



DROUGHT RELIEF GRANT APPLICATION

Ecology Use Only

Application Number			
D2015	3	5	- 50
Date			
9/18/2015			

The information provided in this application will be used to determine general eligibility for funding from the Drought Relief Program, and the priority or ranking of the proposal amongst other competing proposals.

Separate application must be made for any needed emergency drought authorization. Before final approval of grant funding, the applicant must submit copies of all required permits and other authorizations needed for the proposal to Ecology for our review.

1. Applicant Name(Public Body): City of Sequim			
Address: 152 W. Cedar St.	City: Sequim	State: WA	Zip: 98382
(a) Authority (State Law): RCW 35.02			
(b) Date Organized: 1914			

2. Contact Person: Charlie Bush		Title: City Manager	
Address: 152 W. Cedar St.	City: Sequim	State: WA	Zip: 98382
Email: cbush@sequimwa.gov		Phone #: 360-681-3440	

3. PROJECT(S) DESCRIPTION	<p>Provide a description of the proposed project(s) and a detailed scope of work. Attach additional sheet(s) if necessary. Attach a map (U.S.G.S. Quad or comparable) showing the geographic location of the proposed project(s).</p> <p>PROJECT DESCRIPTION</p> <p>A detailed description and maps of the City of Sequim’s drought relief project may be found in Attachment 1, a letter amendment to our Water Reuse Plan, dated July 15, 2015, addressed to Greg Zentner, P.E. (Ecology SWRO Water Quality Program) and signed by Nancy Lockett, P.E. (Gray & Osborne, Inc.). The following is an excerpt:</p> <p>“The proposed amendment to the Water Reuse Plan will include introducing additional Bell Creek augmentation flows at the existing Outfall 002 in the Reuse Demonstration Site, controlled via the existing V-notch weir, and introducing augmentation flows further downstream in Bell Creek at approximately the Water Reclamation Facility (WRF). Additional augmentation flows would range from 0 to 2 cfs (0 to 900 gpm).</p> <p>The introduction of two additional locations for Bell Creek augmentation will allow the City to make sure adequate augmentation flows are available for Bell Creek users. The City and Ecology have noted that during certain times of the year, there is no flow in Bell Creek in the vicinity of the City Shop and the Reuse Demonstration Site. During no-flow periods, augmentation with reclaimed water at the current augmentation rate of 0.1 cfs does not appear to influence the amount of water in the lower reaches of Bell Creek. The City will evaluate the flow rate available in Bell Creek from each of the discharge locations.</p>
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The City is proposing this amendment in response to drought conditions in the Dungeness Watershed. The City will not introduce additional reclaimed water into Bell Creek after the irrigation season ends or December 31, 2015, whichever is later, without a separate amendment to this plan.”

DETAILED SCOPE OF WORK

TASK 1. Project planning, design and administration

The City worked with permitting agencies including Ecology, WDFW, and DOH and received approval from each to proceed. We also worked with the reclaimed water recipients, Ben and Gary Smith of Maple View Farm, on the feasibility and design of the project, resulting in an end-user agreement signed by both parties. (See attachments 2-6.) Otherwise, activities included tracking time and expenses, and applying for this grant funding.

TASK 2. Monitoring

The City knows it's important to understand how the addition of reclaimed water at two different points in Bell Creek affects downstream flow levels and water quality. For this effort the City established appropriate sites with staff gages on Bell Creek above and below each potential outfall. Stage height and flow measurements have been made frequently since before augmentation, following protocols found in the Ecology-approved QAPP for Streamkeepers of Clallam County (2011). The City is also measuring stream temperature and dissolved oxygen (using a Hach LDO model HQ40d) at most sites on Bell Creek and for the reclaimed water before it enters the Creek. This monitoring will continue at least once per week until after creek augmentation is discontinued.

TASK 3. Site preparation and construction

Construction and use of the new outfall to Bell Creek at the WRF/farm needed to avoid erosion and other potential impacts to the creek. To accomplish this, an energy-dissipating waterfall of cobble was built by hand on the streambank for the new outfall. Otherwise, a ditch was dug with City staff and equipment and 600' of 4" pipe was installed from the source at the WRF "flow-through" channel to the City-farm property line; the final 100' across the farm property to the Creek is 12" pipe. Attachment 7 is an aerial photo with details about these features.

TASK 4. Outreach

Given the efforts taken by individuals, businesses, and many other entities to conserve water this summer, it was important for the City to educate about the multiple benefits of this drought-relief project. A news release with photos announced the initiation of reclaimed water flowing into Bell Creek (picked up by AP and several local and Seattle news outlets in late August), and a 2-minute movie was produced for local and regional use and posted on YouTube.

Video: <https://youtu.be/0ve4T4zOvHs>

Photos: see Attachment 8

4. DESCRIPTION OF NEED

Describe what would occur without the benefit of the proposed project(s), including: the nature of the actual hardship, both short-term and long-term impacts, the expected loss of normal water supply by percentage, and the estimated potential financial losses. Explain why these circumstances constitute a water supply emergency resulting from natural-caused drought conditions, rather than a pre-existing condition during a normal water year.

The primary benefits of the City's drought-relief project include (1) certainty of irrigation for feed crops to a commercial dairy (Maple View Farm) and (2) flow augmentation to lower Bell Creek.

The hardship related to (1): Maple View Farm avoided the potential for losing more than \$5,000 worth of feed for dairy cattle from the 35 acres irrigated from Bell Creek for one month, if the Farm's Bell Creek source had not had enough water.

Regarding hardships related to (2): Bell Creek supports Coho, Steelhead, and Cutthroat, all of which are counted in the dozens if not hundreds by the Jamestown S'Klallam Tribe when staff conducts smolt trapping each spring. The assemblages of riparian flora and fauna in the spring-fed, lowest reaches of Bell Creek are adapted to year-round streamflow, so they would certainly be affected with low or no streamflow – as would the creek's estuary, Washington Harbor at the entrance to Sequim Bay. The exactly nature of potential short- or long-term hardships is not known.

The low water supplies in streams, springs, and aquifers this summer season are unprecedented and the result of extreme snowpack drought in the Olympic Mountains. The Dungeness watershed (which includes Bell Creek) was included in the Governor's first round of drought declarations in March 2015.

Flow in the Dungeness River at the upper (USGS) gage was until the end of August consistently about one third the long-term average flow. In fact, Sequim's drought relief project using reclaimed water had the potential to replace a similar volume of Highland Irrigation District's diversion from the Dungeness River; however, Maple View Farm already had lease agreements to forego irrigation from the Dungeness between August 15 and September 15. In this case, the short-term hardship would have been less water for incoming salmonids (Chinook, Pink, Coho) to migrate and spawn. The long-term hardship of reduced habitat and flows for these species are not known, nor are potential financial losses associated with these impacts on salmon.

An additional impact resulting from a season of abnormally low flows in the Dungeness is the reduced amount of recharge to the aquifer system normally provided by the Dungeness River. A 1999 USGS study (Blake Thomas et al) estimated that 25% of the average annual recharge to the local (watershed) aquifer system is supplied by Dungeness River leakage. In years like this one, that % may be much lower – and with consecutive years of less than average recharge, the impacts will extend to increasing numbers of well users.

5. EXPECTED OUTCOME(S)

Describe how the projects would reduce or avoid harm or hardships and any measures planned to assure the capability and reliability of the proposed project(s) to provide an emergency water supply to the applicant.

Sequim's drought relief project is effectively a pilot for supplying reclaimed water on short notice to fill an emergency need. Thanks to the success this project providing reliable flow augmentation and irrigation for use by commercial farmers, and avoiding hardship, it is known that the City's reclaimed water can be made available for similar uses when the need arises.

This project augmenting flows in Bell Creek reduces harm related to low streamflows experienced by migrating/spawning salmonids (Coho, Steelhead, Cutthroat) – and also improves the conditions for natural leakage that maintains groundwater recharge and the stability of the aquifer system. From monitoring data collected in the first 8 weeks of the project, we know the following:

- Increased reclaimed water flows to Carrie Blake Park ponds (260 gpm, or 0.6 cfs, additional) provided streamflow where there was none for a quarter-mile, at least. Flow 0.8 mile further down Bell Creek (just upstream of the WRF) rose significantly (from about 0.03 to 0.13 cfs) but not enough to offset the farm's needs, and resulting in the choice to construct the City's ultimate project, installation of pipe and a new outfall direct to the creek near the WRF.
- The addition of reclaimed water at the new WRF outfall (218 gpm, or 0.49 cfs) increased streamflow in Bell Creek by roughly 0.4 cfs, according to City monitoring data.
- Below the pump, streamflow volume changes dramatically depending on pumping; benefits to streamflow from reclaimed water augmentation have not been quantified.

6. WATER SHORTAGE RESPONSE ACTIONS ALREADY TAKEN

Describe the measures taken by the applicant to plan for or mitigate the effects of drought (e.g., conservation, irrigation efficiency measures, leakage, elimination of non-essential uses).

- Conservation: Monthly newsletters to all utility customers (roughly the same as all residents) contained information on the drought and encouragement for water conservation starting with the June 1st billing – and it seems to have been effective: *Utility records show that consumption for August 2015 dropped 11% from August 2014.*
 - Tiered water rates were adjusted for purposes of increased water conservation and went into effect in Jan. 2015.
- Outreach: Presentations on water conservation to three homeowner associations were provided upon request in June and July; these included information on the City's newly-released draft surface water management plan, which is based on the premise that stormwater is a valuable resource for Sequim.
- Irrigation efficiency/elimination of non-essential uses: City landscaping and playfields are irrigated with reclaimed water, but irrigation for those purposes was cut back once streamflow augmentation (for this project) and commercial use was underway.
- Leakage: Water line leakage was addressed, with one fix completed in August.

7. WATER RIGHTS

- (a) Describe whether you have or will be submitting an application for an emergency drought authorization and or have other pending water right applications

Not applicable.

- (b) List the applicant's legal water rights to divert or withdraw water for use on land within the applicant's legal boundaries, and attach copies.

Not applicable.

8. INTERGOVERNMENTAL COORDINATION

Provide a summary of how the applicant has and/or will consult with affected agencies and/or Indian Tribes prior to and during implementation of the proposed project(s). Include a list of the affected agencies and Indian Tribes and a summary of impacts/approvals if known. (Attach an additional sheet if necessary.)

Discussions on this project began between the City and state agencies this spring when the snowpack drought was evident, with consideration of several potential places that our reclaimed water could be used to replenish the natural system and/or as replacement for stream or river irrigation diversions. The implemented project was chosen because of its multiple benefits: commercial irrigation, creek augmentation, and potential reduced River diversions. The following individuals were consulted for approvals:

Ecology Water Resource Program (Mike Gallagher) agreed in concept with the proposal via phone on June 25, 2015.

Ecology Water Quality Program (Greg Zentner) accepted the City's amendment to its Water Reuse Plan; Greg's approval letter dated August 7, 2015, is Attachment 2.

WDFW (Chris Byrnes) reviewed the HPA and visited the project site on August 17, 2015, authorizing start of construction the following day. See Attachment 3.

Dept. of Health (Mamdouh El-Aarag) indicated no objection to the end-user agreement and project via email dated July 23, 2015, Attachment 5.

Streamflow restoration is a known area of focus for the Jamestown S'Klallam Tribe, though Tribal staff were not consulted during the planning stages of this project.

9. PROJECT(S) SCHEDULE/DURATION

(a) When do you expect to have all the required permitting, approvals, and funding?

Required permitting and approvals were obtained by August 17th. The City covered all its expenses to date (Sept. 11, see Attachment 9). City expenses from Sept. 12th to Dec. 31st were estimated.

(b) Approximately how long will the proposed project(s) take to complete?

Installation of the pipe and new outfall took less than one week (August 18-24). Irrigation by Maple View Farm from Bell Creek with reclaimed augmentation will continue through the growing season, or December 31st, whichever is sooner. As long as reclaimed water augmentation is continuing, the City will conduct periodic monitoring.

(c) Expected project(s) schedule, including start date, completion date, and significant intermediary steps:

Planning and design of this project began in spring, with monitoring underway before Bell Creek augmentation began at Carrie Blake Park on July 29th and at the WRF/ farm property on August 25th. The additional flows at Carrie Blake were discontinued on August 24th. Augmentation from the WRF will continue until the rainy season is underway and the farmer doesn't need to pump water from Bell Creek, but no later than December 31, 2015.

10. PROJECT COMPONENTS

Check appropriate box or boxes and complete estimated cost for proposed activities under this grant.

- (a) Engineering design and report \$ n/a
- (b) Project(s) plans and specifications *(from HPA, attached)—Task 1* \$ 3006.40
- (c) Purchase of land, rights-of-way, easements \$ n/a
- (d) Construction—*Task 3* \$ 30,891.84
- (e) Construction engineering \$ n/a
- (f) Education and outreach—*Task 4* \$ 1,192.95
- (g) Other – *Monitoring—Task 2* \$ 8,474.22

11. FUND SOURCES	Estimated total project cost		Estimated eligible project cost	
(a) Total estimated project(s) cost	100 %	\$ 43,565.42	100 %	\$ 43,565.42
(b) Total estimated eligible project(s) cost	100 %	\$ 43,565.42	100 %	\$ 43,565.42
(c) Ecology grant share	50 %	\$ 21,782.71	50 %	\$ 21,782.71
(d) Match fund source(s): (specify)				
(e) City of Sequim	50 %	\$ 21,782.71	50 %	\$ 21,782.71
(f) Maple View Farm – in-kind excavation assistance	0 %	\$ 0	0 %	\$ 0
<input type="checkbox"/> Applicant may be exempt under WAC 173-167-040(3) from the fund match requirement				

12. CERTIFICATION

I certify to the best of my knowledge that the information in this application is true, complete, and correct and that I am legally authorized to sign and submit this information on behalf of the applicant.

Charles P. Bush
PRINT NAME


SIGNATURE

Sequim City Manager
TITLE

9/16/15
DATE

13. Send original, including attached sheets, maps, copies of water rights, and other supporting documents, to:

**Department of Ecology
Water Resources Program
PO Box 47600
Olympia, WA 98504-7600
ATTN: Rebecca Inman**

ATTACHMENTS:

1. Letter amendment to Water Reuse Plan, July 15, 2015
2. Approval letter for Water Reuse Plan Amendment, from Ecology, August 12, 2015
3. HPA (approval in person by Chris Byrnes, WDFW, August 17, 2015)
4. Signed end-user agreement, July 28, 2015
5. DOH email indicating approval in concept, July 23, 2015
6. Temporary construction easement, August 17, 2015
7. Project Map/Plan
8. Project photos
9. Detailed budget

ATT: 1



Gray & Osborne, Inc.

CONSULTING ENGINEERS

July 15, 2015

Mr. Greg Zentner, P.E.
Supervisor, Municipal Operations Unit
Washington State Department of Ecology
Southwest Regional Office
Water Quality Program
P.O. Box 47600
Olympia, Washington 98504-7600

**SUBJECT: LETTER AMENDMENT, WATER REUSE PLAN
CITY OF SEQUIM, CLALLAM COUNTY, WASHINGTON
G&O #15427.00**

Dear Mr. Zentner:

This letter will amend the City of Sequim Water Reuse Plan dated March 2015 to provide additional augmentation of Bell Creek flows in order to supplement irrigation water available to Bell Creek Agricultural Users. Additional augmentation of Bell Creek flows with reclaimed water will be used to replace irrigation water taken from the Dungeness River. The proposed amendment to the Water Reuse Plan will include introducing additional Bell Creek augmentation flows at the existing Outfall 002 in the Reuse Demonstration Site, controlled via the existing V-notch weir, and introducing augmentation flows further downstream in Bell Creek at approximately the Water Reclamation Facility (WRF). In addition, the City will discharge reclaimed water to Bell Creek in the vicinity of the City Shop during no-flow periods for seasonal beneficial use. Additional augmentation flows would range from 0 to 2 cfs (0 to 900 gpm). Except for irrigation deliveries, Bell Creek is generally dry from late spring to early fall.

The introduction of two additional locations for Bell Creek augmentation will allow the City to make sure adequate augmentation flows are available for Bell Creek users. The City and Ecology have noted that during certain times of the year, there is no flow in Bell Creek in the vicinity of the City Shop and the Reuse Demonstration Site. During no-flow periods, augmentation with reclaimed water at the current augmentation rate of 0.1 cfs does not appear to influence the amount of water in the lower reaches of Bell Creek. The City will evaluate the flow rate available in Bell Creek from each of the discharge locations.



Mr. Greg Zentner, P.E.
July 15, 2015
Page 2

The City is proposing this amendment in response to drought conditions in the Dungeness Watershed. The City will not introduce additional reclaimed water into Bell Creek after the irrigation season ends or December 31, 2015, whichever is later, without a separate amendment to this plan.

The following sections of the Water Reuse Plan will be amended as described below.

DESCRIPTION OF THE REUSE DISTRIBUTION SYSTEM

Add the following:

- A valved 6- or 8-inch lateral off of the 18-inch reclaimed water main immediately west of the WRF will direct reclaimed water for streamflow augmentation to Bell Creek. The flow will be metered. The discharge location is shown on Figure 2.
- A valved 6-inch lateral off of the 14-inch reclaimed water main at the City Shop. The discharge location is shown on Figure 3.
- Figure 2.
- Figure 3.

IDENTIFICATION OF USES, USERS, AND LOCATIONS OF REUSE SITES

Add the following:

- Reclaimed water for irrigation is provided to Site F – Bell Creek Agricultural Users via Bell Creek streamflow augmentation. Reclaimed water will be discharged to Bell Creek at the Reuse Demonstration Site and via a valved discharge on the main reclaimed water pipeline immediately west of the WRF.
- Reclaimed water will be discharged to Bell Creek in the vicinity of the City Shop (Site A) during no-flow periods for seasonal beneficial use.
- Figure 1 – revised.



Mr. Greg Zentner, P.E.
July 15, 2015
Page 3

EVALUATION OF REUSE SITES

Add the following:

- **Site A: City Shop Site**

Reclaimed water will be discharged to Bell Creek during no-flow periods for seasonal beneficial use.
- **Site B: The Reuse Demonstration Site**

Up to 2 cfs additional discharge from Outfall 002 to Bell Creek will be provided to supplement irrigation water. The existing v-notch weir at the outlet of the water quality pond will be adjusted to allow additional flow.
- **Site F: Bell Creek Agricultural Users**

Agricultural users currently pump water out of Bell Creek for irrigation. Reclaimed water discharged to Bell Creek for streamflow augmentation at the Reuse Demonstration Site, west of the WRF, and/or the City Shop will be available for irrigation. Use of reclaimed water to augment Bell Creek will minimize the amount of Dungeness River water required for irrigation.
- Figure 4.

MEANS OF APPLICATION

Add the following:

- **Site B: Augmentation to Bell Creek**

Additional streamflow augmentation up to 2 cfs will be provided to supplement irrigation water needs for Bell Creek Agricultural Users. The use of reclaimed water to supplement irrigation needs minimizes the need for using Dungeness River water for irrigation.
- **Site F: Bell Creek Agricultural Users**

It is anticipated that Bell Creek Agricultural Users will utilize spray irrigation techniques.



Mr. Greg Zentner, P.E.
July 15, 2015
Page 4

APPLICATION RATES

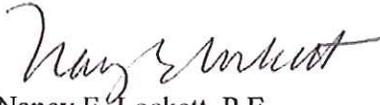
- **Site F: Bell Creek Agricultural Users**

The maximum volume of irrigation from reclaimed water stream flow augmentation is anticipated to be used by Bell Creek Agricultural Users is 2 cfs.

The City will develop a Standard Operating Procedure (SOP) for application to ensure that application does not exceed agronomic uptake rates for nitrogen; and any other provisions necessary to coordinate reclaimed water delivery and reuse and ensure compliance with the City's Reclaimed Water Permit (National Pollutant Discharge Elimination System Waste Discharge and Reclaimed Water Permit WA0022349). The Service and Use Area Agreement between the City and Bell Creek Agricultural Users (Permit Condition R1.G) will include this SOP and require adherence to it as a condition of water delivery.

Sincerely,

GRAY & OSBORNE, INC.


Nancy E. Lockett, P.E.

NEL/hhj
Encl.

cc: Mr. David Garlington, P.E., Interim Public Works Director, City of Sequim
Mr. Pete Tjemsland, Utilities Supervisor, City of Sequim



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

August 7, 2015

Mr. David Garlington, Director
City of Sequim Public Works Department
PO Box 1087
Sequim, WA 98382

RE: Water Reuse Plan, March 2015
Water Reuse Plan Amendment, July 15, 2015
Class "A" Reclaimed Water Service License Agreement (Pilot Project for Drought Relief, 2015)

Dear Mr. Garlington:

Pursuant to Revised Code of Washington (RCW) 90.46.240, and Chapter 173-240 Washington Administrative Code (WAC), the above-referenced documents have been reviewed and are hereby **Approved**.

We note that both the Plan Amendment and Service License Agreement reference application of water at agronomic rates. Given the lack of available metering, immediacy of drought conditions, and duration of the project, we suggest in lieu of use of agronomic rates to determine watering requirements, the city simply ensure via inspections that there is no runoff from irrigated lands.

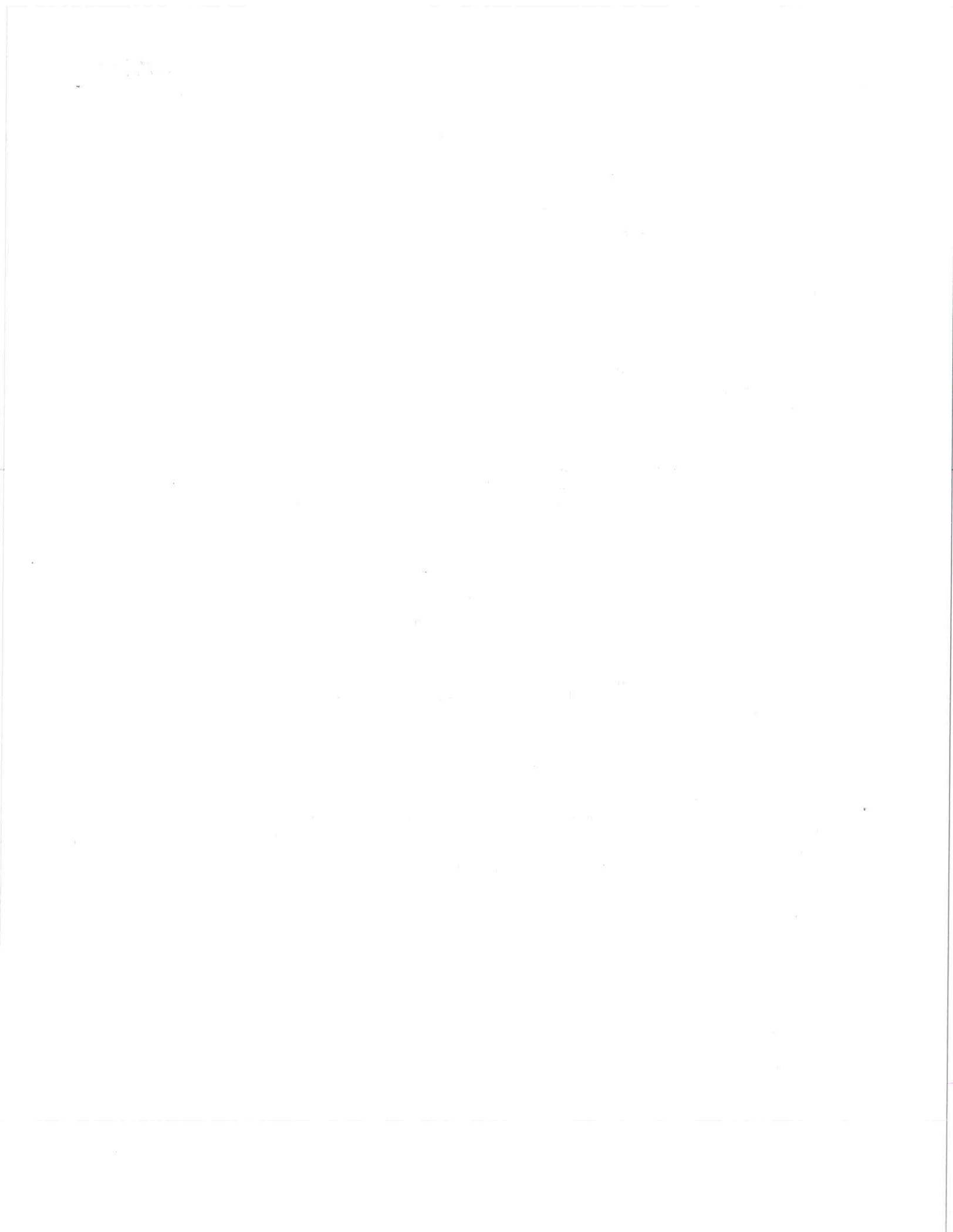
In the future we should review together the data the city collects to estimate reclaimed water usage and agronomic uptake rates, per permit condition R1.B.3. The plan is generally silent on nutrient uptake rates and includes limited information on water uptake rates. The plan estimates that the Re-Use Site / Carrie Blake Park requires about 42 MG per year, but does not note the amount of water applied to the site. The city may be estimating both the nutrient and water requirements and have monitoring in place to ensure that it is not over-applying nutrients; but that is not clear to us from the plan.

If you have any questions regarding this letter, please contact Gregory Zentner, Supervisor, Municipal Operations Unit at (360) 407-6368 or Greg.Zentner@ecy.wa.gov.

Sincerely,

Richard Doenges
Southwest Region Manager
Water Quality Program







Application ID: **5242** App Name: **Standard Hydraulic Project**
 Submitted Date: **8/13/2015 3:40:08 PM** Submitted by: **Ann Soule**
152 W Cedar St
Sequim WA 98382-3317
360-582-2436
asoule@sequimwa.gov



Status:

Application Information

Are you applying for a Pre-application?

You would request the Pre-Application process if:

1. You need to find out if an HPA permit is needed for your project, or
2. You want assistance from a biologist to discuss project details before submitting a complete application. WDFW strongly recommends using the pre-application process as a means to reduce application processing time, increase your understanding of the permit process, and to discuss options/alternatives for your project.

Are you applying for a General HPA without specific project locations?

Site Description:

Lower Bell Creek in eastern Clallam County UGA, approx RM 0.65

Application Type:

Standard Expedited Emergency

For immediate response to your emergency HPA, please call WDFW at 360-902-2637.

Standard: You should apply for a standard HPA if you do not qualify for an expedited or emergency HPA. The majority of hydraulic projects qualify only for a standard HPA.

Expedited: You may apply for an expedited HPA if there is an official declaration by the county legislative authority or the Department of Fish and Wildlife of a threat by weather, water flow, or other natural conditions that is likely to occur within sixty days of a request for a permit application. Expedited work may only be for work to remove any obstructions, repair existing structures, restore banks, protect fish resources, or protect property. The Department of Fish and Wildlife may also issue expedited HPAs where normal permit processing would result in significant hardship for the applicant or unacceptable damage to the environment.

Emergency: You may apply for an emergency HPA if there is an official declaration by the Governor, the county legislative authority, or the Department of Fish and Wildlife of an immediate threat to life, the public, property, or of environmental degradation. Emergency work may only be for a stream crossing, or work to remove any obstructions, repair existing structures, restore streambanks, protect fish life, or protect property threatened by the stream or a change in the stream flow.

Are you applying for a long-term HPA for agricultural irrigation or stock watering purposes under RCW 77.55.021 (9)(c)?

Yes No

Project Identification

Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development)

Reclaimed water to farm via Bell Creek

Project Type(s) (check all that apply):

- Aquatic Plant Control
- Bank Protection
- Barge Landing
- Boat Access
- Buoy
- Channel Change/Realignment
- Diversion Structure
- Dredging
- Fish Trap or Diversion Weir
- Fishways
- Foot Access - beach stairs, cable car, etc
- Garbage and Debris Removal
- Gravel Extraction
- Habitat
- Logging
- Outfall structure
- Overwater Structure
- Shoreline Armoring - Marine
- Utility Crossing
- Water Crossing Structure
- Water Surface Control
- Other
- Beaver Dam Modification
- Dock Maintenance/Repair
- Fish Screen Maintenance or Replacement
- Mineral Prospecting
- Repositioning or Removal of Large Wood
- Road Maintenance Work
- Scientific Instruments
- Trenchless Conduit (Utility) Crossing

Applicant

Business Name (if applicable) 

City of Sequim

First Name 

Ann

Middle Name

Last Name

Soule

Address 1

152 W Cedar St

Address 2

City

Sequim

State/Province

WA 

Zip Code (12345 or 12345-1234)

98382-3317

Country

United States 

Primary Phone No (555-555-5555 Ext.)

360-582-2436

Mobile Phone No (555-555-5555)

360-912-1635

Fax (555-555-5555)

360-681-0552

Email

asoule@sequim.wa.gov

Check here if you have made corrections to your contact information above and wish to apply those changes to your user profile.

 **Print**

Applicant Account Type

Please select one applicant account type

- Agriculture – Business
- Agriculture – Individual
- Agriculture – Irrigation, Drainage, or Other District
- Commercial or Industrial (non-agriculture)
- Forestry
- Government – City
- Government – County
- Government – Federal
- Government – Ports
- Government – State
- Government – Tribal
- Non-Profit Group
- Single or Multiple Private Individuals

Authorized Agent or Contact

Person authorized to represent the applicant about the project.

If you are an authorized agent applying for an applicant, your contact information must be included in this section of the application. WDFW will not accept applications in which a registered user submits an application but their contact information does not appear in the applicant and/or authorized agent section. If you are an authorized agent, you will be required to upload an attachment to document the applicant's consent; attachment must have applicant's and agent's signatures. To download a copy of the document [click here](#).

No agent will be acting on behalf of the Applicant

Business Name (if applicable)

City of Sequim

First Name

Ann

Middle Name

Last Name

Soule

Address 1

152 W Cedar St

Address 2

City

Sequim

State/Province

WA 

Zip Code (12345 or 12345-1234)

98382-3317

Country

United States 

Primary Phone No (555-555-5555 Ext.)

360-582-2436

Mobile Phone No (555-555-5555)

360-912-1635

Fax (555-555-5555)

360-681-0552

Email

asoule@sequim.wa.gov

Property Owner(s)

Contact information for people of organizations owning the property(ies) where the project will occur.
If you are not the property owner or the property is on public lands, please download [Consent of Property Owner attachment](#) and upload it in Attachments section of this application or mail to WDFW.

Check here if Property Owner is the same as Applicant

There are multiple property owners. Complete the section below and fill out [Multiple Owner Attachment](#) for each additional property owner.

 **Print**

Next

Business Name (if applicable)

Maple View Farm

First Name

Gary

Middle Name

Last Name

Smith

Address 1

373 Schmuck Road

Address 2

City

Sequim

State/Province

WA

Zip Code (12345 or 12345-1234)

98382

Country

United States

Primary Phone No (555-555-5555 Ext.)

360-683-5049

Mobile Phone No (555-555-5555)

360-460-9499

Fax (555-555-5555)

Email

garsmith@nikolabroadband.com

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(Last modified Time: 2015-08-06 05:10 PM)



Application ID: **5242** App Name: **Standard Hydraulic Project**
 Submitted Date: **8/13/2015 3:40:08 PM** Submitted by: **Ann Soule**
152 W Cedar St
Sequim WA 98382-3317
360-582-2436
asoule@sequimwa.gov

Print

[Previous](#) [Next](#)

Status:

Project Location

1 - 1 of 1 item(s)

Delete	Site Name	Address 1	City	State	Zip	County	Latitude	Longitude
				WA		Clallam		

[Add Project Location](#)

Project Description

Will you be operating equipment in water?

Yes No

Type of equipment used

Backhoe, hand shovel

Summarize the overall project.

City of Sequim has arranged to deliver 0-900 gpm (0-2 cfs) Class "A" reclaimed water from the City's Water Reclamation Facility (WRF) to Maple View Farm (a dairy) for commercial feed crop irrigation. Conveyance will be via the Bell Creek channel, for approx. 650 ft between WRF outfall to the farm's existing pump in Bell Creek.

Describe how you plan to construct each project element. Include specific construction methods and equipment to be used.

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year flood plain..

The City will install 4" pipe from Water Reclamation Facility 700 ft., transition to 12" pipe for 100 ft to stream edge, with cobble apron to dissipate energy at the outfall

Methods and equipment: Backhoe ditch to streambank and hand excavate for cobble outfall/waterfall to creek

Requested Project Start Date:

Requested Project End Date:

Will your project be conducted in multiple phases?

Yes No



Application ID: **5242** App Name: **Standard Hydraulic Project**
 Submitted Date: **8/13/2015 3:40:08 PM** Submitted by: **Ann Soule**
152 W Cedar St
Sequim WA 98382-3317
360-582-2436
asoule@sequimwa.gov

Print

[Previous](#) [Next](#)

Status:

Waterbodies (other than wetlands): Impacts and Mitigation

“waterbodies” refers to non-wetland waterbodies.

Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment.

Not applicable

- 1. Low flow (0-2 cfs) means minimal erosive power.
- 2. Temporary activity (through 12/31/15 only) for drought relief minimizes duration of potential impacts.
- 3. 12" pipe used for outfall rather than 4" pipe to dissipate energy at point of discharge.
- 4. Cobble placed at the outfall location on the edge of the stream bank is above current water line.

Will your project impact a waterbody or the area around a waterbody?

Yes No

Describe impact(s) that cannot be avoided through project design and implementation. For each location, please include the following:

- General Location description where the impact(s) will occur(e.g. stream bank, beach front, 2-foot strip from bank, portion of gravel bar, etc.)
- Provide length, quantities, and/or area of impact

Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies?

- If yes, submit the mitigation plan in Attachments section of this application.
- If No, or Not applicable, explain below why a mitigation plan should not be required.

Yes No Not applicable

Stream bank: Cobble placed at the outfall location on the edge of the stream bank will be above current water elevation and will dissipate the flow intensity into the stream. Impacts of the water's entry into the stream can't be avoided.

Describe the source and nature of any fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody.

2 CY of cobble to avoid erosion of the streambank at the outfall location, above the stream edge.

For all excavating or dredging activities, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed.

No activity in the water



Application ID: **5242** App Name: **Standard Hydraulic Project**
Submitted Date: **8/13/2015 3:40:08 PM** Submitted by: **Ann Soule**
152 W Cedar St
Sequim WA 98382-3317
360-582-2436
asoule@sequimwa.gov

Print

Previous

Status:

Application Fee Exemption

Unless your project qualifies for one of the exemptions or alternative payment methods below, your application is subject to a \$150 application fee.

Please select the appropriate exemption category below:

- WDFW is under written contract with non-WDFW applicant agency or business to provide HPA permitting services without individual application fee requirements.
- Project occurs on farm and agricultural land.
(Attach a copy of current land use classification recorded with the county auditor, or other proof of current land use.)
- Project is a modification of an existing HPA originally applied for, prior to July 10, 2012.
- Project is a cooperative fish or wildlife project that will be conducted by a volunteer group as defined in RCW 77.100.020 under agreement with the department.
- Do not qualify for an application fee exemption.

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(Last modified Time: 2015-08-06 05:10 PM)



WASHINGTON STATE
Aquatic Protection Permitting System
(APPS)

Consent of Property Owner

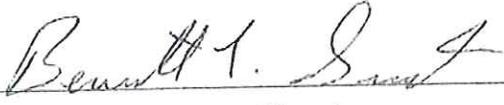
Use this attachment only if the applicant is not the property owner. Complete one attachment for each property owner impacted by the project. Upload completed form(s) in APPS or mail to the WDFW address provided by APPS during your application process.

AGENCY USE ONLY

Date received:

APPS ID #:

My project occurs on public lands (Complete only items #1 and #2 below).

1. APP ID# (See APPS application receipt)			
5242			
2. Business or Government Agency Name (if applicable)			
Maple View Farm			
3. First Name		4. Middle Name	
Ben		L	
5. Last Name			
			Smith
6. Address 1			
373 Schmuck Road			
7. Address 2			
8. City		9. State	
Sequim		WA	
10. Zip			
		98382	
11. Primary Phone	12. Ext.	13. Mobile Phone	14. FAX
(360) 683-5049		(360) 460-9499	()
15. E-mail			
bens@olympen.com			
16. Signature of Property Owner			
I consent to Washington Department of Fish and Wildlife staff entering the property where the project is located to inspect the project site or any work related to the project.			
<p align="center">BENNETT SMITH</p>			
Printed Name		Signature	
Date Signed: 8/17/2015			

CITY OF SEQUIM
CLASS "A" RECLAIMED WATER SERVICE LICENSE AGREEMENT

END USER: MAPLE VIEW FARM
CONTACT PERSON, IF DIFFERENT: BEN SMITH
PHONE NO.: 360-460-9499
MAILING ADDRESS: 373 Schmuck rd., Sequim Wa. 98382

TERMS & CONDITIONS OF SERVICE

The End User identified in this agreement, in receiving Class "A" Reclaimed Water from the City of Sequim ("City") under this agreement, does hereby agree to the following terms and conditions for the use of Class "A" Reclaimed Water:

1. **Use of Reclaimed Water:** Class "A" Reclaimed Water is planned to be used as follows:
 - a. **Location(s) of Use:** 755 Washington Harbor rd, 70 acres of pasture, adjacent to Waste Treatment Plant.
 - b. **Intended Use(s):** Irrigation
 - c. **Duration of Use, if temporary:** As a pilot project for drought relief in 2015, use will be made until the end of the growing season or December 31, 2015, whichever comes first.
 - d. **Rate/Timing of Use (intermittent, continuous, etc.):** Intermittent, as needed, but application rate will be limited to ensure no runoff.

2. **Quantity of Reclaimed Water:** Class "A" Reclaimed Water will be provided by the City as follows:
 - a. As a pilot project for drought relief in 2015, the City will release all available Reclaimed Water not being used by the City via the Bell Creek channel with two possible scenarios:
 1. Alternative 1: flow augmentation at the City's Reuse Demonstration Site and measured through a v-notch weir at Outfall 002; or
 2. Alternative 2: flow augmentation near the WRF (if Alternative 1 is insufficient) and measured with up- and down-stream staff gages calibrated with a flow meter.
 - b. Flow amounts may vary daily.

3. **Price of Reclaimed Water:** The City will apply for compensation of costs incurred for this project from the state of Washington's emergency grant program supporting projects that augment water supplies for farmers and reduce environmental impacts of water shortages. <http://www.ecy.wa.gov/programs/wr/funding/fo-2015drought.html>

4. **Ownership of Reclaimed Water:** The City of Sequim reserves all rights and ownership of all Class "A" Reclaimed Water produced by the City.

5. **Restrictions on Use:** Class "A" Reclaimed Water provided under this Service Agreement shall not be used in any place or manner except as specified in the "Location(s) of Use" and "Intended Use(s)" designations above without written approval of the City, which shall not be unreasonably denied, except as set forth below:

- a. Class "A" Reclaimed Water shall not be used for human consumption or in the preparation of foodstuffs or other products intended for human consumption.
- b. Class "A" Reclaimed Water, including spray and runoff, shall not be discharged or released in any way or in any location other than what is designated in this License Agreement.
- c. Class "A" Reclaimed Water shall not be sold, conveyed, gifted, or otherwise transferred to any other party.
- d. The End User shall ensure that all personnel involved in using Reclaimed Water complete training on its appropriate use and handling. Training requirements may be met by:
 - 1) familiarizing personnel with the terms of this service agreement, and
 - 2) providing written materials provided by the City and discussing them with affected personnel.
- e. At all times, the distribution system(s) and use area(s) shall be maintained to ensure that all equipment is kept in a reliable operating condition.

6. **Definitions:**

- a. "Class "A" Reclaimed Water" means reclaimed water that meets State Class "A" Reclaimed Water criteria established in the *Washington State Water Reclamation and Reuse Standards* (Standards), September 1997, and as amended from time to time.
- b. "Reclaimed Water" has the same meaning as provided in *RCW 90.46.010(4)* of the *Reclaimed Water Act*, as amended from time to time.
- c. "Permit" means the *National Pollutant Discharge Elimination System (NPDES) Waste Discharge and Reclaimed Water Permit No. WA0022349*, issued to City of Sequim by the Washington State Department of Ecology April 1, 2014, and future amendments and renewals as issued.
- d. "Reuse Plan" means the City of Sequim's *Class "A" Reclaimed Water 100 Percent Upland Reuse Plan 1998* approved by Ecology.

7. **Interruption or Change of Supply:** In case of emergency repairs or other necessary work, or whenever the public health or safety so demands, the City may change, reduce, or limit the time for, or temporarily discontinue the supply of, Class "A" Reclaimed Water. Before so changing, reducing, limiting or discontinuing the supply of Class "A" Reclaimed Water, the City shall, insofar as practicable, notify all water users affected. The City shall not be responsible for any damage resulting from interruption or change of the Class "A" Reclaimed Water supply, or for any damages incurred by the End User arising out of the use or transportation of the Class "A" Reclaimed Water.

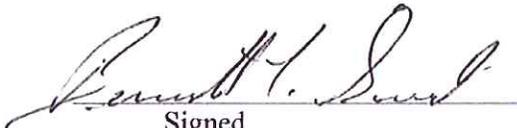
8. **Disclaimer, Indemnity, and Hold Harmless:** To the extent permitted by law, the End User shall hold harmless, indemnify, and defend the City, whether acting as a separate municipal entity from any claims, suits, actions, losses, penalties, judgments, awards for damages of any kind arising out of, or in connection with, the use of Class "A" Reclaimed Water provided under this Service Agreement, except to the extent arising out of the negligence or other fault of the City. The End User has had access to previous analyses of City Reclaimed Water.

9. **Termination:** Class "A" Reclaimed Water service may be terminated, without cause, upon thirty (30) days written notice by the City. Termination for violation of the requirements described in Section 10.b below shall not trigger the City's obligations under this Section 9.

10. **Compliance with Laws Governing Reclaimed Water:**

- a. The City and End User agree to comply with all applicable federal, state, and local laws, regulations and standards governing the generation and delivery of Class "A" Reclaimed Water.
- b. The End User's use of Class "A" Reclaimed Water will meet all applicable requirements contained in the *Water Reclamation and Reuse Standards*, issued by the Washington State Departments of Health and Ecology, and *Ordinance No. 99-019, Chapter 13.112* of the *Sequim Municipal Code*, as amended from time to time, or contained in any successor standards or ordinances.
- c. Violations of these Terms and Conditions or of State standards and regulations may result in termination of Class "A" Reclaimed Water Service under this License Agreement.

I, the undersigned, do hereby affirm that I have the legal authority to enter into this License Agreement for the Class "A" Reclaimed Water service on behalf of the End User identified above, that I have read the terms and conditions specified in this Agreement and references herein, and that the End User identified above agrees to and shall be bound by said terms and conditions for the use of such water as specified in this License Agreement and the references herein:

	<u>Ben Smith</u>	<u>7-22-15</u>
Signed	Printed Name	Date

Approved:

	<u>7/28/2015</u>
City Manager CITY OF SEQUIM	Date

Dear Sir,

I have the pleasure to inform you that your application for the position of [Job Title] has been reviewed and we are pleased to offer you the position. The salary for this position is [Salary] per annum, plus benefits. The position is full-time and permanent. We are happy to discuss the details of the offer with you.

Yours faithfully,

[Signature]

[Name]

[Title]

[Company Name]

[Address]

[City]

[Country]

[Phone Number]

[Email Address]

From: [El-Aarag, Mamdouh \(DOH\)](#)
To: [Ann Soule](#)
Cc: [Zentner, Greg \(ECY\)](#); [David M. Garlington](#)
Subject: RE: Ecology / Health Approvals
Date: Thursday, July 23, 2015 3:25:37 PM

We have no objection to your new use of reclaimed water outlined in the amendment to your Reuse Plan. Thank you for checking with our office.

Mamdouh H. El-Aarag, P.E.
Office of Shellfish & Water Protection
Division of Environmental Public Health
Department of Health
16201 E. Indiana Ave. Suite 1500
Spokane Valley, WA 99216
(509) 329-2148 Fax 329-2142
mamdouh.el-aarag@doh.wa.gov
<http://www.doh.wa.gov/CommunityandEnvironment/WastewaterManagement/LOSSProgram.aspx>

Public Health - Always Working for a Safer and Healthier Washington

From: Ann Soule [<mailto:asoule@sequimwa.gov>]
Sent: Tuesday, July 21, 2015 2:49 PM
To: El-Aarag, Mamdouh (DOH)
Cc: Zentner, Greg (ECY); David M. Garlington
Subject: FW: Ecology / Health Approvals

Thank you for the call, Mamdouh. As Greg indicates below, per our NPDES permit (permit number is indicated in the attached), DOH also needs to approve the "Service and Use Area Agreement" (R.1.G.3 and 4) pertaining to this proposed new use of reclaimed water. I attached the draft agreement and will update you asap with a signed version.

Also attached FYI is our proposed amendment to our Reuse Plan which Greg is now reviewing.

Please call with any concerns or questions – thank you.

Ann Soule, LHG
Water Resource Specialist
City of Sequim, Public Works
360-582-2436
[Stormwater Stewardship Project Webpage](#)
[Draft Storm & Surface Water Master Plan](#)

From: Ann Soule
Sent: Tuesday, July 21, 2015 1:57 PM
To: 'Zentner, Greg (ECY)'

Cc: 'Gallagher, Mike (ECY)'; David M. Garlington
Subject: RE: Ecology / Health Approvals

Sounds like a plan. Here is the End-User Agreement – as-yet unsigned. As I said on the phone, WDFW is ok with our proposal (we sent them the Reuse Plan Amendment).

I'm about to call Mamdouh (El-Aarag) at DOH.

Thank you.

Ann

From: Zentner, Greg (ECY) [<mailto:GZEN461@ECY.WA.GOV>]
Sent: Tuesday, July 21, 2015 1:51 PM
To: Ann Soule
Cc: Gallagher, Mike (ECY)
Subject: Ecology / Health Approvals

Ann:

The city's permit (Section R.1.B.) states that the city needs to submit its re-use plan to us and doesn't mention approval. However, RCW 90.46.240 is clear that the lead agency (that would be Ecology) has to approve all planning documents "before construction." I appreciate that the delivery of water to the farmer may not involve construction but we would interpret this to say the city needs our approval of the reuse plan amendment before delivering water.

Similarly, the permit is clear that Ecology and Health both need to approve the Service and Use Area Agreement (R.1.G.3 and 4).

We have the plan amendment. If you could send the Service and Use Area Agreement (unsigned), we'll try to expedite approval.

Gregory S. Zentner, Supervisor, Municipal Operations Unit / Department of Ecology / Water Quality Program / Southwest Regional Office / 360-407-6368 / Greg.Zentner@ecy.wa.gov

We, the owners of Maple View Farm, convey and grant a Temporary Construction Easement to the City of Sequim in order to install and maintain a new reclaimed water line from the City's Water Reclamation Facility property line to Bell Creek, across our property. Work shall be limited to a 10-foot-wide swath centered over the reclaimed water line. Work shall include excavating, installation of a 4" line transitioning to a 12" line for the last 100 feet, restoring the surface, hand installation of a cobble apron for dissipating the flow prior to entry into the Creek, and to include related and miscellaneous construction items, as necessary, all costs of which shall be borne by the City. Upon completion of the reclaimed water line and apron, all debris shall be removed and the property shall be restored.



2015 Drought Relief Pilot Project
Temporary Construction Easement
Maple View Farm

Legal Description:
N2NE & EASE & EXC 1A IN
NENE & SWNE TX#S EXC PT
TO SEQ CITY AF#754099
76.83A

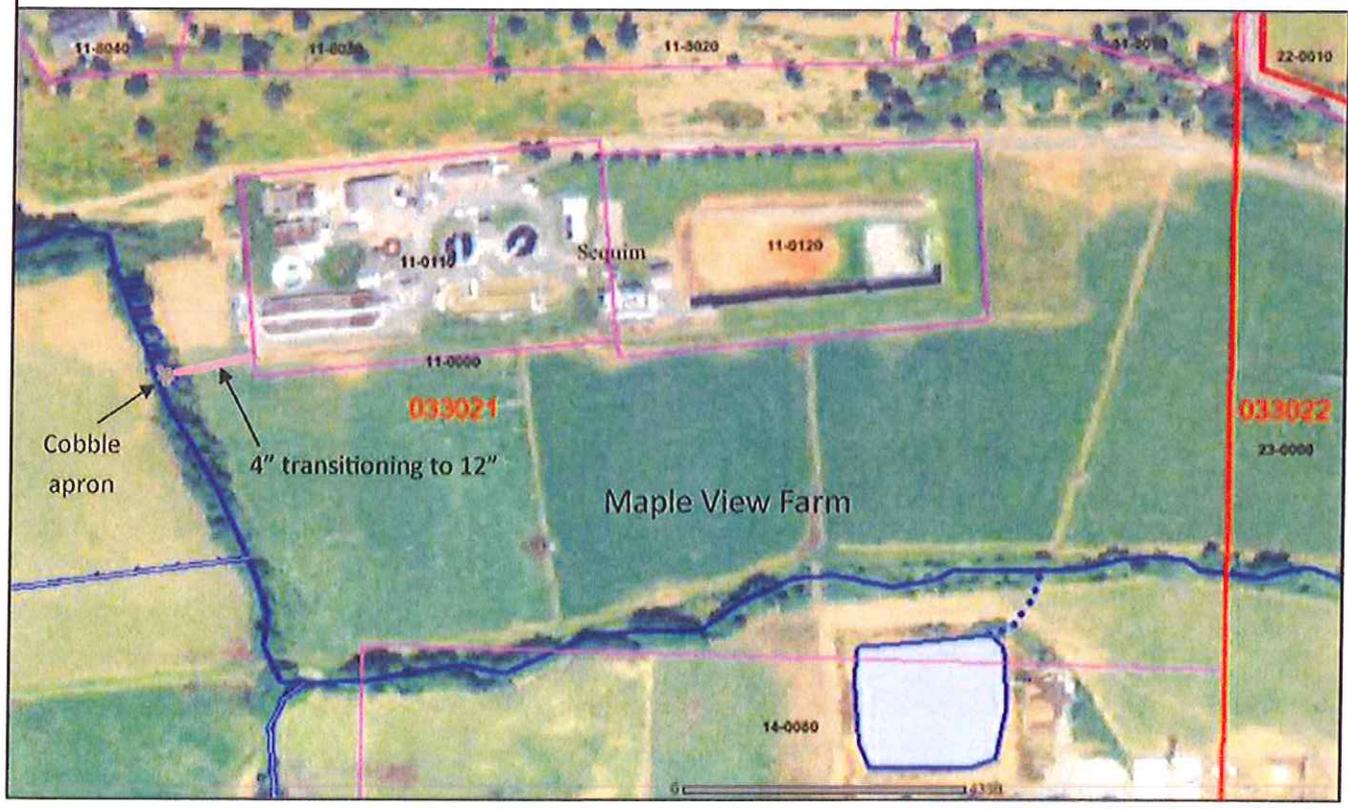
Geographic ID:
0330211100000000

Access to the Grantors' property shall be maintained at all times during the City's project. This temporary construction easement shall be terminated upon the City's formal acceptance of completion of this project or no later than December 31, 2015.

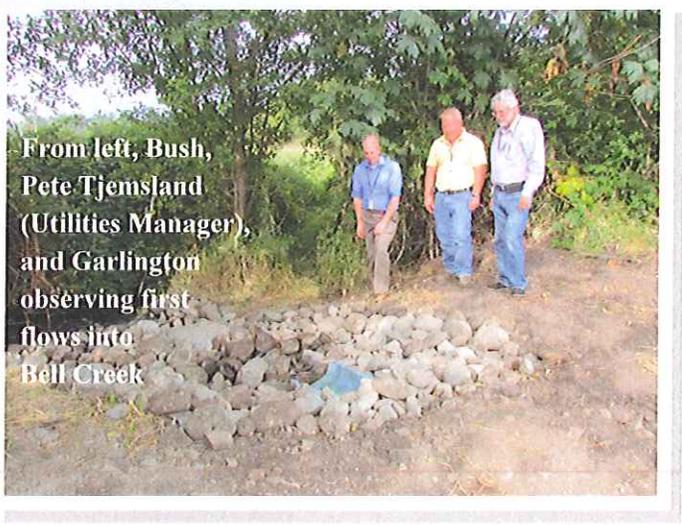
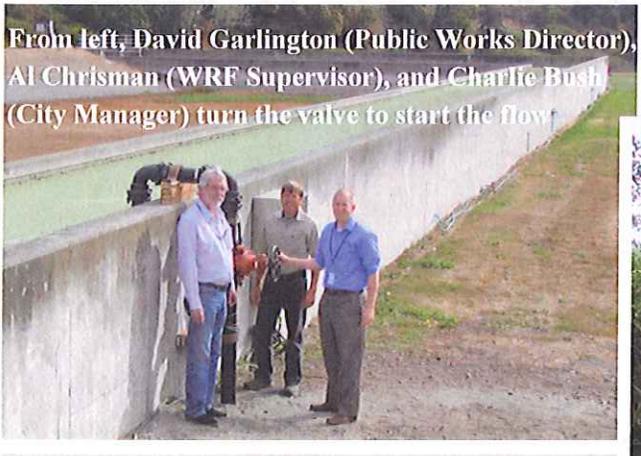
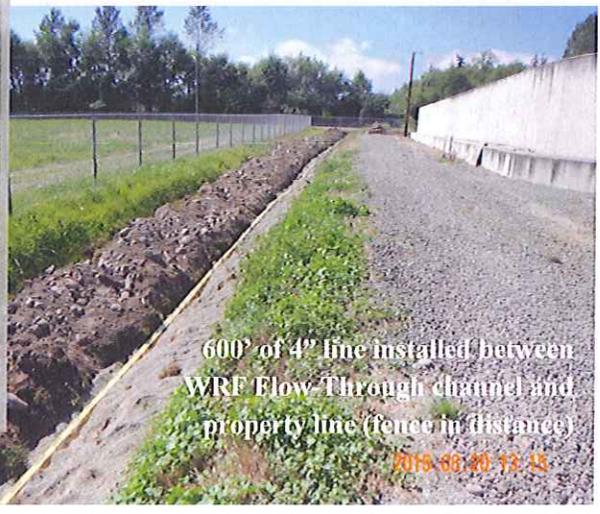
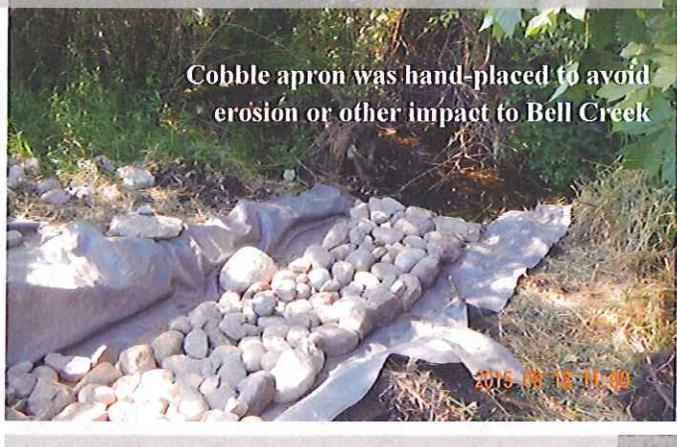
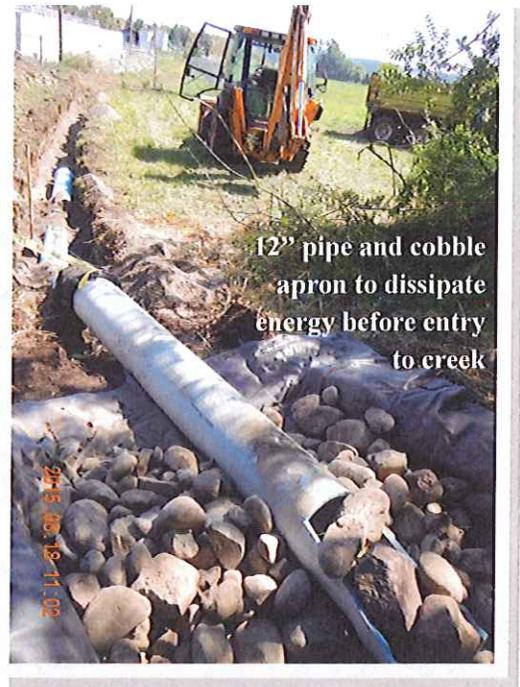
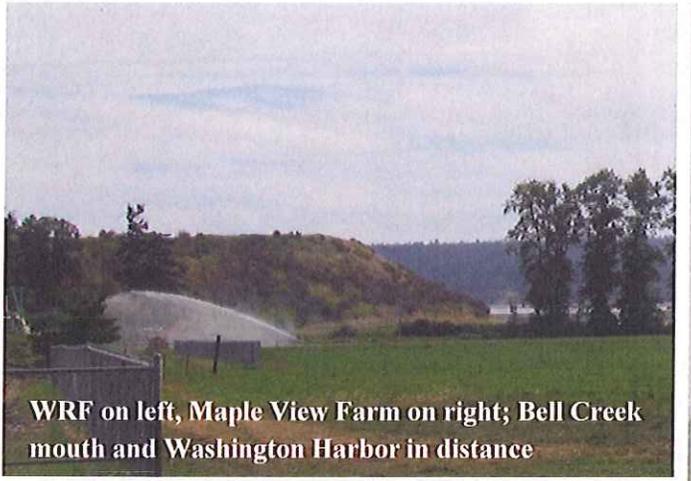
Address: 373 Schmuck Road, Sequim

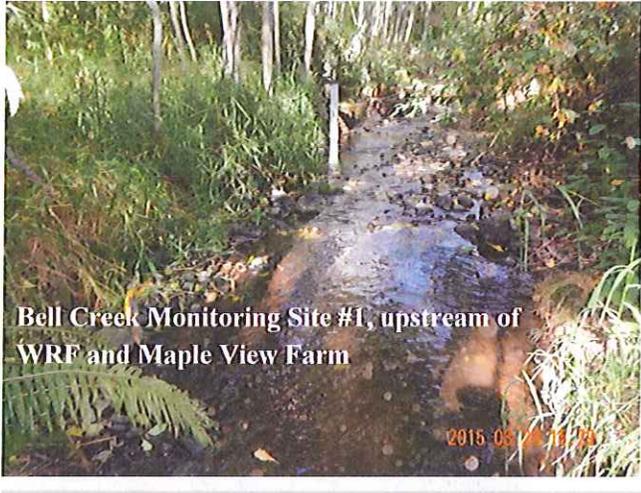
Owner: Bernett L. Smith Date: 8-17-15

City: David Y. Dunnington Date: 8/17/15



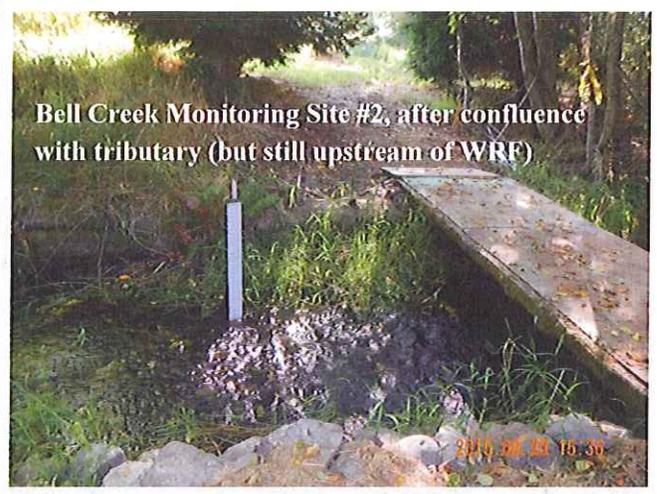
City of Sequim 2015 Drought Relief Project: Reclaimed Water to Bell Creek for Flow Augmentation and Commercial Irrigation





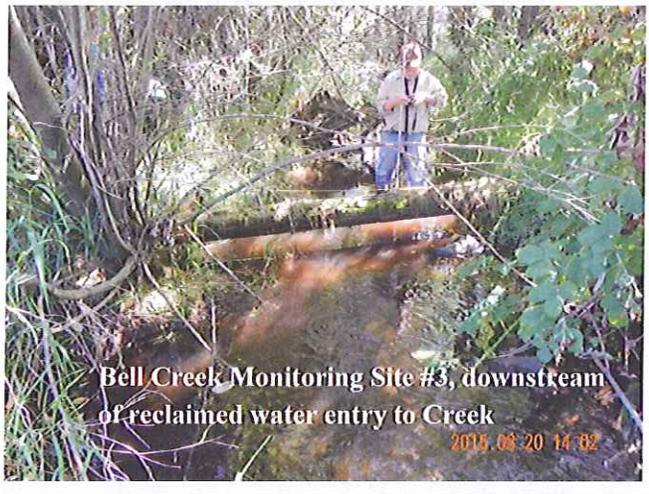
Bell Creek Monitoring Site #1, upstream of WRF and Maple View Farm

2015.08.19 11:24



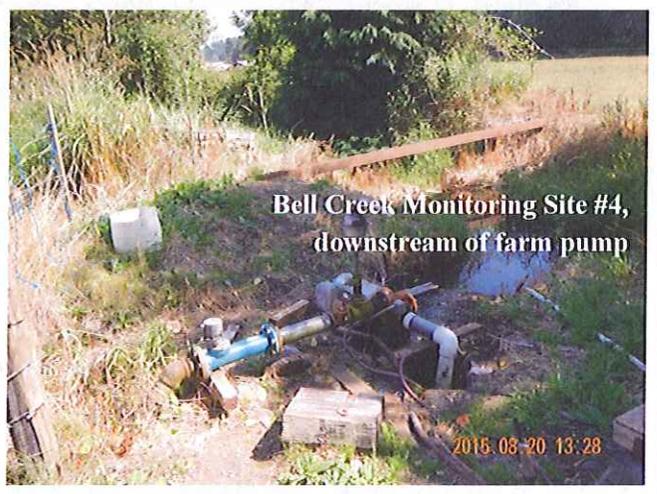
Bell Creek Monitoring Site #2, after confluence with tributary (but still upstream of WRF)

2015.08.19 15:36



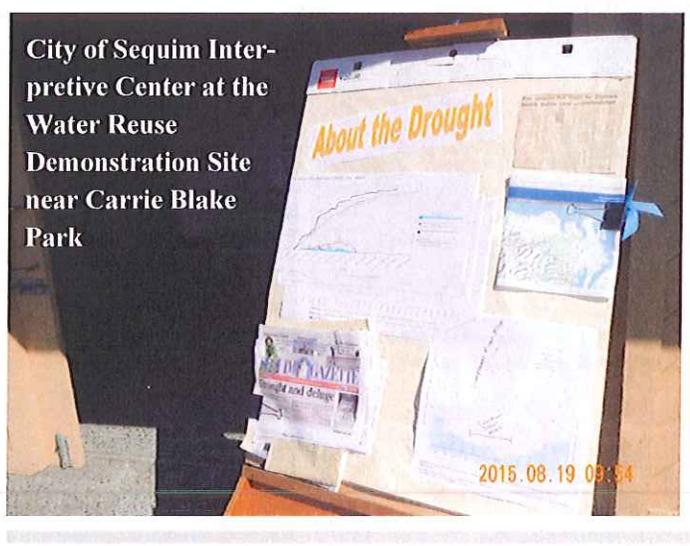
Bell Creek Monitoring Site #3, downstream of reclaimed water entry to Creek

2015.08.20 14:32



Bell Creek Monitoring Site #4, downstream of farm pump

2015.08.20 13:28



City of Sequim Interpretive Center at the Water Reuse Demonstration Site near Carrie Blake Park

2015.08.19 08:54

ATT. 9

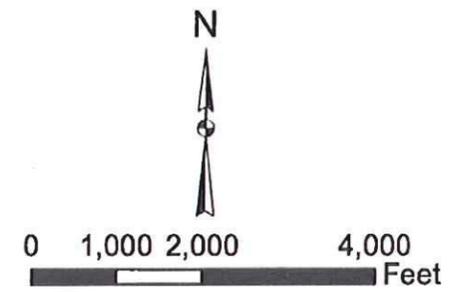
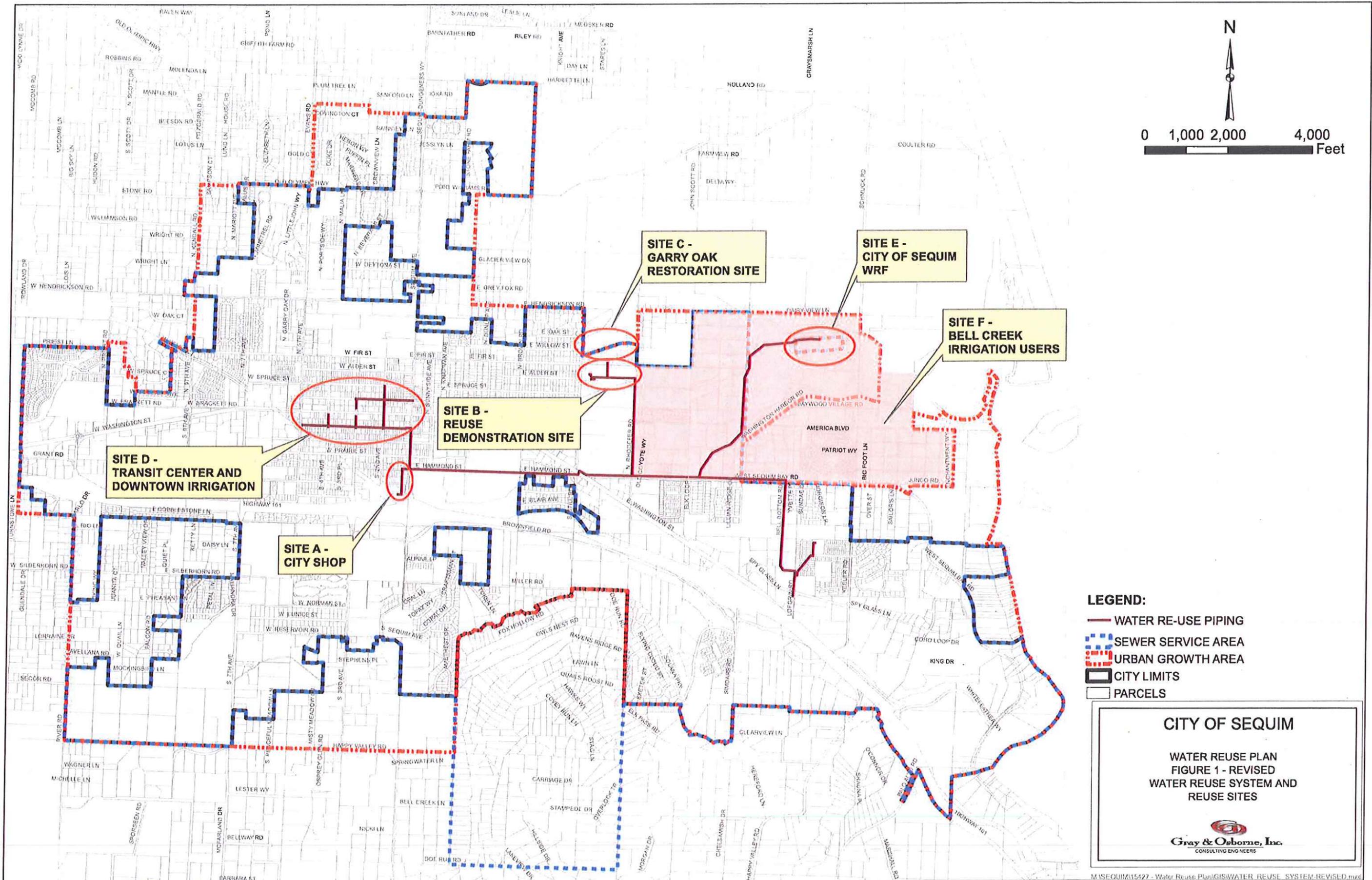
Expenditures/Budgeting for 2015 Ecology Drought Relief Grant Application
 September, 2015

Project period: July 11 - December 31, 2015

BUDGET	Staff	Period	Salaries	Benefits (use 41% of salary)	Indirect (max 25% of S&B)	Supplies	Description	Line Item Totals	Task Totals
Task 1: Project planning design, and admin	Ann	July 11 - Sept. 11 actual	\$ 1,058.66	\$ 434.05	\$ 373.18			\$ 1,865.89	\$ 3,006.40
		Sept. 12 - Dec. 31 estimated	\$ 300.00	\$ 123.00	\$ 105.75			\$ 528.75	
Task 2: Monitoring	Pete	July 11 - Sept. 11 actual	\$ 347.10	\$ 142.31	\$ 122.35			\$ 611.76	\$ 8,474.22
	Ann	July 11 - Sept. 11 actual	\$ 381.81	\$ 156.54	\$ 134.59			\$ 672.94	
	Al	Sept. 12 - Dec. 31 estimated	\$ 200.00	\$ 82.00	\$ 70.50			\$ 352.50	\$ 8,474.22
		July 11 - Sept. 11 actual	\$ 381.81	\$ 156.54	\$ 134.59			\$ 672.94	
	Jim	Sept. 12 - Dec. 31 estimated	\$ 400.00	\$ 164.00	\$ 141.00			\$ 705.00	\$ 2,508.23
		July 11 - Sept. 11 actual	\$ 1,423.11	\$ 583.48	\$ 501.65			\$ 2,508.23	
	Tyler	Sept. 12 - Dec. 31 estimated	\$ 500.00	\$ 205.00	\$ 176.25			\$ 881.25	\$ 81.36
	Nathan	July 11 - Sept. 11 actual	\$ 46.16	\$ 18.93	\$ 16.27			\$ 81.36	
	Gary	July 11 - Sept. 11 actual	\$ 69.42	\$ 28.46	\$ 24.47			\$ 122.35	\$ 2,477.65
		July 11 - Sept. 11 actual	\$ 1,405.76	\$ 576.36	\$ 495.53			\$ 2,477.65	
Task 3: Site prep and construction	Pete	July 11 - Sept. 11 actual	\$ 937.17	\$ 384.24	\$ 330.35	\$ 6,530.39	Pipe, etc.	\$ 8,182.15	\$ 30,891.84
	Al	July 11 - Sept. 11 actual	\$ 2,880.93	\$ 1,181.18	\$ 1,015.53	\$ 262.07	Freight	\$ 5,339.71	
	Jim	July 11 - Sept. 11 actual	\$ 1,076.01	\$ 441.16	\$ 379.29	\$ 1,602.59	Select fill	\$ 3,499.06	\$ 2,920.35
		Tyler	July 11 - Sept. 11 actual	\$ 69.42	\$ 28.46	\$ 24.47	\$ 2,798.00	Meter	
	Gary	July 11 - Sept. 11 actual	\$ 2,325.57	\$ 953.48	\$ 819.76			\$ 4,098.82	\$ 2,936.47
		Ty	July 11 - Sept. 11 actual	\$ 1,666.08	\$ 683.09	\$ 587.29			
Task 4: Outreach	Scott	July 11 - Sept. 11 actual	\$ 555.36	\$ 227.70	\$ 195.76			\$ 978.82	\$ 1,192.95
	Blake	July 11 - Sept. 11 actual	\$ 1,666.08	\$ 683.09	\$ 587.29			\$ 2,936.47	
	Ann	July 11 - Sept. 11 actual	\$ 399.17	\$ 163.66	\$ 140.71			\$ 703.54	\$ 1,192.95
	Pete	July 11 - Sept. 11 actual	\$ 277.68	\$ 113.85	\$ 97.88			\$ 489.41	
Object Totals:			\$ 18,367.30	\$ 7,530.59	\$ 6,474.47	\$ 11,193.05		\$ 43,565.42	\$ 43,565.42

Total Eligible Cost
 City share (50%) \$ 21,782.71
 State share (50%) \$ 21,782.71

Estimated costs for Sept. 12 through the end of the project are shown in italics (admin and monitoring only). Total = 2,467.50



**SITE D -
TRANSIT CENTER AND
DOWNTOWN IRRIGATION**

**SITE A -
CITY SHOP**

**SITE B -
REUSE
DEMONSTRATION SITE**

**SITE C -
GARRY OAK
RESTORATION SITE**

**SITE E -
CITY OF SEQUIM
WRF**

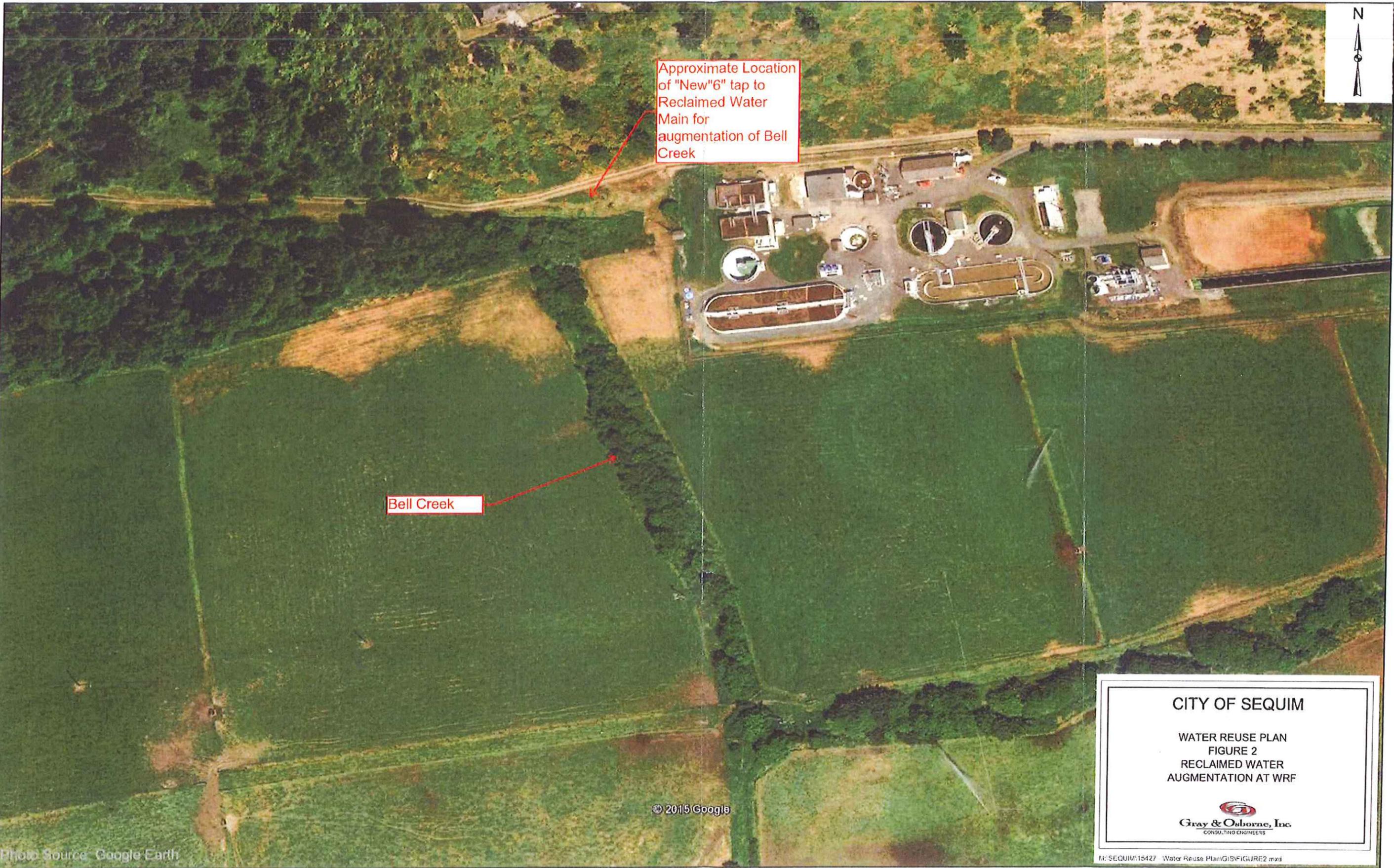
**SITE F -
BELL CREEK
IRRIGATION USERS**

- LEGEND:**
- WATER RE-USE PIPING
 - SEWER SERVICE AREA
 - - - URBAN GROWTH AREA
 - CITY LIMITS
 - PARCELS

CITY OF SEQUIM

WATER REUSE PLAN
FIGURE 1 - REVISED
WATER REUSE SYSTEM AND
REUSE SITES


Gray & Osborne, Inc.
CONSULTING ENGINEERS



Approximate Location
of "New" 6" tap to
Reclaimed Water
Main for
augmentation of Bell
Creek

Bell Creek



© 2015 Google

Photo Source: Google Earth

CITY OF SEQUIM

WATER REUSE PLAN
FIGURE 2
RECLAIMED WATER
AUGMENTATION AT WRF



Gray & Osborne, Inc.
CONSULTING ENGINEERS

\\SEQUIM\15427 - Water Reuse Plan\GIS\FIGURE2.mxd



Bell Creek - augmentation discharge location

Approximate Location of New 6-inch tap to Reclaimed Water Main for augmentation of Bell Creek

CITY OF SEQUIM

WATER REUSE PLAN
 FIGURE 3
 RECLAIMED WATER
 AUGMENTATION AT THE CITY SHOP



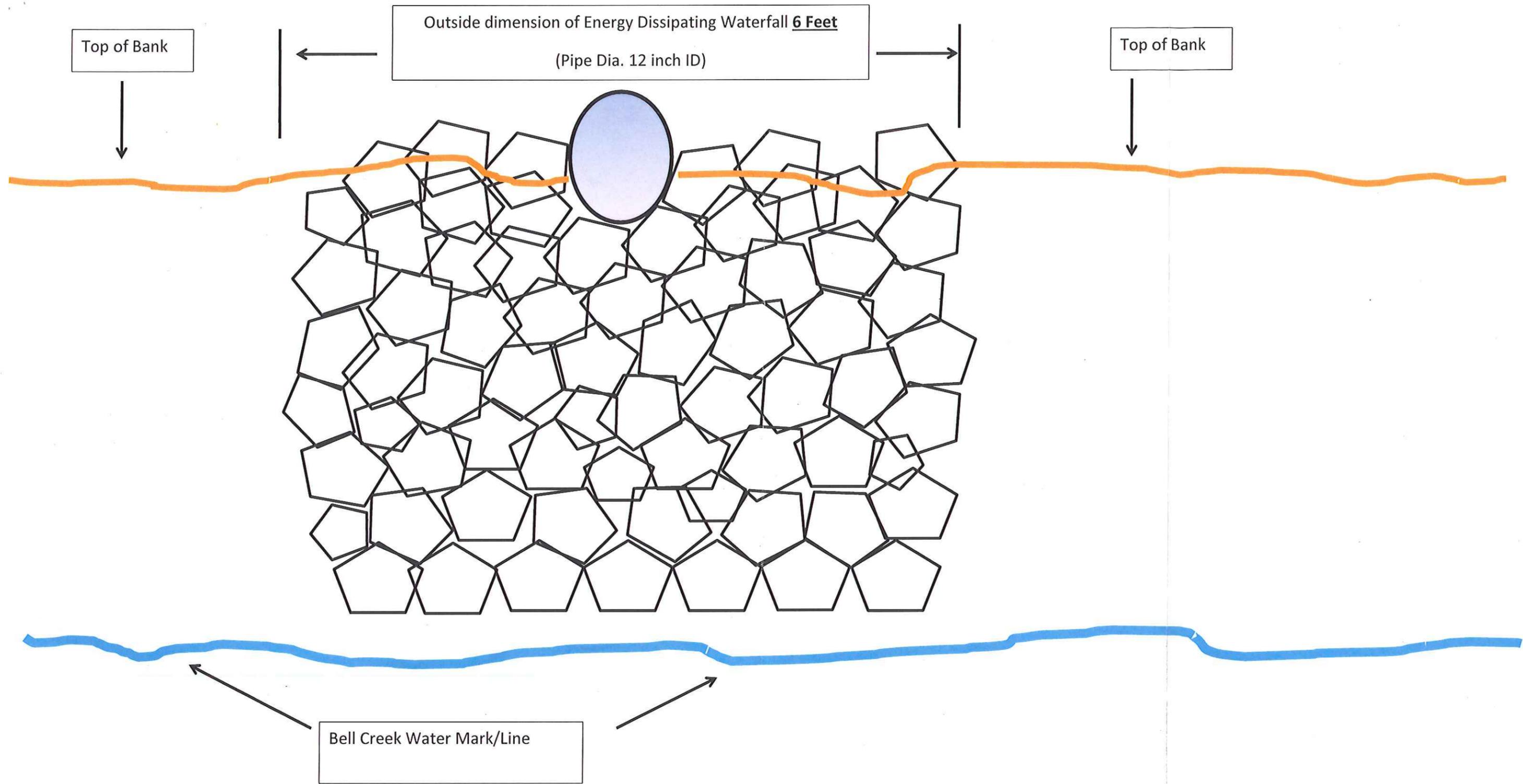
Gray & Osborne, Inc.
 CONSULTING ENGINEERS



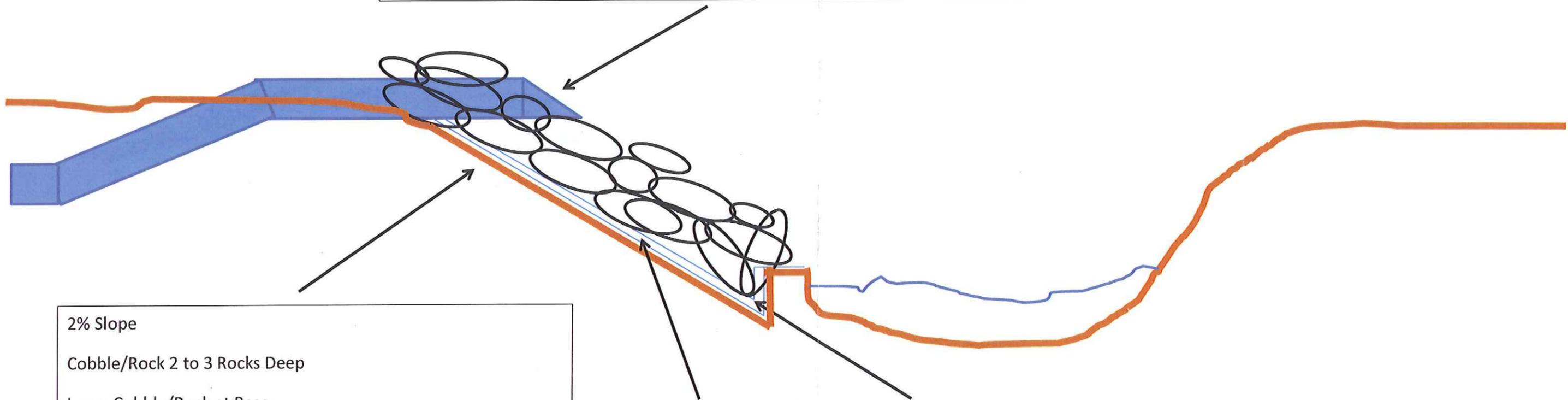
CITY OF SEQUIM
WATER REUSE PLAN
FIGURE 4
RECLAIMED WATER
AUGMENTATION AT THE
REUSE DEMONSTRATION CENTER



Gray & Osborne, Inc.
CONSULTING ENGINEERS

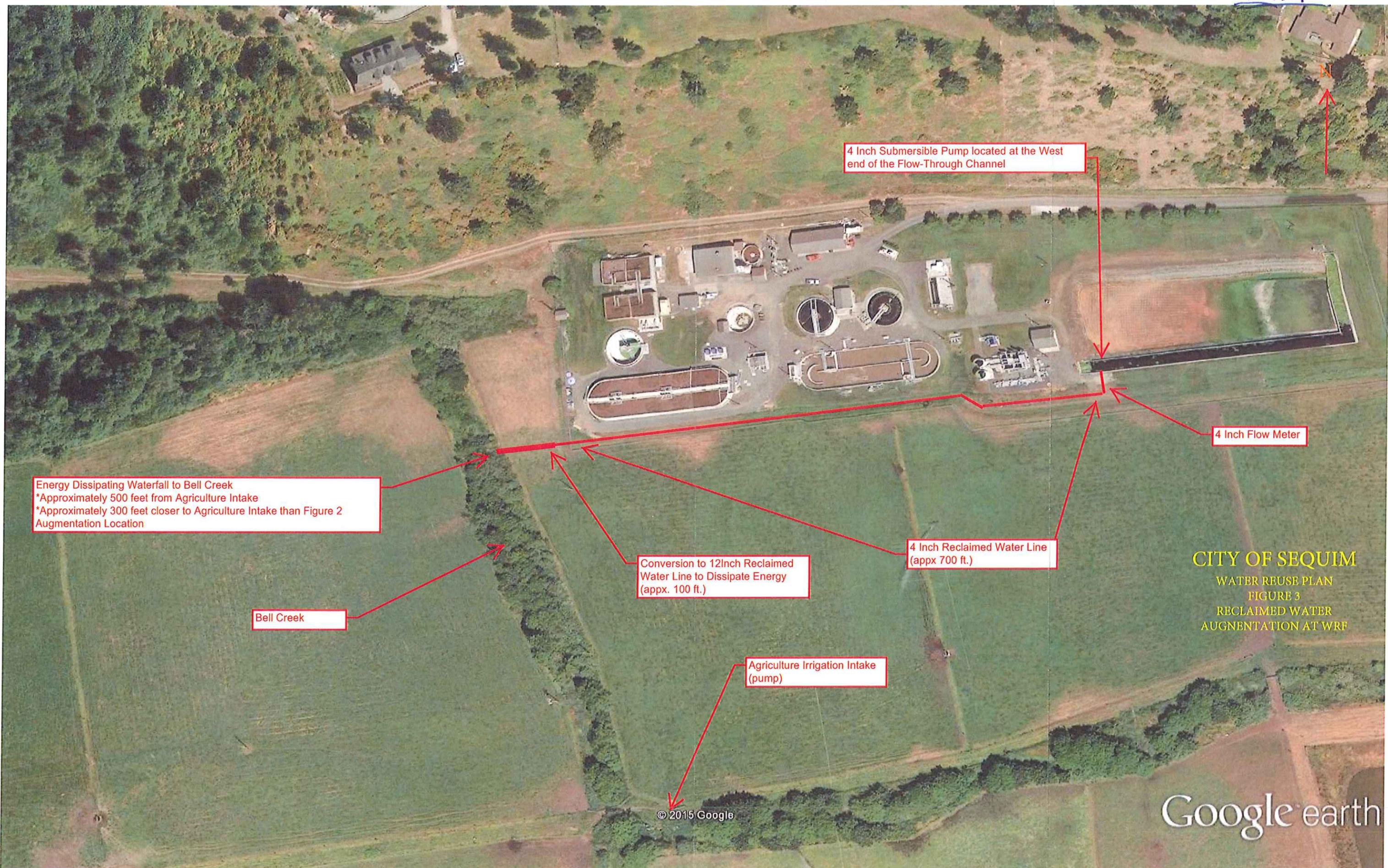


Pipe outlet will extend past excavation allowing placement of Cobble/Rock under outlet minimum of 2 Cobble/Rocks deep
Cut end of pipe at angle (45°) starting at approximately 6 inches from bottom of pipe preferably bell end and remove gasket



2% Slope
Cobble/Rock 2 to 3 Rocks Deep
Large Cobble/Rock at Base
Work from bottom to top of slope locking Cobble/Rocks

PVC Liner
Extend PVC Liner approximately 1 foot past pipe outlet
Extend PVC Liner above toe cut and sides to protect bank



4 Inch Submersible Pump located at the West end of the Flow-Through Channel

4 Inch Flow Meter

Energy Dissipating Waterfall to Bell Creek
*Approximately 500 feet from Agriculture Intake
*Approximately 300 feet closer to Agriculture Intake than Figure 2 Augmentation Location

Bell Creek

Conversion to 12Inch Reclaimed Water Line to Dissipate Energy (appx. 100 ft.)

4 Inch Reclaimed Water Line (appx 700 ft.)

Agriculture Irrigation Intake (pump)

CITY OF SEQUIM
WATER REUSE PLAN
FIGURE 3
RECLAIMED WATER AUGNENTATION AT WRF