

## Scott Boettcher

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**From:** Trent Lougheed <tlougheed@ci.chehalis.wa.us>  
**Sent:** Thursday, August 11, 2016 12:02 PM  
**To:** Scott Boettcher  
**Cc:** Merlin MacReynold  
**Subject:** 2017-19 Local Projects Recruitment Form: Chehalis Wastewater Treatment Facility Removal & Habitat Restoration Project  
**Attachments:** P16269\_CFA Grant Attachment G.pdf; P16269\_WWT Facility CFA Grant App\_V5.docx; P16269\_WWT Facility CFA Grant App\_V5.pdf; P16269\_CFA Grant Attachment F.pdf; P16269\_CFA Grant Attachment H.pdf; P16269\_CFA Grant Attachment C.pdf; P16269\_CFA Grant Attachment D.pdf; P16269\_CFA Grant Attachment E.pdf; P16269\_CFA Grant Attachment A.pdf; P16269\_CFA Grant Attachment B.pdf

Scott,

Attached are the documents for the proposed grant project. I may have to deliver you a thumb drive with the photographs in Appendix I (I am at the Habitat Work Group Meeting at the Chehalis Tribe Community Center tomorrow morning and then on vacation next week so I might have to have Stephanie run it over to you).

Hopefully everyone thinks this is a great project!

Trent

P.S. I am sending the Recruitment Form in both PDF and Word in case you need it for something else.



## 2017-19 Local Projects Recruitment Form

### Chehalis Basin Flood Relief

**A. What are local flood relief projects?** -- In general, local projects are those projects that provide predominantly localized and quantifiable benefit, are capable of being completed within the funding cycle, are supported by the jurisdiction within which the project is proposed, and are vetted and advanced through a public entity like a City, County, Conservation District, Agency, etc. Furthermore, local projects are envisioned as helping with flooding, not adverse to fish or habitat and (where possible) providers of multiple, quantifiable benefits.

**B. What kinds of local flood relief projects are likely to be logical funding candidates for 2017-19?**

- Projects that complete an effort previously funded/started.
- Projects that advance improved emergency response.
- Projects that advance improved public infrastructure protection.
- Projects that advance improvements in local or community flood hazard reduction, including local flood proofing projects (e.g., elevations, buy-outs, foundation venting/opening, etc.).
- Projects that advance Conservation District initiated flood hazard reduction (e.g., farm pads, evacuation routes, bank erosion/bank stabilization, etc.)
- Projects that demonstrate innovation (e.g., thinking beyond traditional bank stabilization techniques in favor of natural system designs), partnerships, cost-sharing/leveraging resources, multiple benefits, and proactive vetting with agencies and tribes.
- Projects typically not in excess of \$3M for the stage/phase being funded.

**C. Are there projects that would not be good candidates?**

- Projects that seek to utilize State Capitol Budget dollars for uses not typically allowed (e.g., maintenance and repair work, cost-sharing under select circumstances, etc.).
- Projects likely to increase potential for flood damage upstream or downstream.
- Projects with unmitigable adverse environmental impacts or significant uncertainty regarding potential environmental impacts.
- Projects not sponsored by a public entity.

### Instructions:

- Please submit local flood relief project requests (via this form) to Scott Boettcher ([scottb@sbgh-partners.com](mailto:scottb@sbgh-partners.com)) no later than 5:00 p.m., Friday, August 12, 2016.
- Please submit one request form for each project proposed, even those past projects previously or partially funded.
- Note: Parts III and IV below [marked by "(\*\*)"] will be scored as part of the Flood Authority Projects Committee's review and evaluation. Part I and II will not be scored.



Part I General	
1. <b>Date:</b>	12 August, 2016
2. <b>Project Name:</b>	Chehalis Wastewater Treatment Facility Removal & Habitat Restoration Project
3. <b>Project Location</b> -- Please identify the location of the project as precisely as possible, including providing decimal degree latitude/longitude coordinates.	1191 Northwest Shoreline Drive, Chehalis, WA 98532 Parcel #005794001000 (9.29 acres) Parcel #005790001000 (0.69 acres) 46°66'16.83"N -122°98'28.42"W
4. <b>Project Contact</b> -- Please identify who will be responsible for overseeing and managing the project (i.e., name, email, telephone number, etc.).	Trent Loughheed <a href="mailto:tloughheed@ci.chehalis.wa.us">tloughheed@ci.chehalis.wa.us</a> 360-345-2229
5. <b>Lead Organization</b> -- Please identify the lead organization, agency, entity, etc. responsible for this project. Please identify key partners responsible for assisting in the delivery or implementation of the project.	Lead: City of Chehalis Partner: Skillings Connolly, Inc.

Part II Description, Timing and Cost	
6. <b>Project Description</b> -- Please describe the project, what is intended to be accomplished, the benefits to be accrued, and to whom.	The Chehalis Wastewater Treatment Facility, located at 1191 Northwest Shoreline Drive, is a roughly 10-acre abandoned wastewater treatment facility (POTW). The project area has aging infrastructure throughout the site and the potential to contaminate rising flood water. Additionally, unoccupied and unmaintained facilities such as this are a liability to the city due to potential vandalism and illegal occupation. The proposed project will include the removal of all structures, pavement, and fill associated with the facility. Since the site is directly adjacent to the Chehalis River and lies within the flood plain, this site has the potential to serve as additional flood storage, improved wildlife habitat and a future site for recreation. Following demolition and debris removal, the site will be fully restored to the original wetland habitat.
7. <b>Project Timeline</b> -- Please describe the overall timeline for completion of the project as well any	<b>Phase 1</b> of this project will begin in the summer of 2017 and include demolition and removal of existing wastewater



<p>interim stages or phases.</p>	<p>treatment facilities, excavation to a depth of 4 feet, and site stabilization via fine grading and native vegetation erosion control.</p> <p><b>Phase 2</b> of this project will include further excavation of the site to a maximum depth of 3 feet, importation of wetland-appropriate fill to a depth of 1.5 feet, and native wetland planting and seeding. Phase 2 will complete the process of returning the 10-acre site to the original wetland habitat.</p> <p><b>Phase 3</b> of this project will include wetland monitoring to ensure the site is providing flood storage and fauna habitat as intended.</p> <p><b>Phase 4</b> of this project will include the installation of pervious, interpretive paths and educational signs throughout the site. If funding allows, this phase will also include 5-10 parking spaces constructed of pervious surfacing.</p> <p>The timeline of all phases will be dependent on available funding.</p>
<p>8. <b>Project Cost and Funding</b> -- What is the cost of this project? What are the on-going maintenance and operation requirements and costs? Is it clear who will be responsible for covering on-going maintenance and operation costs?</p>	<p><b>Phase 1:</b> \$2,823,380</p> <p>All funding will be in the form of grants. Agencies in line with this type of project are the Chehalis Flood Authority, Recreation Conservation Organization (RCO), Salmon Safe, etc.</p> <p>It is the intention of the City of Chehalis to fund Phase 1 using this grant from the Chehalis Flood Authority and Phase 2 using a grant from the Recreation Conservation Organization (RCO) and similar agencies. Phase 3 and 4 will be completed as grant funding becomes available.</p> <p>Given the habitat restoration element of this project, a one, three, five and ten-year monitoring plan will need to be implemented by the City's partners to ensure restoration success.</p> <p>Following site restoration, maintenance will be minimal unless the site is incorporated into the Park Program. Once a part of the Park Program, the Chehalis Parks Department</p>





	would manage and maintain the facility.
9. <b>Other Funding</b> -- Please explain the extent to which other funding sources or funding partners are available.	Additional funding in the form of grants will be applied for through RCO, Department of Ecology, Salmon Safe and others.
<b>Part III (**)</b> <b>Completion and Doability by June 30, 2019</b>	
10. <b>Project Completion</b> -- Does the funding requested complete (or substantially complete) a project that has already been started? If so, please explain.	This project has not been started but complies with funding timelines associated with the Flood Authority and the requirements to complete Phase 1 by 2019.
11. <b>Project Doable</b> -- Can this project or the stage/phase for which funding is sought be completed by June 30, 2019? Please describe any circumstances with potential to impact the project's doability or timeline (e.g., permitting or regulatory unknowns, lack of availability of other cost-share funding resources, etc.). Please describe any advance coordination or vetting with agencies, tribes, other entities, etc. and the outcomes of that effort.	<p>Yes, Phase 1 of this project can be completed by June 30, 2019 with the funding available from this grant.</p> <p><b>Phase 1</b> will include the demolition and removal of existing infrastructure, excavation of existing soil to a depth of 4 feet, and site stabilization using fine grading and native vegetation. The budget for Phase 1 was primarily derived from assumptions made from review of aerial imagery and site visit photos, as the existing facility plans are outdated and inaccurate. Given these limitations, there is a potential for unforeseen costs associated with infrastructure demolition and removal (ex: more sewage in lines than expected, underground storage tank not apparent during site visit, lead paint, etc). The budget for Phase 1 does have a 10% contingency built in, but additional funding can be borrowed from Line Item #7 "Excavation (4' Average Depth)." To the extent necessary, excavation can be reduced in depth and/or transferred to Phase 2.</p> <p><b>Phase 2</b> will include excavation of existing soil an additional 3 feet, importation of appropriate fill, and restoration of the site vegetation to its original wetland status. The budget for Phase 2 was created with the assumption that Phase 1 will include excavation to a depth of 4 feet. In the event that Phase 1 must reduce excavation depth, Phase 2 will absorb the cost to the extent necessary to total 7 feet average excavation depth for Phases 1 and 2.</p> <p><b>Phases 3 and 4</b> are of a fixed cost nature and less open to unplanned expenses.</p>



	<p>While no official coordination has occurred with federal, state, or local agencies, the restorative character of this project lends itself to the approval and support of regulatory agencies. Unofficial support has been expressed by a representative of the Confederated Tribes of the Chehalis Reservation (See Attachment H).</p> <p>Given the project location, coordination will take place with the Confederated Tribes of the Chehalis Reservation. Additionally, coordination will take place with federal, state, and local regulatory agencies to ensure all permitting guidelines are being met and environmental engineering and restoration plans are being implemented in accordance with local and state regulations.</p>
<p><b>12. Project Impacts</b> -- Please identify how any project impacts will be mitigated, funded and if that mitigation will be accomplished by June 30, 2019?</p>	<p>If funded by this grant, Phase 1 will be completed by June 30, 2019 and include removal of all existing infrastructure. The existing buildings and equipment negatively impact flood water conveyance and provide sources of contamination for passing flood water. Removal of these structures will mitigate any environmental impact caused by the execution of demolition and debris removal activities.</p> <p>At the completion of all phases, the entire site will be considered a restoration site as it will be returned to a natural habitat, flood storage, and stream and river riparian functions. The complete site restoration to natural conditions will mitigate existing conditions and impacts associated with project completion.</p>

<p><b>Part IV (**)</b> <b>Benefits Stated and Quantified</b></p>	
<p><b>13. Emergency Response Benefits</b> -- Please describe (and quantify) how this project enhances emergency response in a flood emergency (e.g., does it keep critical access roads and transportation facilities open and functional, does it enable easy movement of cattle, equipment and farm chemicals out of harm's way, etc.).</p>	<p>The ultimate goal of this project is to return the 10-acre site to its original wetland status as land adjacent to the Chehalis River. Wetlands, in their natural state, positively serve the community in several ways. The first, and most vital impact for the Chehalis River Valley, is the storage and slow release of flood water. The depressed elevation and sponge-like quality of healthy wetland soil traps flood water and provides a slow release of flood volume, diminishing flood water speed and level. The second impact is the</p>



	<p>deceleration of flood water by woody shrubs and other wetland vegetation. With diminished and slower flood waters, risk of life and property is reduced and emergency personnel can function more effectively.</p> <p>Additionally, contaminants from roads, farms, and factories are naturally filtered by wetlands and floodways. As flood waters rise, the soil of the wetland rises and becomes suspended solids in the floodway. Contaminants bond to the suspended soil particles and, as wetland vegetation slows the floodwater velocity, the suspended soil particles settle once again in the depressed wetland area. With a significant wetland presence, floodwater will be cleaner and less dangerous for navigation by emergency personnel.</p> <p>Phase 1 will consist of removing derelict infrastructure from the flood plain and excavation of 4 feet of site soil. This will eliminate potential contamination during flood events and add flood storage for surrounding infrastructure and private property during periods of significant rain events.</p>
<p><b>14. Essential Infrastructure Protection Benefits --</b> Please describe (and quantify) how this project protects essential infrastructure and the risks or consequences of not acting this funding cycle.</p>	<p>The region surrounding the project site is home to residential, commercial, agricultural and recreational assets and is adjacent to I-5 access. Phase 1 removal of the existing wastewater treatment facility will alleviate stressors associated with the 100-year flood and other stormwater events. If action is not taken, the abandoned structures will continue to degrade and become an environmental hazard to the surrounding infrastructure. Expeditious mitigation of the project area will prevent contamination by residual sewage in the abandoned treatment plant and increase flood storage for a region frequently plagued by high water events.</p>
<p><b>15. Public Health, Safety and Welfare Benefits --</b> Please describe (and quantify) how this project protects public health, safety and welfare.</p>	<p>Each phase of this project will have a positive impact on public health, safety, and/or welfare.</p> <p><b>Phase 1</b>, funded by this grant, consists of removing the existing Wastewater Treatment Plant infrastructure, an aging facility whose unoccupied and unmaintained status is a public hazard and liability due to potential vandalism and illegal occupation. The current structures are no longer structurally sound, contain residual sewage, and obstruct the natural flow of water through the Chehalis River</p>



	<p>Floodplain. Following the completion of Phase 1, the 10-acre site will be a natural area with increased flood storage through excavation.</p> <p><b>Phase 2</b> consists of further excavation for flood storage, native fill, and native vegetation for wetland creation. This will create a 10-acre flood mitigation area, capable of storing, slowing, and filtering flood water.</p> <p><b>Phase 3</b> consists of wetland monitoring. This ensures the success of the wetland and flood mitigation area through evaluation and modification by an environmental expert.</p> <p><b>Phase 4</b> consists of the development of the area as a nature education center. The wetland status and function of the project area will be conveyed to the public through educational signage and pervious, nature trails.</p>
<p><b>16. Residential, Commercial and/or Agricultural Protection Benefits</b> -- Please describe (and quantify) how this project protects residential, commercial and/or agricultural interests and communities and the benefits of acting (or consequences of not acting) this funding cycle. Consider factors like number of structures at risk, number of people at risk, historic frequency of flood damage, magnitude of benefit to be gained for the cost, etc.).</p>	<p>This project assists in protecting the interests of the surrounding area, which includes residential, commercial, agricultural and industrial uses. On an annual basis, 1-2 flood events occur. Additional flood storage will help prevent excess stormwater runoff from accumulating in the surrounding area. With private land owners, residential areas, commercial centers, agricultural fields and industry close by, damage from flood waters can quickly accumulate to millions of dollars. Additionally, if the restoration site is made into an eco-park it will open the land up to the public.</p>
<p><b>17. Other Project Impacts</b> -- Please explain how this project impacts or is potentially impacted by another project.</p>	<p>This project is not directly tied to other projects but will serve the City of Chehalis by becoming a potential mitigation site to offset impacts to wetlands or critical areas associated with other projects.</p> <p>In addition, the restoration site will improve the habitat for wildlife including salmon, a vital species for this region.</p>
<p><b>18. Anything Else</b> -- Please feel free to offer any additional information (e.g., photos, maps, video, drawings, etc.) that would help to better understand the scope, timing and benefits of this project.</p>	<p>Additional information included with this application is provided in the attached documents. This includes the following:</p> <p><b>Attachment A:</b> Vicinity Map  <b>Attachment B:</b> NRCS Soils Mapping  <b>Attachment C:</b> FEMA Flood Insurance Rate Map  <b>Attachment D:</b> Well Logs for the Surrounding Area</p>



	<b>Attachment E:</b> National Wetland Maps and Supporting Data <b>Attachment F:</b> Priority Habitats and Species List <b>Attachment G:</b> Demolition Plan, Calculations, and Preliminary Phase 1 Estimate <b>Attachment H:</b> Chehalis Tribe Email of Support <b>Attachment I:</b> Site Photos
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### Appendix A

<b>Process/Schedule</b> (current as of 7-22-2017)	
July 21, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> <li>Post and distribute <b>local projects recruitment</b> request on 7/22/2016 following Flood Authority review/discussion at their 7/21/2016 meeting.</li> <li>Allow three weeks for project proposals/submittals (i.e., due no later than 5:00 p.m., Friday, August 12, 2016).</li> </ul>
August 18, 2016 (FA Conf. Call Mtg.)	<ul style="list-style-type: none"> <li>Receive proposals/submittals.</li> <li><b>Update Flood Authority</b> at their 8/18/2016 meeting on number received, type of projects received, distribution, etc.</li> </ul>
September 15, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> <li><b>Update Flood Authority</b> at their 9/15/2016 meeting on status of Projects Committee's effort to review, rank, discuss with Tribes, discuss with agencies, preliminarily sort and rank, etc.</li> </ul>
October 20, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> <li>Review/discuss <b>DRAFT ranked and prioritized list</b> with Flood Authority at their 10/20/2016 meeting.</li> </ul>
November 17, 2016 (FA Conf. Call Mtg.)	<ul style="list-style-type: none"> <li>Seek Flood Authority approval of <b>FINAL ranked and prioritized list</b> at their 11/17/2016 Flood Authority meeting.</li> </ul>

## **ATTACHMENT A**

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### Vicinity Map





**PARCEL #**  
**005794001000**  
**9.29 ACRES**

**PARCEL #**  
**005790001000**  
**0.69 ACRES**



## **SEWAGE TREATMENT PLANT VICINITY MAP**

## **ATTACHMENT B**

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### **NRCS Soils Mapping**



# Soil Map—Lewis County Area, Washington



Map Scale: 1:12,700 if printed on A portrait (8.5" x 11") sheet.

0 150 300 600 900 Meters

0 500 1000 2000 3000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84



**Natural Resources  
Conservation Service**

Web Soil Survey  
National Cooperative Soil Survey

8/4/2016  
Page 1 of 3

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lewis County Area, Washington

Survey Area Data: Version 13, Sep 15, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 8, 2010—Jul 9, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

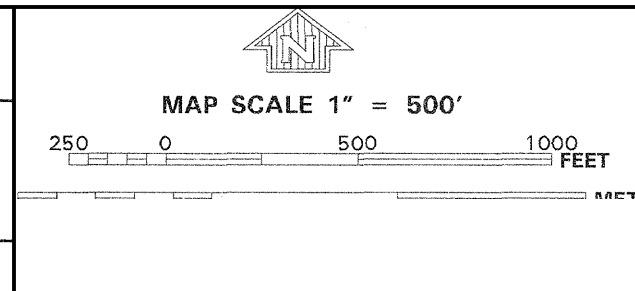
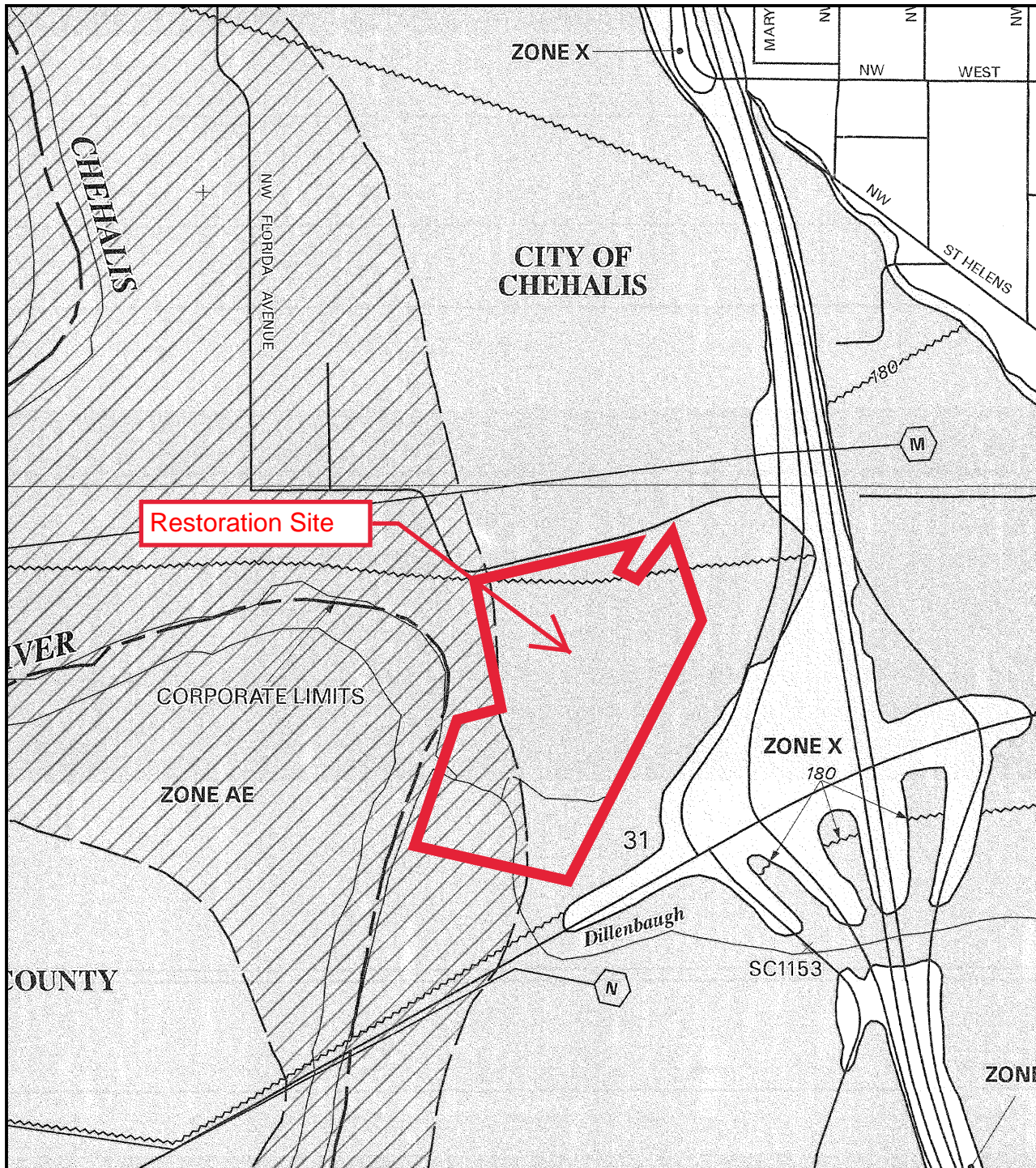
Lewis County Area, Washington (WA641)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Alvor silty clay loam	4.4	0.6%
48	Chehalis silty clay	292.0	42.7%
61	Cloquato silt loam	29.9	4.4%
118	Lacamas silt loam, 0 to 3 percent slopes	48.5	7.1%
131	Melbourne loam, 8 to 15 percent slopes	0.9	0.1%
148	Newberg fine sandy loam	80.0	11.7%
172	Reed silty clay loam	63.6	9.3%
173	Reed silty clay loam, channeled	31.5	4.6%
187	Salkum silty clay loam, 0 to 5 percent slopes	54.0	7.9%
247	Xerorthents, spoils	33.9	5.0%
W	Water	45.0	6.6%
<b>Totals for Area of Interest</b>		<b>683.7</b>	<b>100.0%</b>

## **ATTACHMENT C**

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### FEMA Flood Insurance Rate Map





PANEL 1361C

# **FIRM** **FLOOD INSURANCE RATE MAP**

CITY OF  
CHEHALIS,  
WASHINGTON

LEWIS COUNTY

**PANEL 1361 OF 2500**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHEHALIS, CITY OF	530104	1361	C

CHEHALIS, CITY OF

530104

1361

C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



**MAP NUMBER**  
**5301041361C**

**MAP REVISED:**  
**JULY 17, 2006**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

## **ATTACHMENT D**

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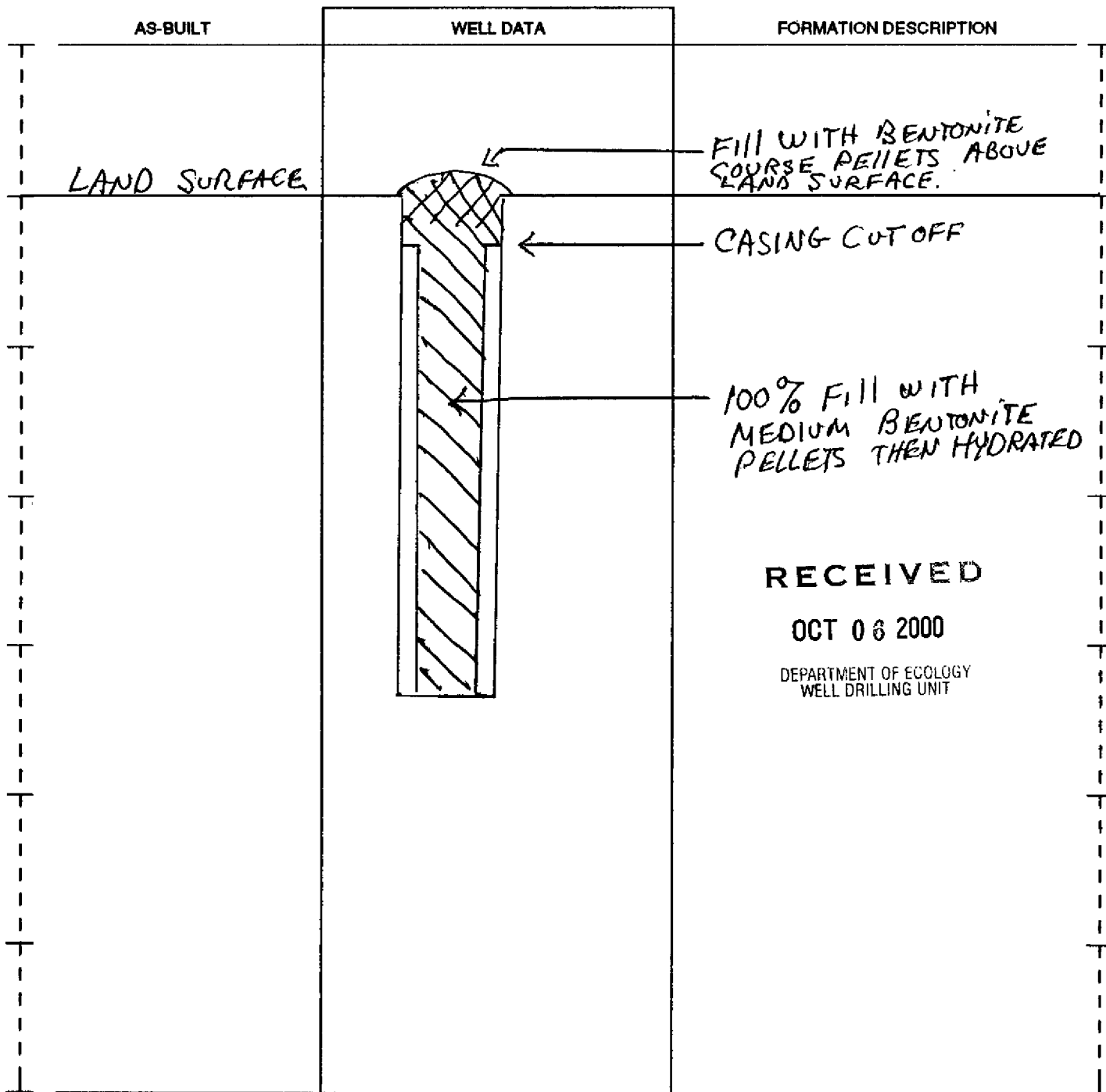
### **Well Logs for the Surrounding Area**

# RESOURCE PROTECTION WELL REPORT

START CARD NO. A47379

PROJECT NAME: AMERICAN CROSSARM & CONDUIT <sup>CLEAN UP</sup>  
 WELL IDENTIFICATION NO. MW-22  
 DRILLING METHOD: ABANDONMENT  
 DRILLER: BERNARD STRONG (2362)  
 FIRM: WA. ST. DEPT OF ECOLOGY  
 SIGNATURE: Bernard N. Strong  
 CONSULTING FIRM: DEPT OF ECOLOGY  
 REPRESENTATIVE: PAM MARTI

COUNTY: LEWIS  
 LOCATION: SE 1/4 NE 1/4 Sec 31 Twn 14 R 2 W  
 STREET ADDRESS OF WELL: —  
 WATER LEVEL ELEVATION: 171.76 FOOT  
 GROUND SURFACE ELEVATION: 178.86 FOOT  
 INSTALLED: 10-6-2000  
 DEVELOPED: —



SCALE: 1" = 10 FOOT

PAGE 1 OF 2

## RESOURCE PROTECTION WELL REPORT

Notice of Intent No.

E005519

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission ("x" in circle)

☒ Construction☐ Decommission Original Construction Notice

of Intent Number

195077

Property Owner Billie J. Wiley

Unique Ecology Well ID Tag No. 1N/4

Consulting Firm Steven Environmental

Driller or Trainee Name Don Harden

Driller or Trainee Signature Don

Driller or Trainee License No. 2802

If trainee, licensed driller's  
Signature and License no.

Type of Well ("x" in circle)

☒ Resource Protection☐ Geotech Soil Boring

Site Address 0 Main St.

City Chehalis County: Lewis

Location NE 1/4-1/4 HE 1/4 Sec 31 Twn 14N R 2 EWN or WWS circle or one

Lat/Long (s, t, r still REQUIRED) Lat Deg Lat Min/Sec Long Deg Long Min/Sec

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1-25-06

Work/Decommission Completed Date 1-25-06

Construction/Design

Well Data

Formation Description

Soils sampled continuously  
0-12' bgsWater sample collected 4-7' bgs  
Through temporary screen.All tooling removed from  
boring upon completion of  
sampling.Boring backfilled w/ broken  
chips

0-12' S. It Sand &amp; gravel

1 H<sub>2</sub>O @ 5' bgs06 MAY 12 AB:36  
DEPT. OF ECOLOGY  
FISCAL & BUDGET

RECEIVED

MAY 12 2006

DEPARTMENT OF ECOLOGY  
WELL DRILLING UNIT

Scale 1"= 4'

Page 1 of 5

ECY 050-12 (Rev 2/01)



Application No. 64-20033

Permit No. .... 2-26055

2) LOCATION OF WELL: County Lewis 7 1/2 1/2 Sec. 31 T. 14 N., R. 2W W.M.

Rep) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☐  
Irrigation ☒ Test Well ☐ Other ☐

1) **DIMENSIONS:** Diameter of well 6 inches.  
Drilled 48 ft. Depth of completed well 48 ft.

Perforations: Yes ☐ No ☒

Type of perforator used \_\_\_\_\_

SIZE of perforations \_\_\_\_\_ in. by \_\_\_\_\_ in.

\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Gravel packed: Yes ☐ No ☐ Size of gravel: \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

(7) PUMP: Manufacturer's Name Grundfos  
Type: Sub. HP 5

U (9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☒ No ☐ - If yes, by whom? Driller  
Yield: 50 gal./min. with 14.75 ft. drawdown after 8 h

men

Recovery data (time taken as zero when pump turned off) (water level)

Time	Water Level	Time	Water Level	Time	Water Level
0	24'	5	14' 3"	20	12' 11"
2	23' 2"	10	13' 4"	30	12' 8"
4	16'	15	12' 11"	60	12' 5"

Date of part 7-19-82

Artesian flow \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_

Temperature of water \_\_\_\_\_ Was a chemical analysis made? Yes ☐ No ☐

*[Illegible text]*

(USE ADDITIONAL)

\_\_\_\_\_

**Formation:** Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

[illegible]

DEPARTMENT OF ECOLOGY  
SOUTHWEST REGIONAL OFFICE

Work started 7-14, 19 82. Completed 7-20, 19 82

**WELL DRILLER'S STATEMENT:**

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME King Brothers Drilling Inc.  
(Person, firm, or corporation) (Type or print)

Address 2434 Seward, Centralia, WA 98531

[Signed] Colman C. King

License No. 0243 Date 9-2 19

(USE ADDITIONAL SHEETS IF NECESSARY)

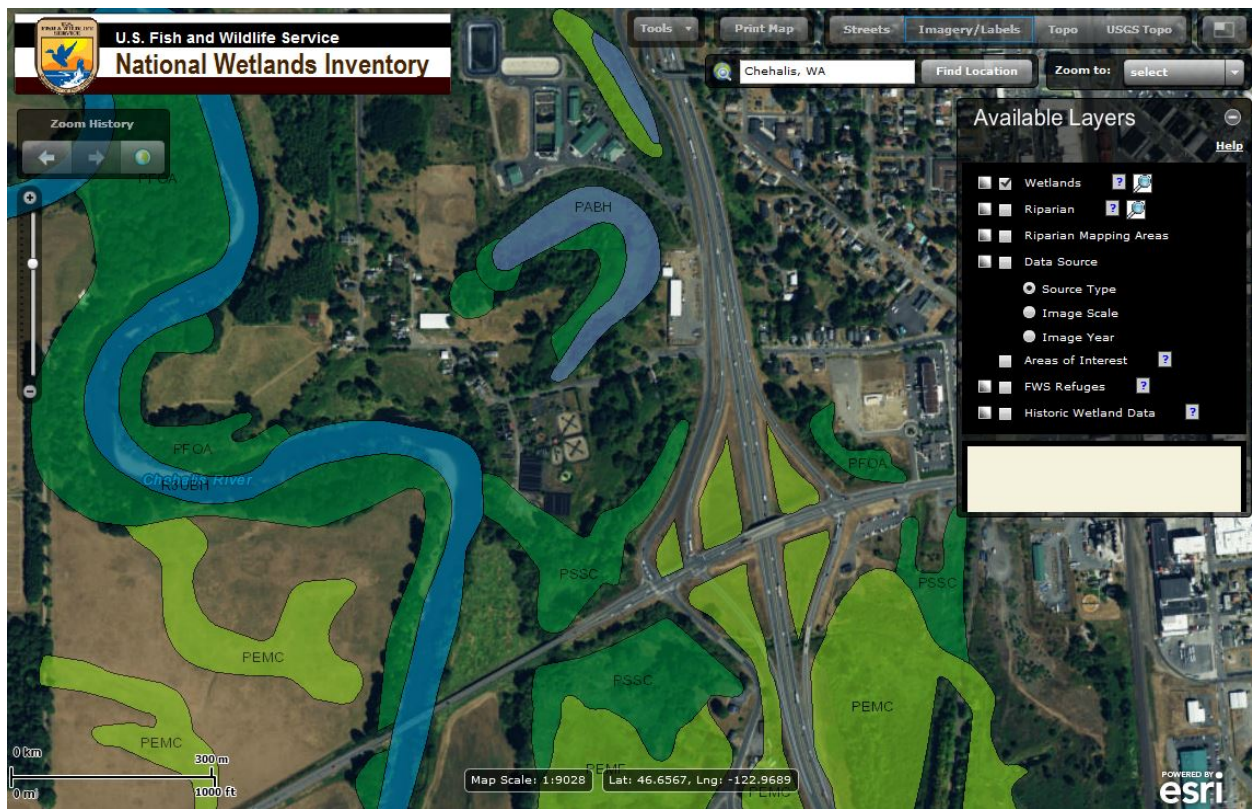


## **ATTACHMENT E**

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### **National Wetland Maps and Supporting Data**

## National Wetland Inventory Map and Supporting Data





U.S. Fish & Wildlife Service

## National Wetlands Inventory

Ecological Services

Enter Classification code:  (Example: **L1UB1Hx**)

For geographically specific information\* (optional), please enter a State code:  (Example: **TX** for Texas)

DECODE

Description for code **PABH** :

**P** System **PALUSTRINE**: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares ( 20 acres ); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

Subsystem :

**AB** Class **AQUATIC BED**: Includes wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years.

Subclass :

Modifier(s):

**H** WATER REGIME **Permanently Flooded**: Water covers the land surface throughout the year in all years.





U.S. Fish & Wildlife Service

## National Wetlands Inventory

Ecological Services

Enter Classification code:  (Example: **L1UB1Hx**)

For geographically specific information\* (optional), please enter a State code:  (Example: **TX** for Texas)

DECODE

Description for code **PSSC** :

**P** System **PALUSTRINE**: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares ( 20 acres ); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

Subsystem :

**SS** Class **SCRUB-SHRUB**: Includes areas dominated by woody vegetation less than 6 m (20 feet) tall. The species include true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions.

Subclass :

Modifier(s):

**C** WATER REGIME **Seasonally Flooded**: Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.



U.S. Fish & Wildlife Service

## National Wetlands Inventory

Ecological Services

Enter Classification code:  (Example: **L1UB1Hx**)

For geographically specific information\* (optional), please enter a State code:  (Example: **TX** for Texas)

DECODE

Description for code **R3UBH** :

- R** System **RIVERINE**: The Riverine System includes all wetlands and deepwater habitats contained in natural or artificial channels periodically or continuously containing flowing water or which forms a connecting link between the two bodies of standing water. Upland islands or Palustrine wetlands may occur in the channel, but they are not part of the Riverine System.
- 3** Subsystem **UPPER PERENNIAL**: This Subsystem is characterized by a high gradient and fast water velocity. There is no tidal influence, and some water flows throughout the year. This substrate consists of rock, cobbles, or gravel with occasional patches of sand. There is very little floodplain development.
- UB** Class **UNCONSOLIDATED BOTTOM**: Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.
- Subclass :

Modifier(s):

**H** WATER REGIME **Permanently Flooded**: Water covers the land surface throughout the year in all years.

## **ATTACHMENT F**

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### **Priority Habitats and Species List**





# WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

## PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPublic  
REPORT DATE: 08/10/2016 2.31

Query ID: P160810143109

Common Name Scientific Name Notes	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Cavity-nesting Ducks	CHEHALIS RIVER & PHSREGION 905309	Breeding Area Breeding occurrence  <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	1/4 mile (Quarter	N/A N/A  PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Chinook Oncorhynchus tshawytscha	Chehalis River SASI 1435	Occurrence Occurrence <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	Not Warranted N/A  PHS Listed	N AS MAPPED	WDFW Fish Program Lines
Chinook Oncorhynchus tshawytscha	Chehalis River SASI 1432	Occurrence Occurrence <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	Not Warranted N/A  PHS Listed	N AS MAPPED	WDFW Fish Program Lines
Coho Oncorhynchus kisutch	Dillenbaugh Creek SWIFD 56269	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A  PHS LISTED	N AS MAPPED	Lines
Coho Oncorhynchus kisutch	Chehalis River SWIFD 63843	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A  PHS LISTED	N AS MAPPED	Lines
Coho Oncorhynchus kisutch	Dillenbaugh Creek SASI 3605	Occurrence Occurrence <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	Candidate N/A  PHS Listed	N AS MAPPED	WDFW Fish Program Lines
Coho Oncorhynchus kisutch	Chehalis River SASI 3605	Occurrence Occurrence <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	Candidate N/A  PHS Listed	N AS MAPPED	WDFW Fish Program Lines

Common Name Scientific Name Notes	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Cutthroat Oncorhynchus clarki	Dillenbaugh Creek SASI 7580	Occurrence Occurrence <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	Candidate N/A PHS Listed	N AS MAPPED	WDFW Fish Program Lines
Cutthroat Oncorhynchus clarki	Chehalis River SASI 7580	Occurrence Occurrence <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	Candidate N/A PHS Listed	N AS MAPPED	WDFW Fish Program Lines
Fall Chinook Oncorhynchus tshawytscha	Chehalis River SWIFD 63833	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat <a href="http://www.ecy.wa.">http://www.ecy.wa.</a>	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat <a href="http://www.ecy.wa.">http://www.ecy.wa.</a>	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat <a href="http://www.ecy.wa.">http://www.ecy.wa.</a>	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat <a href="http://www.ecy.wa.">http://www.ecy.wa.</a>	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat <a href="http://www.ecy.wa.">http://www.ecy.wa.</a>	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons



Common Name Scientific Name Notes	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Emergent	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons

Common Name Scientific Name Notes	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Freshwater Pond	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa.gov">http://www.ecy.wa.gov</a>	NA	N/A N/A  PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Resident Coastal Cutthroat Oncorhynchus clarki	Dillenaugh Creek SWIFD 56268	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A  PHS LISTED	N AS MAPPED	Lines
Resident Coastal Cutthroat Oncorhynchus clarki	Chehalis River SWIFD 63831	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A  PHS LISTED	N AS MAPPED	Lines



Common Name Scientific Name Notes	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Spring Chinook Oncorhynchus tshawytscha	Chehalis River SWIFD 63838	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines
Steelhead Oncorhynchus mykiss	Chehalis River SASI 6574	Occurrence Occurrence <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a>	NA	Not Warranted N/A PHS Listed	N AS MAPPED	WDFW Fish Program Lines
Steelhead Oncorhynchus mykiss	Chehalis River SASI 6609	Occurrence Occurrence <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a>	NA	Not Warranted N/A PHS Listed	N AS MAPPED	WDFW Fish Program Lines
Waterfowl Concentrations	CHEHALIS WETLANDS PHSREGION 902195	Regular Concentration Regular concentration <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	1/4 mile (Quarter	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Winter Steelhead Oncorhynchus mykiss	Chehalis River SWIFD 63850	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a>	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines








DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

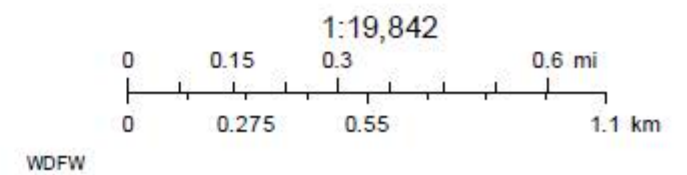


# WDFW Test Map



August 10, 2016

- |  |   |  |
|--|---|--|
|  PHS Report Clip Area |  AS MAPPED |  TOWNSHIP |
|  PT                   |  SECTION   |  |
|  LN                   |  QTR-TWP   |  |



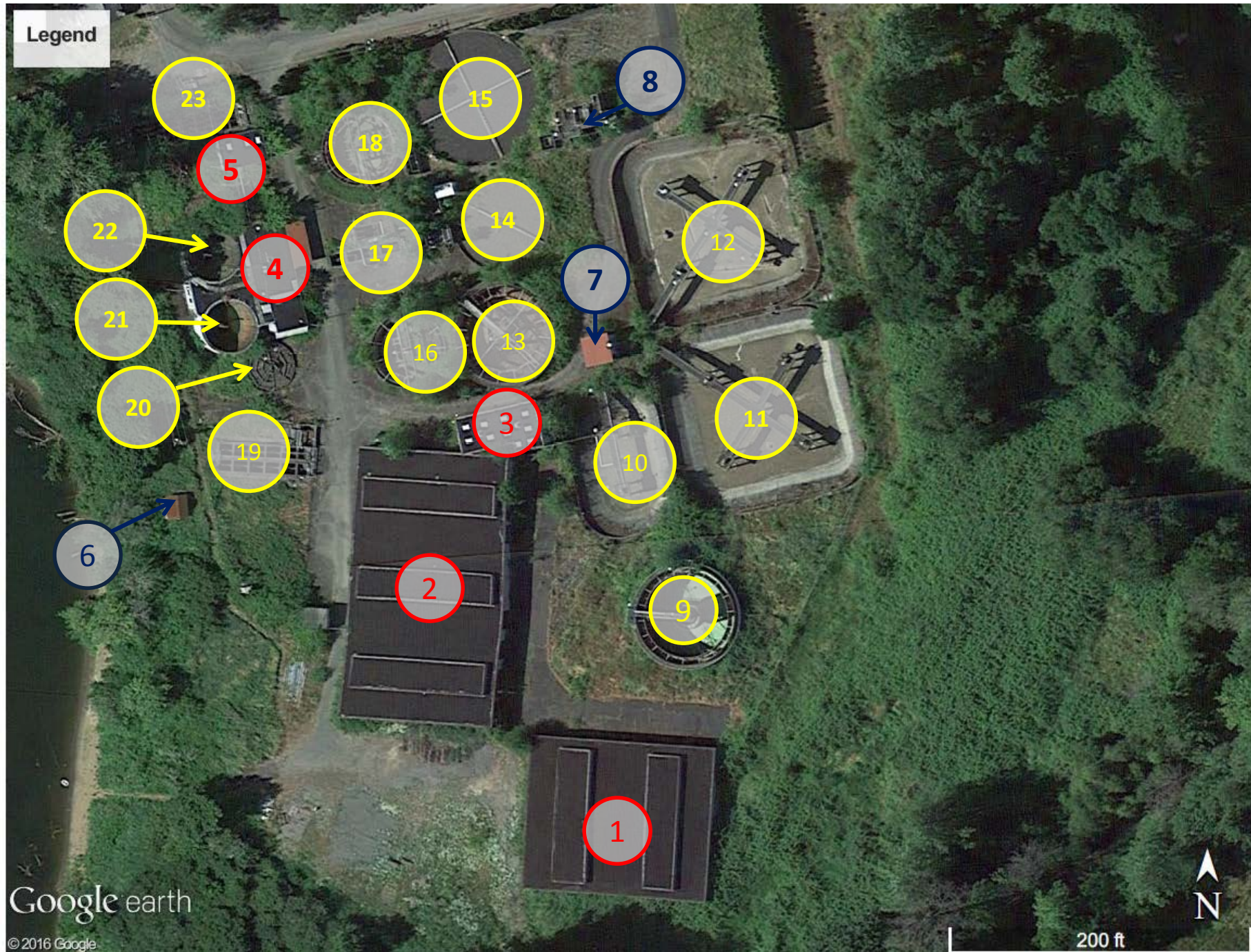
## **ATTACHMENT G**

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### **Demolition Plan, Calculations, and Preliminary Phase 1 Estimate**



Legend



Google earth

© 2016 Google

200 ft

N



Project Name:	Chehalis Wastewater Treatment Plant Demolition				
Project No.:	P16269				
Date:	8/9/16	By:	K. Hoffer		
Sheet:	Estimate	Page	1	Of	3

**Large Building (See Exhibit A):**

1. 125 ft x 105 ft = 13,125 SF
2. 185 ft x 105 ft = 19,425 SF
3. 55 ft x 33 ft = 1,815 SF
4. 30 ft x 70 ft = 2,100 SF
5. 30 ft x 20 ft = 600 SF

**Large Building Total = 37,065**

**Small Building (See Exhibit A):**

6. 20 ft x 15 ft = 300 SF
7. 20 ft x 20 ft = 400 SF
8. 22 ft x 50 ft = 1,100 SF

**Small Building Total = 1,800 SF**

**Clarifiers/Digesters Etc. (See Exhibit A):**

9. 70 ft Diam.  $\Rightarrow \pi(70^2)/4 = 3,850$  SF
10. 100 ft x 65 ft = 6,500 SF
11. 125 ft x 125 ft = 15,625 SF
12. 125 ft x 125 ft = 15,625 SF
13. 75 ft Diam.  $\Rightarrow \pi(75^2)/4 = 4,420$  SF
14. 65 ft Diam.  $\Rightarrow \pi(65^2)/4 = 3,320$  SF
15. 90 ft Diam.  $\Rightarrow \pi(90^2)/4 = 6,360$  SF
16. 50 ft Diam.  $\Rightarrow \pi(50^2)/4 = 1,970$  SF
17. 33 ft x 14 ft = 462 SF
18. 50 ft Diam.  $\Rightarrow \pi(50^2)/4 = 1,970$  SF
19. 65 ft x 25 ft = 1,625 SF
20. 32 ft Diam.  $\Rightarrow \pi(32^2)/4 = 805$  SF
21. 40 ft Diam.  $\Rightarrow \pi(40^2)/4 = 1,260$  SF
22. 40 ft Diam.  $\Rightarrow \pi(40^2)/4 = 1,260$  SF
23. 80 ft x 25 ft = 2,000 SF

**Clarifier Total = 67,052 SF**

**Asphalt Removal:**

- $450 \text{ ft} \times 15 \text{ ft} = 6,750 \text{ SF}$
- $450 \text{ ft} \times 15 \text{ ft} = 6,750$
- $(35 \text{ ft} \times 180 \text{ ft}) + (30 \text{ ft} \times 150 \text{ ft}) = 10,800$

**Asphalt Removal Total = 24,300 SF**

**= 2,700 SY**

**Excavation:**

Site Area =  $550 \text{ ft} \times 680 \text{ ft} = 374,000 \text{ SF}$

Assume 4' average depth for Phase 1:

$374,000 \text{ ft} \times 4 \text{ ft} = 1,496,000 \text{ CF}$

**= 55,407 CY**

Assume 3' average depth for Phase 2:

$374,000 \text{ ft} \times 3 \text{ ft} = 1,122,000 \text{ CF}$

**= 41,555 CY**

**Fill:**

Site Area =  $550 \text{ ft} \times 680 \text{ ft} = 374,000 \text{ SF}$

Assume 1.5' average depth:

$374,000 \text{ ft} \times 1.5 \text{ ft} = 561,000 \text{ CF}$

**= 20,777 CY**

**Planting:**

Total Site Area = 10 Acres

**Erosion Control:**

- 2,500 LF Silt Fence, @ \$7.50/LF = \$18,750
- Construction Entrance => Assume 100 ft x 20 ft = 2,000 SF = 222 SY, @ \$25/SY = \$5,555
- Street Cleaning => Assume 4 hr/day for 20 days (1 month), @ \$136/hr = \$10,880
- ESC Lead => Assume 20 days, @ \$250/day = \$5,000

**Erosion Control Total = \$40,185**

**Use \$30,000 for Phase 1, \$10,000 for Phase 2**

**Clearing and Grubbing:**

Portion of site that contains treatment facility = 550 ft x 680 ft = 374,000 SF = 8.6 Acres

10 Acres (Total Site) – 8.6 Acres (portion of site that contains treatment facility) = 1.4 Acres

**Fine Grading:**

Total Site Area = 10 Acres



Date Updated: 8/9/2016  
Initials: K. Hoffer  
Checked By: D. Maroon

### Chehalis Wastewater Treatment Plan Demolition Phase 1

ITEM#	ITEM	QTY	UNIT	UNIT COST	TOTAL COST
1	Mobilization (10%)	1	LS	\$176,406.00	\$176,406.00
2	Large Building Demolition	37,000	SF	\$10.00	\$370,000.00
3	Small Building Demolition	1,800	SF	\$7.50	\$13,500.00
4	Clarifier/Digester/Screen/Chlorine Contact Chamber Demolition	67,000	SF	\$5.00	\$335,000.00
5	Abatement - Roofing	37,000	SF	\$2.00	\$74,000.00
6	Removing Asphalt Concrete Pavement	2,700	SY	\$10.00	\$27,000.00
7	Excavation (4' Average Depth)	56,000	CY	\$15.00	\$840,000.00
8	Clearing and Grubbing	1.4	AC	\$15,000.00	\$21,000.00
9	Fine Grading	435,600	SF	\$0.10	\$43,560.00
10	Erosion Control	1	LS	\$30,000.00	\$30,000.00
11	Pumping Existing Pipes	1	LS	\$10,000.00	\$10,000.00

Subtotal	\$1,940,466.00
Tax (8%)	\$155,237.28
Contingency (10%)	\$194,046.60
Design/Survey Fees (15%)	\$320,176.89
Construction Fees (10%)	\$213,451.26
<b>TOTAL</b>	<b>\$2,823,378.03</b>

## **ATTACHMENT H**

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### **Chehalis Tribe Email of Support**

**From:** Kirsten Harma [mailto:kharma@chehalistribe.org]  
**Sent:** Wednesday, July 27, 2016 11:39 AM  
**To:** Trent Loughheed  
**Subject:** Chehalis Basin Lead Entity Habitat Work Group

Greetings Trent,

Thanks for the call. I hope you understand that it's difficult to get support letters on such short notice from multi-stakeholder partnerships. Hopefully one of your other options will work out for you! In the meantime, I'd like to invite you to our next Habitat Work Group meeting. That would be a good opportunity for you to meet people in the "restoration community" in the basin, and maybe also make contacts that will provide some good input as you develop the sewage project and other restoration projects. Our next meeting is August 12, as on the calendar here:

<http://www.chehalisleadentity.org/events/>

You can learn more about the organization and its work here: <http://www.chehalisleadentity.org/>

Kind regards,

~~~~~

Kirsten Hama

Watershed Coordinator/Lead Entity Coordinator

Chehalis Basin Partnership &amp; Chehalis Basin Lead Entity

E-mail: [kharma@chehalisrifle.org](mailto:kharma@chehalisrifle.org)

Phone: (360) 488-3232

Websites: [www.chehalisbasinpartnership.org](http://www.chehalisbasinpartnership.org) & [www.chehalisleadentity.org](http://www.chehalisleadentity.org)

$$\langle \dots \rangle = \lim_{N \rightarrow \infty} \frac{1}{N} \sum_{n=1}^N \langle \dots \rangle_n$$



# ATTACHMENT I

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## Site Photos



PUMP STATION



ABANDONED BUILDING



CONTROL PANELS



ACTIVATED SLUDGE TANK



ACTIVATED SLUDGE TANK



ABANDONED BUILDING



ABANDONED BUILDING



ABANDONED BUILDING