria. Develop power service plan. Perform a site visit if deemed necessary to help determine location and routing of PSE equipment.
 - Prepare an electrical site plan identifying the location of the new electrical service conduit, site conduit routing, and site improvements that are required.
 - Develop security system plan, site security fencing, and technical details.
- Prepare telemetry system diagrams for the proposed telemetry system. The telemetry system diagrams will show the proposed telemetry system input and output signals and interface requirements.
- Develop design specifications using Divisions 1 through 18 of RH2's standard technical specifications tailored for this project. Develop front-end specifications and non-technical specifications using the City's standard legal documents updated to reflect the project improvements. Develop schedule of prices and measurement and payment descriptions.
- Update the OPCC.

6.3 Submit 60-Percent Design Documents to City – Submit the 60-percent design plans, specifications, and OPCC to the City. Prepare meeting agenda and attend one (1) meeting with the City to discuss the 60-percent review comments. Prepare meeting minutes.

- 6.4 Submit 90-Percent Design Documents to City – Submit the 90-percent design plans, specifications, and OPCC to the City. Prepare meeting agenda and attend one (1) meeting with the City to discuss the 90-percent review comments. Prepare meeting minutes.
- 6.5 Perform Internal QA/QC – Perform internal QA/QC review of the 90-percent design plans and specifications.
- 6.6 Prepare Bid-Ready Design Documents – Incorporate internal QA/QC and City review comments and Ecology and City Community Development Department permitting conditions into the plans and specifications. Prepare bid-ready plans and specifications and final OPCC.

Provided by City:

- One (1) set of 60-percent plans and specifications with City red-lined markups.
- One (1) set of 90-percent plans and specifications with City red-lined markups.

RH2 Deliverables:

- Structural calculations for inclusion in the Commercial Building Permit application (Task 7).
- Three (3) hard copies and one (1) PDF of half-size 60-percent design plans.
- Three (3) hard copies, one (1) PDF, and one (1) Word file of the 60-percent design specifications.
- Three (3) hard copies and one (1) PDF of the 60-percent design OPCC.
- Three (3) hard copies and one (1) PDF of half-size 90-percent design plans.
- Three (3) hard copies, one (1) PDF, and one (1) Word file of the 90-percent design specifications.
- Three (3) hard copies and one (1) PDF of the 90-percent design OPCC.
- Three (3) hard copies and one (1) PDF of half-size bid-ready plans.
- Three (3) hard copies, one (1) PDF, and one (1) Word file of the bid-ready specifications.
- Three (3) hard copies and one (1) PDF of the final OPCC.

Task 7 – Permitting

Objective: Complete environmental background reviews to facilitate preparation of local and state permit applications. Coordinate with Bonneville Power Administration (BPA) regarding the proposed improvements and possible permits required. Prepare and submit permit applications to the City's Community Development Department, Ecology, and DOH.

Approach:

- 7.1 Review Background Data – Collect and review environmental background data, including maps, City Code, and aerial imagery. Contact the City's Community Development Department to discuss the project and local permitting requirements.

- 7.2 Attend City Pre-Application Meetings – Prepare application materials for pre-application meetings with the City to discuss the project and anticipated permit approvals, application timelines, etc. Attend up to two (2) pre-application meetings, one to discuss planning-level improvements and one for project-level design and permitting. Record feedback from the City. *This subtask assumes pre-application meetings will be in person and up to two (2) RH2 staff will attend each meeting.*
- 7.3 Prepare Planning-Level SEPA – Prepare State Environmental Policy Act (SEPA) Checklist to accompany the Engineering Report and coordinate with the City for preliminary review. Finalize and coordinate with City Community Development staff to process the Checklist, issue determination, and complete public participation requirements.
- 7.4 Coordinate with BPA – Coordinate with BPA regarding the proposed improvements. Determine if BPA will require additional permits to construct the project under its overhead power lines.
- 7.5 Prepare Land Use Approval – Prepare land use (LU) approval package for City review/issuance for the selected reservoir site. LU approval is anticipated to require a Minor Modification to the Snoqualmie Ridge Mixed Use Plan. Preparation of a Conditional Use Permit (CUP) application is also conservatively included at this stage, including a narrative addressing criteria in Snoqualmie Municipal Code 17.55.030(A). Provide draft Minor Modification and/or CUP package to City staff for review and finalize based on City comments. Submit the final LU approval package to the City. Support the City during public involvement, as needed. *All site and civil design related to the proposed site improvements will be covered under the LU application.*
- 7.6 Complete SERP Requirements – Assist the City with completion of State Environmental Review Process (SERP) requirements for the project. This will include preparation of a project-level SEPA following site selection, and coordination with the City's Community Development Department staff for processing, determination, and publication/noticing. SERP will also include preparation of technical documentation and figures to satisfy the Environmental Justice (EJ), public participation/engagement, cultural resources, and federal cross cutter requirements. Assist the City in public participation components by providing SEPA noticing assistance and/or technical information and figures for the City's use in public meeting completion. *It is assumed that the City will coordinate directly with Perteet, Inc., to provide necessary documentation for completion of Section 106 National Historic Preservation Act (NHPA) Cultural Resources consultation. RH2 will utilize the Perteet-prepared documentation for the SERP submittal.* Prepare the SERP Environmental Information Document (EID) to accompany the SERP package. Submit electronic SERP package to the City and Ecology.
- 7.7 Prepare Building Permit – Prepare a Building Permit application for submittal to the City's Building Division. Submit the draft application to City staff for review and comment. Finalize and submit the Building Permit application after incorporating City comments.
- 7.8 Prepare Clearing and Grading Permit – Prepare Clearing and Grading Permit application for submittal to the City. Submit the draft application to City staff for review and comment. Finalize and submit the Clearing and Grading Permit application after incorporating City comments.

7.9 Coordinate Ecology and DOH Reviews – Attend one (1) meeting with the City, Ecology, and DOH before the construction documents are submitted to discuss expectations for documenting the proposed improvements. Submit plans and specifications for the Reclaimed Water Distribution System improvements to Ecology and DOH for review. Compose one (1) letter each responding to review comments from Ecology and DOH. Attend one (1) meeting with the City to discuss review comments and RH2’s draft letter responses.

Assumptions:

- *The City will pay all permit fees directly.*
- *RH2 will submit permit packages directly to the City’s Community Development Department.*
- *The City will submit the SERP package to Ecology.*
- *No date is warranted or implied for agency response or approval.*
- *The project will disturb less than one (1) acre of land and will not require a National Pollutant Discharge Elimination System Construction Stormwater General Permit from Ecology.*

Provided by City:

- Payment of permit fees.
- Review and comment on draft permitting applications.
- Lead public participation meetings, SERP coordination with Ecology, and any additional efforts related to SERP compliance.

RH2 Deliverables:

- Electronic PDFs of the pre-application meeting packages (two (2) assumed) and attendance by two (2) RH2 staff at two (2) pre-application meetings.
- Electronic PDF of planning-level SEPA Checklist.
- Electronic PDF of SERP package, including EID, project-level SEPA Checklist, EJ and public participation documentation, and cultural resources and federal cross cutter documentation.
- Electronic PDF of Land Use Approval package.
- Electronic PDF of Building Permit application.
- Electronic PDF of Clearing and Grading Permit application.
- Attendance at meeting with Ecology and DOH.
- Electronic PDF of construction plans and specifications for Ecology and DOH.
- Electronic PDF of letters responding to Ecology and DOH review comments, one (1) to each agency.

Task 8 – Services During Bidding

Objective: Assist with the bidding phase for the reservoir.

Approach:

- 8.1 Submit Bid Documents and Advertisement – Submit PDF of plans, specifications, and appendices to the Builders Exchange of Washington (BXWA) for posting on their online system. *BXWA will be utilized to maintain the planholders list.* Post a copy of the same documents on the City’s website for viewing. Submit advertisement for bids to the Daily Journal of Commerce (DJC).
- 8.2 Respond to Questions from Bidders – Respond to bidders’ technical questions during the bidding process. All questions and responses will be shared with the City for review and comment prior to sending to bidders. *RH2 will forward bidders’ procedural questions to the City for response.*
- 8.3 Prepare and Issue Addenda – Prepare up to two (2) draft addenda and submit to the City for review. Revise the addenda based on City comments and prepare final version to submit to BXWA for posting. Post a copy of each addendum on the City’s website for viewing. Revise and update the OPCC to reflect cost changes based on addenda.
- 8.4 Conduct Pre-Bid Walkthrough – Attend a pre-bid walkthrough of the project site with bidding contractors and the City.
- 8.5 Attend Bid Opening and Prepare Analysis – Attend the bid opening and prepare a bid tabulation. Review the lowest three (3) bids, with the exception of insurance documents, which are to be reviewed by the City. Check references for the lowest bidder and prepare a letter of recommendation of award to the City.

Assumptions:

- *The City will pay any fees associated with the online bidding system directly.*
- *The City will pay all project advertisement fees directly.*
- *The City will respond to bidders’ procedural questions.*
- *The City will review insurance documents in the bid package(s).*
- *The City will handle bid award and construction contract execution.*

Provided by City:

- Payments for online bidding system fee(s) and advertisement fee(s).
- Responses to bidders' procedural questions.
- Review of draft addenda.
- Review of insurance documents in bid.
- Bid award and contract execution.

RH2 Deliverables:

- Responses to bidders' technical questions.
- One (1) hard copy, one (1) PDF, and one (1) Word file for up to two (2) draft and final addenda.
- One (1) hard copy and one (1) PDF of up to two (2) updated OPCC.
- Review of non-insurance documents in bids and bid tabulation.
- One (1) hard copy, one (1) PDF, and one (1) Word file of the letter of recommendation of award.

Task 9 – Management Reserve

Objective: Provide additional services as requested by the City.

Approach:

9.1 Provide Additional Services – Provide additional services as requested and authorized by the City. Submit a scope of work and budget estimate for supplemental services requested by the City. The City shall provide written authorization to proceed with any supplemental services.

RH2 Deliverables:

- Scope of work and budget estimate for supplemental services.
- Other deliverables as requested by the City under the authorization for any supplemental services.

Project Schedule

RH2 anticipates that preliminary design can begin once a fully executed contract has been received and can be completed by March 2024, with final design of the recommended improvements beginning in Spring 2024. This schedule assumes timely feedback and responses from the City.

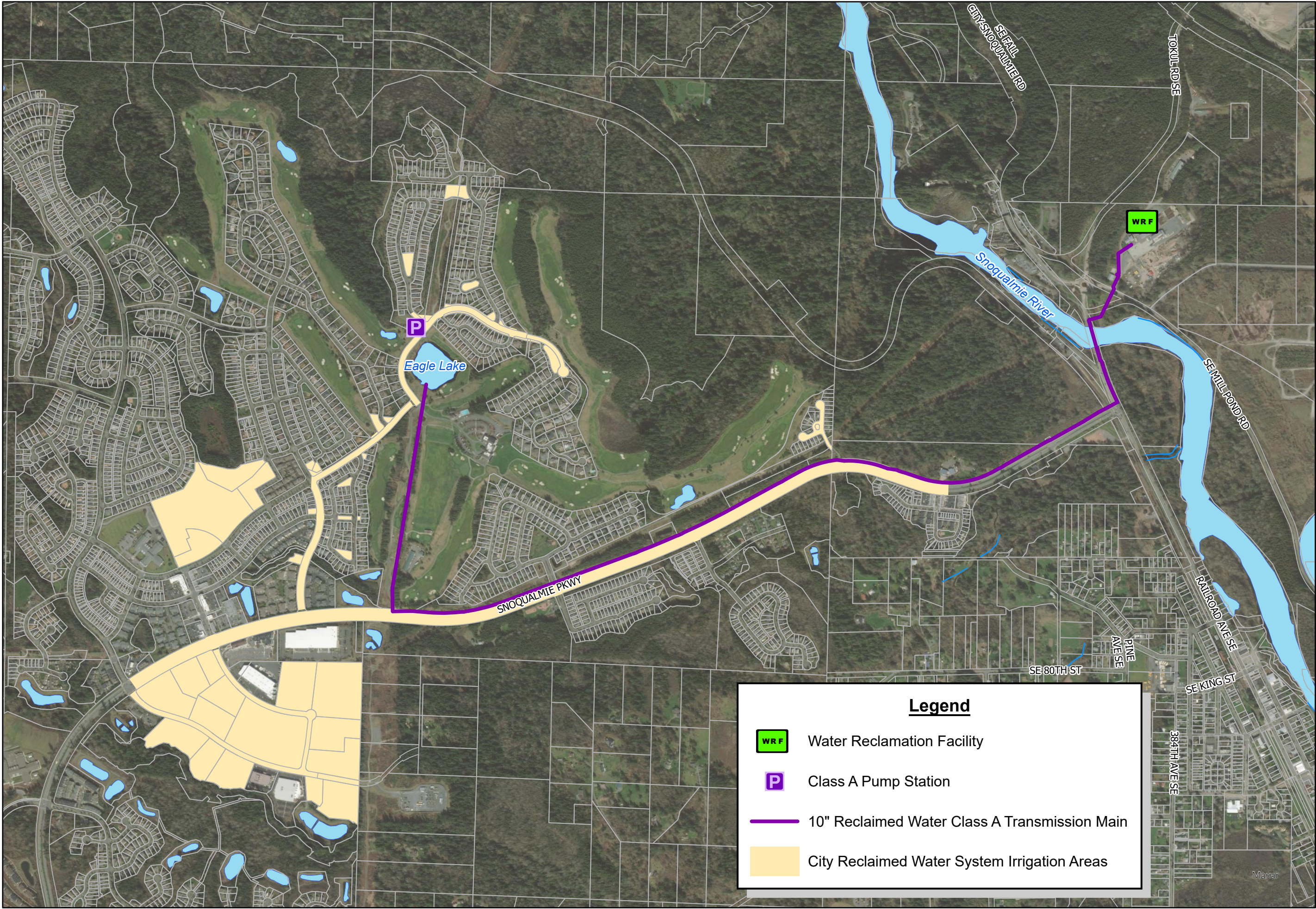
The City's financial consultant is scheduled to conduct the utility rate study from November 1, 2023 through July 1, 2024. A final schedule of reclaimed water system improvements is anticipated to be shared with the City's financial consultant by Spring 2024. The reclaimed water system plan update is expected to be complete by Summer 2024.

The City's goal is to have construction of the reclaimed water reservoir complete by June 30, 2026, to comply with the milestones listed on its NPDES Permit.





EXHIBIT B
Fee Estimate
Amendment No. 1
City of Snoqualmie
Reclaimed Water Distribution System
Design and Services During Bidding
Sep-23

Description		Total Hours	Total Labor	Total Subconsultant	Total Expense	Total Cost
Task 2	Project Management	117	\$ 27,396	\$ -	\$ 868	\$ 28,264
Task 3	Reclaimed Water System Plan Update	350	\$ 69,619	\$ -	\$ 4,567	\$ 74,186
Task 4	Loan and Grant Application Assistance	114	\$ 22,220	\$ -	\$ 569	\$ 22,789
Task 5	Preliminary Design	446	\$ 91,673	\$ 45,540	\$ 8,733	\$ 145,946
Task 6	Final Design	1220	\$ 247,024	\$ -	\$ 23,740	\$ 270,764
Task 7	Permitting	262	\$ 48,500	\$ -	\$ 2,574	\$ 51,074
Task 8	Services During Bidding	73	\$ 14,901	\$ -	\$ 798	\$ 15,699
Task 9	Management Reserve	-	\$ -	\$ -	\$ 50,000	\$ 50,000
PROJECT TOTAL		2582	\$ 521,333	\$ 45,540	\$ 91,849	\$ 658,722

EXHIBIT C RH2 ENGINEERING, INC. 2023 SCHEDULE OF RATES AND CHARGES		
RATE LIST	RATE	UNIT
Professional I	\$161	\$/hr
Professional II	\$178	\$/hr
Professional III	\$198	\$/hr
Professional IV	\$217	\$/hr
Professional V	\$233	\$/hr
Professional VI	\$247	\$/hr
Professional VII	\$265	\$/hr
Professional VIII	\$278	\$/hr
Professional IX	\$278	\$/hr
Technician I	\$126	\$/hr
Technician II	\$137	\$/hr
Technician III	\$154	\$/hr
Technician IV	\$169	\$/hr
Technician V	\$184	\$/hr
Technician VI	\$203	\$/hr
Technician VII	\$220	\$/hr
Technician VIII	\$231	\$/hr
Administrative I	\$84	\$/hr
Administrative II	\$98	\$/hr
Administrative III	\$117	\$/hr
Administrative IV	\$137	\$/hr
Administrative V	\$158	\$/hr
CAD/GIS System	\$27.50	\$/hr
CAD Plots - Half Size	\$2.50	price per plot
CAD Plots - Full Size	\$10.00	price per plot
CAD Plots - Large	\$25.00	price per plot
Copies (bw) 8.5" X 11"	\$0.09	price per copy
Copies (bw) 8.5" X 14"	\$0.14	price per copy
Copies (bw) 11" X 17"	\$0.20	price per copy
Copies (color) 8.5" X 11"	\$0.90	price per copy
Copies (color) 8.5" X 14"	\$1.20	price per copy
Copies (color) 11" X 17"	\$2.00	price per copy
Technology Charge	2.50%	% of Direct Labor
Mileage	\$0.6550	price per mile (or Current IRS Rate)
Subconsultants	15%	Cost +
Outside Services	at cost	



Legend

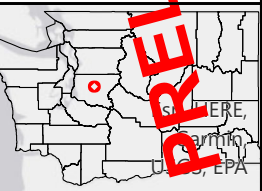
-  Water Reclamation Facility
-  Class A Pump Station
-  10" Reclaimed Water Class A Transmission Main
-  City Reclaimed Water System Irrigation Areas

This map is a graphic representation of the City of Snoqualmie's Geographic Information System (GIS) data. It was designed and created by City staff and is not guaranteed to survey accuracy. This map is based on the best information available on the date shown on this map.

Any reproduction or sale of this map, or portions thereof, is prohibited without express written authorization of the City.

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Vicinity Map



**Reclaimed Water Reuse Plan
City of Snoqualmie
Water Reclamation Facility
Phase 3 Design**



1 inch : 1,000 Feet
0 250 500 1,000 Feet

DRAWING IS FULL SCALE
WHEN BAR MEASURES 2"



J:\DATA\SNOQ_GEN\INFO\COMP PLANS\RECLAIMED WATER\RECLAIMED WATER APRX BY: LMOJABAB PLOT DATE: OCT 5, 2022 COORDINATE SYSTEM: NAD 1983 HARN STATEPLANE WASHINGTON NORTH FIPS 4601 FEET



RECLAIMED WATER DISTRIBUTION SYSTEM ENGINEERING REPORT

Prepared for City of Snoqualmie

September 2023

SNQ 22-0187



Prepared by:
RH2 Engineering, Inc.
22722 29th Drive SE, Suite 210
Bothell, WA 98021
1.800.720.8052 / rh2.com

City of Snoqualmie

Reclaimed Water Distribution System

September 2023

Prepared by RH2 Engineering, Inc.

Prepared for City of Snoqualmie

Note: This Engineering Report was completed under the direct supervision of the following Licensed Professional Engineers registered in the State of Washington.

Sincerely,

RH2 ENGINEERING, INC.



Signed: 09/Xx/2023

City of Snoqualmie

Reclaimed Water Distribution System

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City of Snoqualmie

Reclaimed Water Distribution System

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PRELIMINARY

City of Snoqualmie

Reclaimed Water Distribution System

Engineering Report

Introduction

This Engineering Report (Report) evaluates alternatives for the City of Snoqualmie (City) to improve its reclaimed water distribution system to meet the requirements of the Washington State Department of Ecology's (Ecology) Reclaimed Water Rule and to comply with Permit Section R8.A.1 of the City's current Reclaimed Water Permit. This Report includes the reclaimed water system alternatives analysis and the preliminary design of the preferred alternative.

Background

The City owns and operates a potable water system, a sanitary sewer system, and a reclaimed water system. The reclaimed water supply and distribution system finished construction in 1999. The City's Water Reclamation Facility (WRF) supplies Class A reclaimed water to Eagle Lake, where it is stored as irrigation supply for City-supplied customers and the Snoqualmie Ridge Golf Course (Golf Course). City customers are supplied irrigation water from the City owned Irrigation Pump Station (IPS) located near Eagle Lake. The Golf Course irrigation system is owned and operated by the Golf Course and is separate from City operations. **Figure 1** shows the reclaimed water transmission main from the WRF to Eagle Lake, as well as the City's reclaimed water system irrigation areas.

In 2021, Ecology issued the City's updated National Pollutant Discharge Elimination System (Permit) Permit (No. WA0022403), which included additional requirements for the City's reclaimed water system. These updates are based on the recently modified Reclaimed Water Rule, Chapter 173-219 Washington Administrative Code (WAC), which includes requirements that did not exist at the time the reclaimed water system was constructed. Through the NPDES Permit, Ecology is requiring the City to modify the reclaimed water distribution system to "...not allow contamination of reclaimed water by lower quality water, such as urban stormwater runoff." The purpose of this Report is to analyze alternatives and propose reclaimed water system improvements to fulfill Permit Section R8.A.1 submittal requirements. The use of reclaimed water is necessary to help meet the growing need for clean water for beneficial use. It is RH2 Engineering, Inc., (RH2) and the City's understanding that the goal of the Reclaimed Water Rule and the Permit, as it pertains to the City's Class A reclaimed water irrigation system, is to prevent degradation of reclaimed water quality from other sources.

The existing City irrigation system is a non-expanding reclaimed water system. At this time, the City has no intention to increase the service area or number of customers that receive reclaimed water.

Historical Irrigation Usage

Currently, reclaimed water is produced at the WRF, sent to Eagle Lake via the Reclaimed Water Transmission Main, and then pumped from the IPS to the City's irrigation distribution system. The municipal side of the IPS has three pumps that supply a 10-inch pipeline that connects to

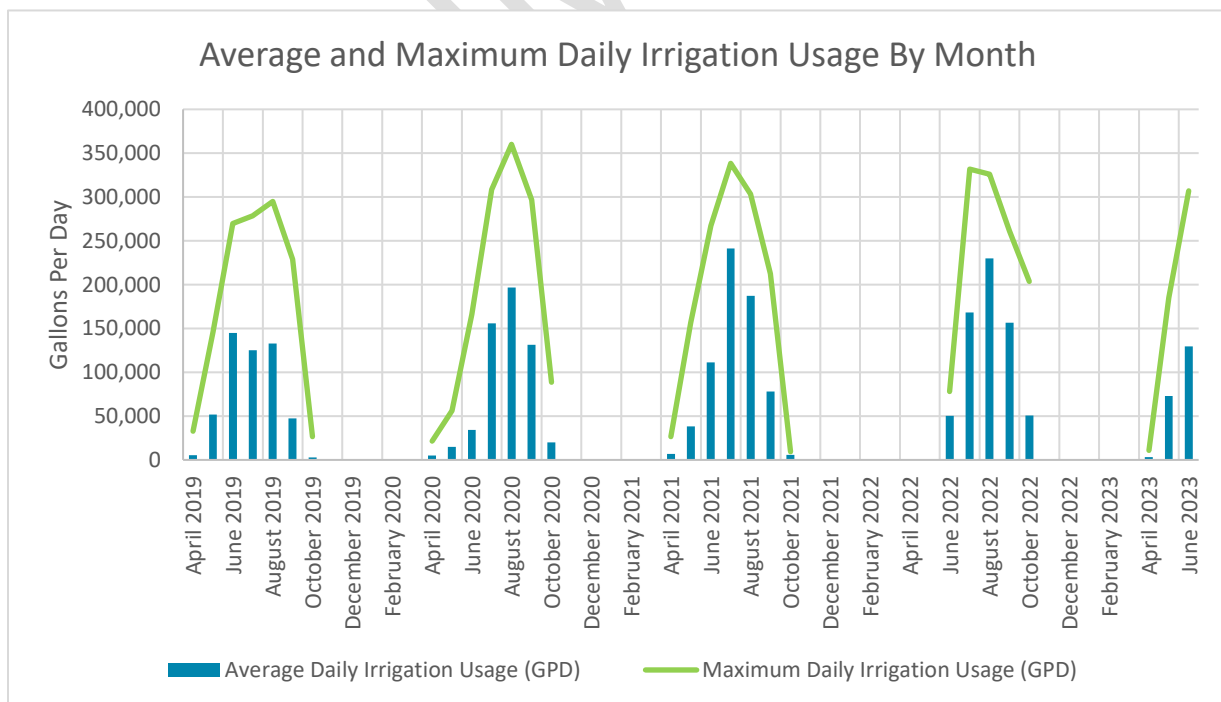
the City's irrigation distribution system. **Table 1** shows the existing pumps' capacity, total dynamic head, and horsepower.

Table 1
Existing Municipal Irrigation Pumps

Pump Quantity and Type	Pump Capacity (gpm)	Total Dynamic Head (ft)	Horsepower
(2) Vertical Turbine Pumps	500	400	75
(1) Jockey Pump	40	600	7.5

Historically, the City supplied Eagle Lake from two sources; Class A reclaimed water from the City's WRF, and water from the City's potable water system. In 2019, the City transitioned to using only reclaimed water for irrigation to help conserve potable water for beneficial use. **Figure 2** shows the average and maximum daily irrigation use for each month from April 2019 to June 2023 during irrigation season. During the 2019 through 2022 irrigation seasons, the average volume of irrigation water used for the City's irrigation system was 17.9 million gallons (MG) per year. This is not total reclaimed water supply to Eagle Lake or does it include supply to the Golf Course irrigation system.

Figure 2
Average and Maximum Daily Irrigation Usage per Month



The existing City irrigation system controller is a Rain Bird Maxicom Central Control System with meters to the various points of connection to bill customers. This Maxicom system controls irrigation of City areas overnight between the hours of 10 PM and 6 AM. **Table 2** summarizes the daily irrigation water demands.

Table 2
City Irrigation Demands Summary

Condition	Criteria	Gallons
Average Daily Demand	Average Day Production in July and August 2019-2022	180,000
Maximum Daily Demand	Maximum Day Production from 2019-2022	360,000
Maximum Daily Irrigation Pump Capacity	Eagle Lake Pump Station capacity with two 500 gallons per minute (gpm) pumps continuously running for 8 hours each night	480,000

The City contracts with Extended Range Forecasting Company, Inc., (ERF, aka Water Management Group, Inc.) to manage the irrigation system. The irrigation system piping varies throughout distribution, and there are multiple pressure regulating valves which reduce pressure to the zone of application. The jockey pump operates intermittently to maintain a pressure setpoint within the system, a minimum of 70 pounds per square inch (psi).

Alternatives Analysis

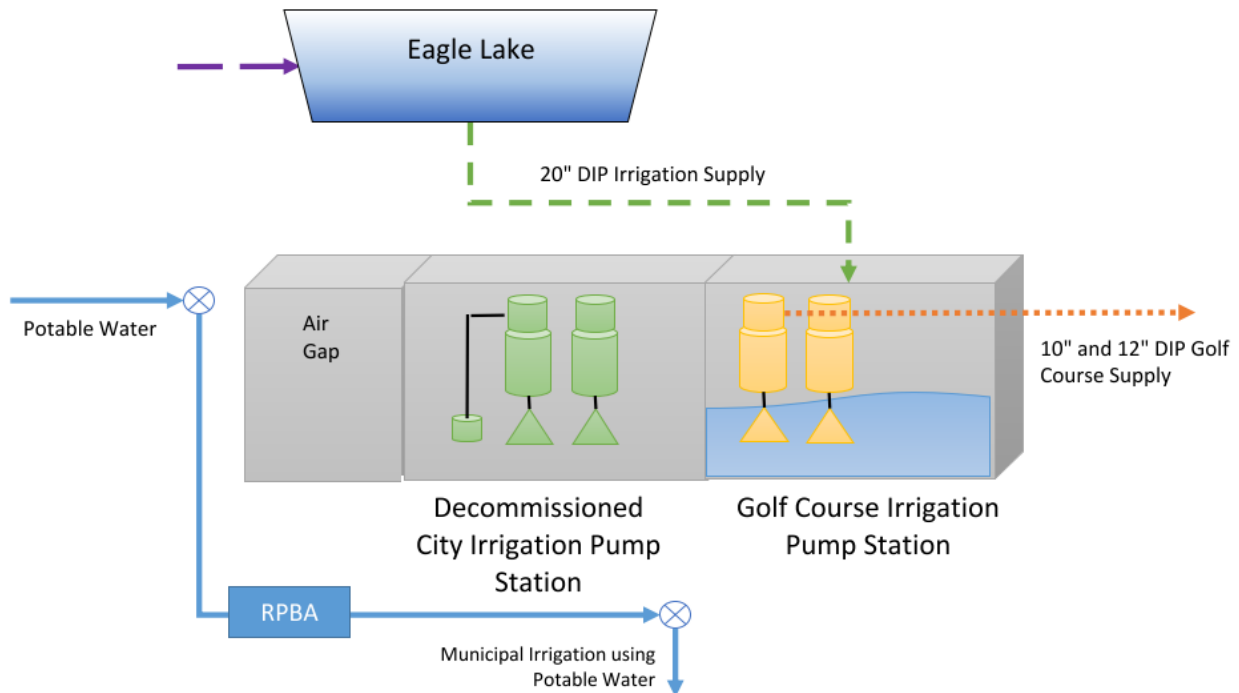
Ecology is requiring that the City's irrigation system be separated from Eagle Lake so that it does not pump water that is comingled with other potential water sources. In addition, the Reclaimed Water Rule requires that any Class A reclaimed water generator or distributor must maintain a free chlorine residual greater than 0.2 milligrams per liter (mg/L) or a total chlorine residual greater than 0.5 mg/L "...from the facility to the point of use to prevent biological growth, prevent deterioration of reclaimed water quality, and to protect public health." (WAC 173-219-370(1)). RH2 evaluated two distribution system improvement alternatives to comply with these regulations. Alternative 1 would transition the City's entire municipal irrigation supply downstream of the IPS to potable water, which inherently has a chlorine residual. Alternative 2 would construct a closed reservoir to store and separate reclaimed water generated by the WRF from the Golf Course's Eagle Lake. This alternative would either have a permanent chlorination system for disinfection or have appurtenances to implement emergency chlorination.

Alternative 1: Transition Irrigation Customers to Potable Supply

Alternative 1 would transition existing irrigation customers from reclaimed water to potable water. This can be accomplished by bypassing the IPS altogether and connecting the existing potable water supply directly to the 10-inch ductile iron pipe (DIP) municipal irrigation main. Piping associated with the municipal reclaimed IPS would be cut and capped. The existing 4-inch-diameter potable supply pipeline may need to be upsized to accommodate the new connection. A reduced pressure backflow assembly (RPBA) would be installed to prevent a cross connection to the domestic water system. The pipeline would be equipped with control valves

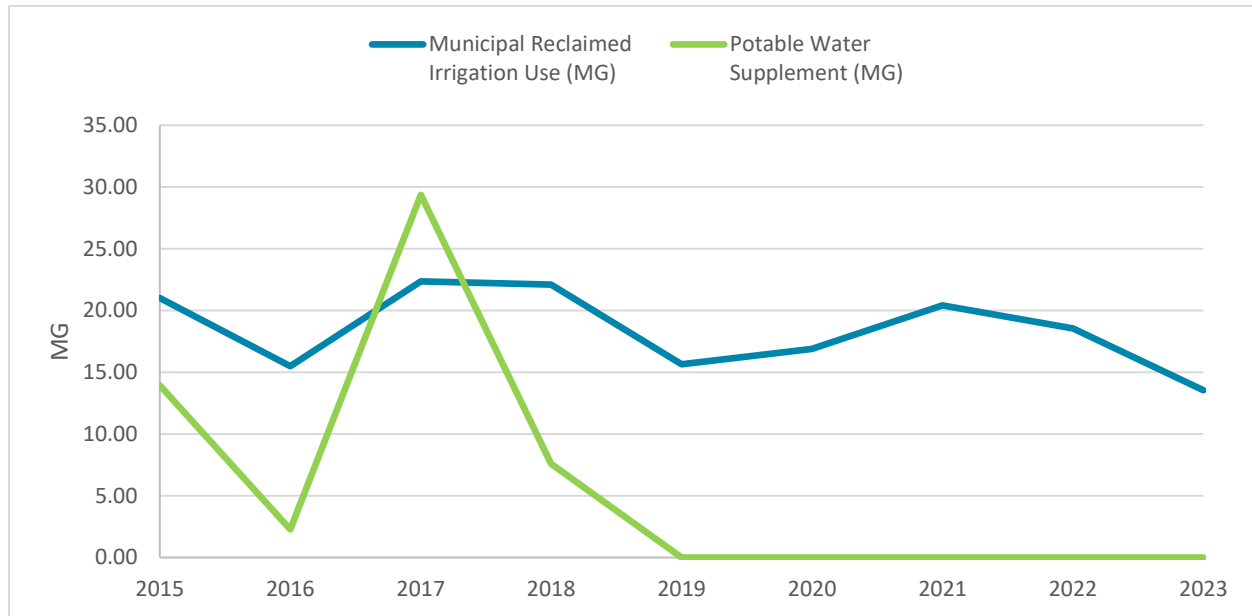
to regulate flow and a flow meter with a telemetry connection to allow the City to monitor water use. **Figure 3** shows a schematic of this alternative.

Figure 3
Alternative 1 Schematic



The City's Water Use Efficiency (WUE) Program, in accordance with the WUE Rule in the Municipal Water Supply – Efficiency Requirements Act, is helping to curtail excess potable water demands. Prior to 2019, potable water was used occasionally to supplement reclaimed water for irrigation. Since 2019, the City has not supplemented reclaimed water demands with potable water. **Figure 4** shows the historical annual municipal reclaimed water irrigation usage and potable water supplement. Converting municipal customers' irrigation supply from reclaimed water to potable water will result in higher potable water usage for irrigation. This will result in higher potable water usage for irrigation and may result in greater burden to water supply which has not been accounted for in water system planning.

Figure 4
Municipal Reclaimed Irrigation Use and Potable Water Supplement



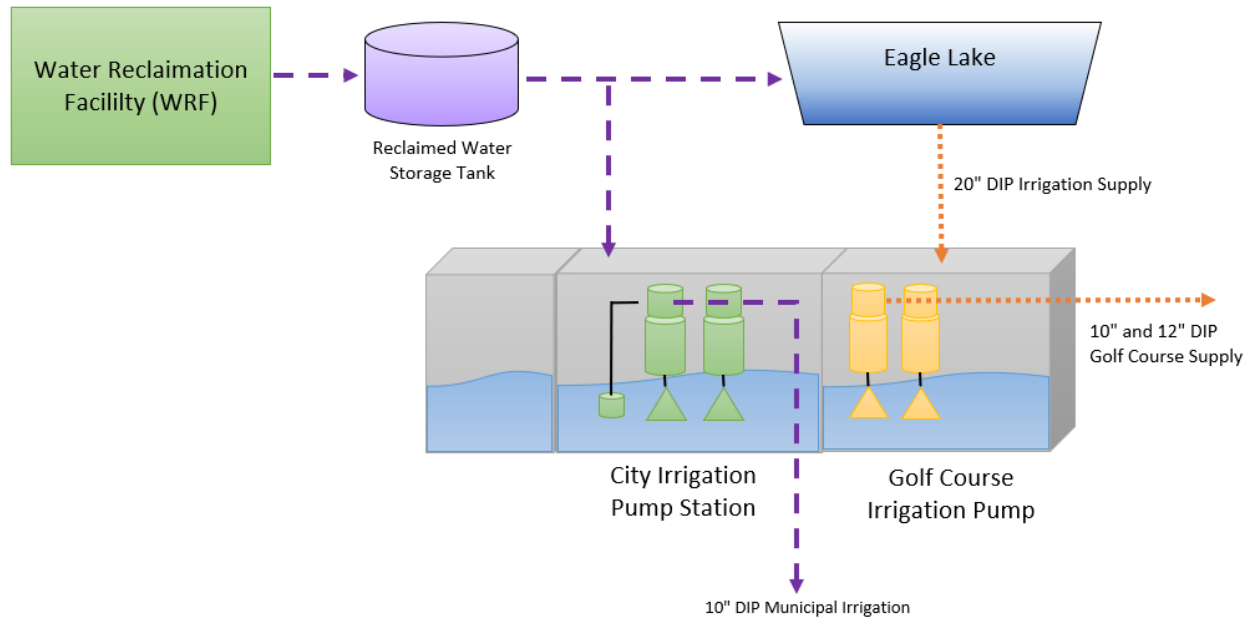
Converting the City's irrigation supply to potable water also will cause an increase in prices for City customers currently billed for reclaimed water. Per City Ordinance 1187, the rate for retail customers of the municipal irrigation system for reclaimed water is a flat rate (based on the percent of total zones a customer owns) plus a volumetric rate of \$3.21 per 100 cubic feet (ccf) in 2023. The commercial water/potable irrigation rate is a flat rate (based on the size of the customer's water meter) plus a volumetric rate of \$4.09/ccf in 2023 (assuming the usage falls within 300 to 801 ccf). Therefore, transitioning customers from reclaimed water to potable water would result in a cost increase of \$0.88/ccf in 2023.

The Water System Plan (WSP) details future water rights and source capacity limitations. Table 6-3 of the WSP shows that instantaneous water rights would be deficient by 2040 even factoring Water Use Efficiency (WUE). Table 7-2 of the WSP shows that projected water source capacity would be deficient by 2030. Due to the City's population growth, limited water rights, and customer cost impacts, potable water is not a viable long-term solution for the City to comply with the Reclaimed Water Rule.

Alternative 2: Separation of City Reclaimed Water Irrigation System

Alternative 2 consists of constructing a new reclaimed water reservoir. Reclaimed water produced at the WRF would be stored in the reservoir and then connected to the irrigation distribution system at the IPS, thereby completely separating Eagle Lake from the municipal irrigation system. This alternative would provide the City with complete control of the reclaimed water quantity and quality as it leaves the WRF. Eagle Lake would continue to be supplied with reclaimed water for use by the Golf Course. **Figure 5** shows a schematic of this alternative.

Figure 5
Alternative 2 Schematic



Alternative 2A: Reclaimed Water Reservoir with Chlorination

To maintain a chlorine residual per WAC 173-219-370, a chlorination system would inject sodium hypochlorite into the City's irrigation pump station discharge as the water is pumped to the municipal irrigation distribution system. The disinfection infrastructure would include a bulk sodium hypochlorite chemical storage and feed system, chlorine residual analyzers in the irrigation distribution system at key locations (to ensure a residual greater than 0.2 mg/L free chlorine or greater than 0.5 mg/L total chlorine), and electrical and control improvements.

The disadvantages of chlorinating reclaimed water not only include the additional capital and operational costs for the chemical feed system, but also the challenges and labor required to maintain a chlorine residual in this type of distribution system. As shown in **Figure 1**, unlike a potable water distribution system that typically loops fresh water throughout a system, the reclaimed water distribution system consists of a 10-inch-diameter transmission main to Eagle Lake and a branching network of irrigation lines from the pump station. This results in many dead-end, small diameter pipelines, each with their own extended water age issues. It would be challenging to monitor the various extents of the irrigation zones for chlorine residual. It would be even more challenging to consistently maintain a healthy chlorine residual in an intermittent system that only operates overnight and is dormant for most of the day. A fully looped irrigation system would require a complete rebuild of this distribution system.

Alternative 2B: Reclaimed Water Reservoir without Chlorination

WAC 173-219-370 allows for the distribution chlorine residual requirement to be waived or modified if the reclaimed water generator can demonstrate a benefit from reducing or eliminating the chlorine residual. The City previously requested a distribution chlorine residual waiver in a December 2015 Engineering Report under the condition that the chlorination disinfection system be maintained to either mitigate biological growth within the irrigation distribution system or provide disinfection in the event the ultraviolet (UV) disinfection system

cannot meet reclaimed water standards. In 2019, the City received formal approval from Ecology and the Washington State Department of Health (DOH) to waive the distribution chlorine residual requirement for the UV application. The City is requesting that Ecology and DOH continue to waive the distribution chlorine residual requirement for the proposed application of completely separating Eagle Lake from the municipal irrigation system by constructing a reclaimed water reservoir. The many benefits of not chlorinating the City's reclaimed water include the issues referenced previously. City operations staff would not need to operate and maintain the chlorine storage and feed equipment or monitor chlorine residual throughout the various dead-end irrigation zones overnight during the hours of irrigation.

One of the strongest reasons to not chlorinate is that the City has been operating this irrigation system for more than two decades without any recorded violations or public health concerns regarding the use of reclaimed irrigation water. The City has complete control of the irrigation system, there are no unauthorized users of the reclaimed water system, and the late-night hours of operation limit human exposure to the Class A reclaimed water. Augmenting this water with a chlorine residual would require extensive additional maintenance for City staff with minimal health benefit.

To provide disinfection flexibility, the City can keep the WRF reclaimed water pump discharge chemical injection point available if sodium hypochlorite is ever needed to sanitize the irrigation distribution system in an emergency. The City previously chlorinated Class A reclaimed water before the UV light disinfection system was implemented at the WRF.

Recommendation

Separating the City's reclaimed water allotment from Eagle Lake by installing a new closed water reservoir is the best solution to meet the updated Permit requirements. This will allow the City to have full control of the quality of reclaimed water generated by the WRF. Maintenance of a chlorine residual to comply with WAC 176-219-370 may require rebuilding the City's entire irrigation distribution system, as well as extensive operator labor to maintain and operate a chlorine storage and injection system and monitor chlorine residuals in dead-end zones overnight. The non-looped irrigation distribution system may not feasibly sustain a chlorine residual due to extensive water quality issues within dead-end pipes. The effort required for maintaining this residual has minimal benefit since the City has had no reported public health issues with humans interacting with this reclaimed irrigation water since 1999 when construction was completed. It would be challenging to estimate the costs of chlorinating reclaimed water while upgrading the reclaimed water distribution system to ensure a persistent chlorine residual. The City is formally requesting Ecology waive the requirement of maintaining a chlorine residual as outlined in WAC 173-219-370, since separation through a proposed reclaimed water reservoir will meet the intent of the NPDES Permit.

Reclaimed Water Reservoir Preliminary Design

Reservoir Sizing

The reservoir will be sized to provide at least enough storage to meet the maximum day demand of the existing system over the 8 hour irrigation period. The irrigation period is from 10 PM to 6 AM and most reclaimed water is produced during the day. **Table 3** shows the basis of design for the reservoir's volume.

Table 3
Reclaimed Water Reservoir Volume Basis of Design

Condition	Criteria	Design Usage (gal)
Average Daily Demand	Average Day Demand (During Peak Irrigation Season)	180,000
Minimum Storage Volume	1.5 x Average Day Demand (per Reclaimed Water Facilities Manual)	270,000
Maximum Daily Storage Volume	Maximum Production from 2019-2022	360,000
Conservative Maximum Daily Storage Volume	Maximum Production with a 10% Safety Factor	400,000
Maximum IPS Pumping Condition	Eagle Lake Pump Station capacity with two 500 gpm pumps continuously running for 8 hours each night	480,000

The proposed reservoir should be sized to store approximately 400,000 gallons to provide some conservatism for the maximum daily volume. The exact size will be determined in a future phase of this project.

Reservoir Location

The proposed reclaimed water reservoir will be constructed along the reclaimed water transmission main that currently runs from the WRF to Eagle Lake. Reclaimed water will flow from the reservoir to the IPS and bypass Eagle Lake. A new control structure and clearwell also will need to be installed at the IPS. **Figure 6** provides six possible sites for the proposed reservoir. Sites 1 and 2 are preferable as they are out of the neighborhood's public view; however, they are both within Bonneville Power Administration's (BPA) easement and would require additional coordination and permitting prior to construction. If the BPA permitting timeline would prevent the tank from being constructed and operational by June 30, 2026, then Site 3 or 4 should be selected. Site 3 is within view of the Golf Course and many homeowners; therefore, it would require additional coordination with these stakeholders. Site 4 is at the WRF. This site would simplify operations and maintenance; however, due to hydraulic constraints, a reservoir at the WRF would have to be very shallow and would be significantly more expensive than the other sites. Site 5 would require constructing an additional clarifier at the WRF and utilizing it as a reclaimed water reservoir until City growth requires it to function as a clarifier to increase WRF treatment capacity. This option was eliminated as it is significantly more expensive than sites 1-3 and once a third clarifier is needed at the WRF, another reclaimed water reservoir also would be necessary. Site 6 is next to the IPS. This site was

eliminated due to the large number of existing utilities in the area. **Planning-Level Capital Costs** for all six sites are presented later in this Report.

Reservoir Access

The site will be developed to allow for large vehicles to drive to the infrastructure for any future work. The reservoir will be buried or partially buried depending on the selected location. There will be a single roof access hatch that will be a minimum of 30 inches in diameter for interior access and transport of any maintenance equipment inside the reservoir. The interior access ladder will be stainless steel and equipped with a safety climb system. The reservoir will be designed to prevent any stormwater intrusion to maintain the water quality of the reclaimed water.

Reservoir Mechanical

A control structure or mechanical piping system will be designed in a future phase of this project to split reclaimed water flows to the reservoir and to Eagle Lake. Due to the volume differences between the reservoir and Eagle Lake, the intent of the control structure would be to prioritize filling the reservoir first. The reservoir inlet pipe will be ductile iron outside of the reservoir, stainless steel under and through the reservoir foundation, and coated steel within the reservoir. The inlet pipe sizing and location will be determined during future phases of the project.

The separate outlet pipe also will be coated steel pipe inside the reservoir, stainless steel piping through the reservoir, and ductile iron piping outside the reservoir. There also will be new ductile iron piping from the reservoir outlet to the City's municipal irrigation pump station clearwell. The outlet pipe sizing will be determined during future phases of the project.

The reservoir control structure would direct any reservoir overflow water to Eagle Lake. This will be designed during future phases of the project. Reservoir drainage will also be determined during the design phase of the project and will account for the partially buried or completely buried structure, likely through piping or an accessory structure.

All pipes entering or leaving the reservoir will have expansion joints to allow for differential settling without putting strain on the pipes.

The reservoir will have one roof vent to move air during normal operation and provide vacuum protection for a major drawdown event. The vent system will be confirmed during the design phase of the project.

Reservoir Electrical, Telemetry, and Lighting

The reservoir instrumentation will communicate with the City's Supervisory Control and Data Acquisition (SCADA) system through fiber optic lines. The location of the existing wiring that can be extended to the site will be evaluated during future phases of the project.

The SCADA system at the reservoir site will monitor reservoir levels, notify staff of access hatch intrusion, and notify the City if there is an overflow event. Updates to the telemetry system at

the IPS will allow City operators to monitor and control water levels in Eagle Lake and the bypass control structure.

The reservoir will have site lighting to help facilitate City staff to access the reservoir anytime throughout the day. Additional security measures will be determined during future phases of the project.

Operations and Maintenance Considerations

City WRF staff would operate and maintain the proposed reservoir and control structure, but the required labor is expected to be minimal due to the passive nature of these distribution system improvements.

If irrigation water is required in early spring before the WRF starts producing Class A reclaimed water regularly, then the irrigation system should be configured to be supplemented with potable water through an air gap or an approved backflow prevention device for potable cross-connection control.

The City can plan on shock chlorinating the transmission main, reservoir, and pipeline routinely as a maintenance procedure to ensure sanitary conditions at the start of each irrigation season. The emergency chlorination injection point can be activated for this activity. At the end of each irrigation season, the irrigation distribution system can be flushed and drained as much as possible.

Once construction of the reclaimed water reservoir is complete, the City will update its *Reclaimed Water Operations and Maintenance Manual* per the NPDES Permit requirements. This will include shock chlorination and flushing protocols for the reclaimed water distribution system, updates to the sign maintenance program, and cross-connection control maintenance activities, such as proper backflow prevention assembly testing protocols.

Planning-Level Capital Costs

This section summarizes the capital costs of the reclaimed water storage tank alternatives presented in **Figure 6**. **Table 4** presents an opinion of probable construction and overall project costs for a proposed reservoir on Sites 1 through 3, as these three sites have similar capital costs related to being undeveloped with minimal existing infrastructure and utilities. **Table 5** presents an opinion of probable cost for Site 4, which is significantly higher than Sites 1, 2, and 3 due to the shallow and wide geometry of the proposed tank to make the WRF location feasible. **Table 6** presents an opinion of probable cost for Site 5, which constructs a new clarifier to function as a reclaimed water reservoir. **Table 7** presents an opinion of probable cost for Site 6, which locates the proposed reservoir directly adjacent to the IPS. Costs and contingencies will be further refined during future phases of the project.

Table 4
Engineer's Opinion of Probable Capital Cost for Sites 1 through 3 (Greenfield Sites)

Item	Unit	Total Cost
Mobilization, Demobilization, Site Prep, and Cleanup (10%)	LS	\$265,000
Site Work	LS	\$275,000
Structural	LS	\$2,239,000
Utility	LS	\$100,000
Electrical, Telemetry, and Automatic Control	LS	\$100,000
Construction Cost Subtotal		\$2,979,000
Construction Contingency (30%)		\$894,000
Sales Tax (8.9%)		\$265,200
Total Estimated Construction Cost		\$4,139,000
Engineering Design, Survey, Geotechnical, Permitting, Bid-Phase Services, Construction-Phase Services		\$1,449,000
City Project Administration		\$621,000
Total Project Cost		\$6,300,000

Table 5
Engineer's Opinion of Probable Capital Cost for Site 4 (at WRF)

Item	Unit	Total Cost
Mobilization, Demobilization, Site Prep, and Cleanup (10%)	LS	\$323,000
Site Work	LS	\$300,000
Structural	LS	\$2,688,000
Utility	LS	\$90,000
Electrical, Telemetry, and Automatic Control	LS	\$150,000
Construction Cost Subtotal		\$3,551,000
Construction Contingency (30%)		\$1,066,000
Sales Tax (8.9%)		\$316,000
Total Estimated Construction Cost		\$4,933,000
Engineering Design, Survey, Geotechnical, Permitting, Bid-Phase Services, Construction-Phase Services		\$1,727,000
City Project Administration		\$740,000
Total Project Cost		\$7,400,000

Table 6
Engineer's Opinion of Probable Capital Cost for Site 5 (WRF Clarifier)

Item	Unit	Total Cost
Mobilization, Demobilization, Site Prep, and Cleanup (10%)	LS	\$302,000
Site Work	LS	\$450,000
Structural	LS	\$1,715,000
Utility	LS	\$450,000
Electrical, Telemetry, and Automatic Control	LS	\$400,000
Construction Cost Subtotal		\$3,317,000
Construction Contingency (30%)		\$996,000
Sales Tax (8.9%)		\$296,000
Total Estimated Construction Cost		\$4,610,000
Engineering Design, Survey, Geotechnical, Permitting, Bid-Phase Services, Construction-Phase Services		\$1,614,000
City Project Administration		\$692,000
Total Project Cost		\$7,000,000

Table 7
Engineer's Opinion of Probable Capital Cost for Site 6 (at IPS)

Item	Unit	Total Cost
Mobilization, Demobilization, Site Prep, and Cleanup (10%)	LS	\$316,000
Site Work	LS	\$400,000
Structural	LS	\$1,910,000
Utility	LS	\$750,000
Electrical, Telemetry, and Automatic Control	LS	\$100,000
Construction Cost Subtotal		\$3,476,000
Construction Contingency (30%)		\$1,041,000
Sales Tax (8.9%)		\$309,000
Total Estimated Construction Cost		\$4,826,000
Engineering Design, Survey, Geotechnical, Permitting, Bid-Phase Services, Construction-Phase Services		\$1,687,000
City Project Administration		\$723,000
Total Project Cost		\$7,300,000

Sites 1, 2, and 3 are the lowest cost options for the proposed reclaimed water reservoir and are to be further explored during future phases of this project. Locating the reservoir at the WRF (Site 4) was eliminated since it is more expensive and would reduce the amount of expandable area at the WRF. While developing a third WRF clarifier (Site 5) would be more expensive than Sites 1 through 3, it has the benefit of being converted into a future clarifier when needed.

However, this option postpones a true reclaimed water storage solution for the future and has been eliminated. Building the reservoir directly at the IPS (Site 6) would require a massive reconstruction of below-grade utilities; this option has been eliminated due to the additional cost and unknown risks.

Conclusions and Next Steps

The recommended alternative to comply with the Reclaimed Water Rule is for the City to store reclaimed water in a proposed reservoir, separating this supply. The proposed reservoir should be located in an open area near the Golf Course away from existing infrastructure and utilities (proposed Sites 1, 2, and 3). The irrigation system is a non-expanding system with no proposed new reclaimed water users in the near future. The existing infrastructure was operated and maintained for more than two decades with no public health concerns since the City irrigates overnight to minimize human exposure. Implementing a chlorination system to provide a chlorine residual would incur extensive costs and labor for minimal benefit.

The predesign and site selection will be finalized in 2023. A preliminary environmental review and planning-level State Environmental Policy Act (SEPA) Checklist will be prepared in 2023 and will be amended to a project-level SEPA in a future phase of this project after site selection. Design of the recommended improvements is anticipated to begin in 2024, with the goal to have construction complete by June 30, 2026, to comply with the milestones listed on the Permit. The preliminary design-level cost estimate for this project is between \$6,000,000 to \$7,000,000, depending on the selected tank location.

Figures







LEGEND	
	WATER RECLAMATION FACILITY
	CLASS A PUMP STATION
	10" RECLAIMED WATER CLASS A TRANSMISSION MAIN
	CITY RECLAIMED WATER SYSTEM IRRIGATION PIPING




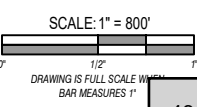
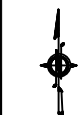
FIGURE 1: EXISTING RECLAIMED WATER SYSTEM MAP	
RECLAIMED WATER DISTRIBUTION SYSTEM ENGINEERING REPORT	
 	  <p>SCALE: 1" = 800'</p> <p>DRAWING IS FULL SCALE UNLESS NOTED OTHERWISE</p>
<p>PLOT DATE: 6/28/2023</p> <p>FILE PATH: J:\Data\SNOQ22-0187\CAD\dwg-4-fig1.dwg</p>	



FIGURE 6: POTENTIAL RESERVOIR LOCATIONS

RECLAIMED WATER DISTRIBUTION SYSTEM ENGINEERING REPORT



SCALE: NTS
0' 1/2" 1"
DRAWING IS FULL SCALE WHEN
BAR MEASURES 1"



SEWER CAPITAL PROJECT OR PROGRAM

EAGLE LAKE WATER RECLAMATION BASIN IMPROVEMENT PROJECT

CIP Project ID: TBD
 Department: Sewer
 Project Status: Pre-Design
 Project Location: Eagle Lake
 Project Contact: Jeff Hamlin

Previously Spent: \$0
 Current Project Budget: \$3,332,000
 Original Budget at CIP Inception: \$0

Years Project in CIP: 0

Contact Email: jhamlin@snoqualmiewa.gov

Project Description:

This project will address Department of Ecology regulatory changes for managing reclaimed water. A planning effort will be coordinated with Department of Ecology to determine a reasonable solution, followed by design and construction of a facility to store or treat the irrigation water prior to use.

Photo or Map:



Community Impact:

Because of the unique characteristics of Snoqualmie's Reclaimed Water System, the Department of Ecology's recently adopted "Reclaimed Water Rule" is difficult to apply. Reasonable solutions may include a reclaimed water reservoir near Eagle Lake or a chlorination system for irrigation water used in public spaces.

Operating Impact:

This project is not expected to impact the operating budget.

Budget:

Project Activities	% of Budg.	Total Activity Budget	Previously Spent	2023	2024	2025	2026	2027	2028	2029 or Beyond
Analysis	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Design	9%	\$ 307,083	\$ -	\$ 101,449	\$ 205,634	\$ -	\$ -	\$ -	\$ -	\$ -
Construction	61%	\$ 2,034,151	\$ -	\$ -	\$ -	\$ 1,240,161	\$ 793,989	\$ -	\$ -	\$ -
Const. Manage	9%	\$ 305,123	\$ -	\$ -	\$ -	\$ 186,024	\$ 119,098	\$ -	\$ -	\$ -
Contingency	12%	\$ 406,830	\$ -	\$ -	\$ -	\$ 248,032	\$ 158,798	\$ -	\$ -	\$ -
Art	0%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Labor	5%	\$ 177,106	\$ -	\$ 4,551	\$ 9,366	\$ 91,774	\$ 71,415	\$ -	\$ -	\$ -
Other	3%	\$ 101,708	\$ -	\$ -	\$ -	\$ 62,008	\$ 39,699	\$ -	\$ -	\$ -
TOTAL	100%	\$ 3,332,000	\$ -	\$ 106,000	\$ 215,000	\$ 1,828,000	\$ 1,183,000	\$ -	\$ -	\$ -
Operating		\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TOTAL PROJECT BUDGET: \$3,332,000

TOTAL OPERATING BUDGET: \$0

Anticipated Funding Mix:

Source	Total Sources	Previously Allocated	2023	2024	2025	2026	2027	2028
Utility Fees ("Rates")	\$ 3,332,000	\$ -	\$ 106,000	\$ 215,000	\$ 1,828,000	\$ 1,183,000	\$ -	\$ -
TOTAL	\$ 3,332,000	\$ -	\$ 106,000	\$ 215,000	\$ 1,828,000	\$ 1,183,000	\$ -	\$ -

Fiscal

TOTAL FUNDING SOURCES: \$3,332,000

Notes:

FUTURE FUNDING REQUIREMENTS: \$0