

# **Mukilteo Water and Wastewater District Sewer Treatment Facility Administrative/Laboratory Building Replacement**

**Essential Public Facility (EPF), Shoreline Substantial Development  
Conditional Use Permit (SH-SDP) and  
Shoreline Conditional Use Permit (SH-CUP)**

**EPF-2018-001 / SH-SDP-2018-001 / SH-CUP-2018-001**

**9417 62<sup>nd</sup> Place SW**



Mukilteo Hearing Examiner

December 4, 2018

10:00 a.m.

Mukilteo City Council Chambers

11930 Cyrus Way, Mukilteo WA 98275

**City of Mukilteo, Washington**  
**PLANNING STAFF REPORT**

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To: Mukilteo Hearing Examiner

Hearing Date: December 4, 2018

From: Linda Ritter, Senior Planner

Re: Mukilteo Water and Wastewater District (MWWD) Sewer Treatment Facility  
Administrative/ Laboratory Building Essential Public Facility Permit (EPF), Shoreline  
Substantial Development Permit (SH-SDP) and a Shoreline Conditional Use Permit (SH-  
CUP) for property located at 9417 62<sup>nd</sup> Place SW (EPF-2018-001 / SH-SDP-2018-001 /  
SH-CUP-2018-001)

**APPLICATION SUMMARY**

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<b>Applicant:</b>	Jim Voetberg, General Manager, Mukilteo Water and Wastewater District
<b>Owner:</b>	Mukilteo Water and Wastewater District
<b>Summary of Request:</b>	Essential Public Facilities Permit (EPF), Shoreline Substantial Development Permit (SDP) and a Shoreline Conditional Use Permit (CUP) for:

- A. The demolition of an existing one story administrative/lab building that has a building footprint of approximately 1,960 square feet; and,
- B. Construction of a new two-story administrative/lab building with the same footprint of 1,960 square feet. The new building will be constructed over an area of existing pavement approximately 25 feet from the existing administrative/lab building. Administrative offices and the lab will be on the top floor with a maintenance shop and storage on the lower floor.

<b>Recommended Action</b>	Staff recommends that the Mukilteo Hearing Examiner GRANT the Essential Public Facility Permit (EPF), Shoreline Substantial Development Permit (SDP), and Shoreline Conditional Use Permit (CUP) subject to conditions of approval.
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## **BACKGROUND**

In 1993, the City of Mukilteo transferred its sewer systems to Olympus Terrace Sewer District which later merged with the Mukilteo Water District, which is now known as the Mukilteo Water and Wastewater District (MWWD).

MWWD owns and operates the sewer system, including the Big Gulch Wastewater Treatment Facility (WWTF). The Big Gulch WWTF is a public wastewater treatment facility treating sewage generated from residents and businesses within the City of Mukilteo and Snohomish County including Paine Field Airport. MWWD serves much, but not all, of the City of Mukilteo as well as areas outside of the City limits (see service area map).

The WWTF is regulated by the Washington State Department of Ecology (DOE), permit number WA0023396. Pursuant to Mukilteo Municipal Code, (MMC) Section 17B.16.100, the City of Mukilteo has identified the WWTF as an essential public facility.

The WWTF is located at the lower end of Big Gulch. The WWTF property abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north. Public access is prohibited on WWTF property.

The WWTF is also located within the City of Mukilteo Urban Conservancy shoreline environment designation and the disturbed area for the WWTF is located within two hundred feet of the Ordinary High Water Mark (OMHW).

The WWTF property is fully developed within the MWWD's facilities with no room to expand. The MWWD has five full-time employees who operate the WWTF. The administration and lab work necessary to operate the facility is currently performed out of the single story 1,960 square foot building, now proposed for replacement.

The MWWD has identified the proposed new **administration and lab work building** in its Comprehensive Plan. The project is identified in the MWWD capital budget for permitting/design in 2018 and construction in 2019. Funding for the project will come from the MWWD Capital Fund reserves.



## Sewer Service Area



### **FACTS AND FINDINGS**

1. On August 29, 2018, Mr. Jim Voetberg, General Manager of Mukilteo Water and Wastewater District, on behalf of the Mukilteo Water and Wastewater District (MWWD), applied for an Essential Public Facility Permit (EPF), Shoreline Substantial Development Permit (SDP), and a Shoreline Conditional Use Permit (CUP) to demolish an existing one story administrative/lab building and to construct a new two-story administrative/lab building at its existing Big Gulch Wastewater Treatment plant located at 9417 62<sup>nd</sup> Place SW, Mukilteo WA 98275 – **See Exhibit G** for legal description.
2. The MWWD application was deemed complete on October 1, 2018. The project was circulated for review and comment on October 12, 2018.

3. The Subject Property is approximately 4.75 acres in size and located at the lower (westerly) end of the City of Mukilteo's Big Gulch Trail Park. Big Gulch Trail Park includes multiple trails providing connections throughout the Gulch. Access to the Subject Property is from 62<sup>nd</sup> Place SW, which is a local street.



4. The following utilities are available to this property:

Water:	Mukilteo Water and Wastewater District
Sewer:	Mukilteo Water and Wastewater District
Electricity:	Snohomish Public Utility District

5. The WWTF site is fully developed within the District's property with no room to expand. The District has five full-time employees who operate the WWTF. The administration and lab work necessary to operate the facility is currently performed out of a single story 1,960 building.





6. The WWTF is located within the City of Mukilteo’s “Urban Conservancy” shoreline environment designation. The disturbed area for the WWTF is located within the two hundred feet of the Ordinary High Water Mark (OMHW).

MMC section 17B.16.040(A) entitled “Table 1 Permitted Use Matrix” identifies “Water and Sewer Treatment Plants and Modifications Thereto” as requiring a shoreline conditional use permit in the “Urban Conservancy” Shoreline Environment designation. MMC section 17B.16.040(A) entitled “Table 1 Permitted Use Matrix” also states that local, state and regional essential public facilities must have a conditional use permit and special use permit.

7. MMC section 17B.08.020 Definitions defines Essential public facility” and “Essential public facility, local” as follows,

“Essential public facility” or “EPF” means a facility that is typically difficult to site, such as an airport, a state education facility, a state or regional transportation facility as defined in RCW [47.06.140](#), a state or local correctional facility, a solid waste handling facility, or an in-patient facility, including

substance abuse facilities, mental health facilities, group homes, and secure community transition facilities as defined in RCW [71.09.020](#). The term “essential public facility” includes all facilities listed in RCW [36.70A.200](#), all facilities that appear on the list maintained by the State Office of Financial Management pursuant to RCW [36.70A.200](#)(4), and all facilities listed as essential public facilities in the Mukilteo comprehensive plan.

“Essential public facility, local” means an EPF that is owned, operated, or sponsored by the city of Mukilteo, a special purpose district, Snohomish County (for facilities that do not provide service to the county-wide population), or another unit of local government. An EPF is “sponsored” by a local government when it is to be owned or operated by a nongovernmental entity pursuant to a contract with the local government to provide the EPF.

8. The subject property is designated “Industrial” on the City of Mukilteo Comprehensive Plan Map and is zoned Heavy Industrial (HI). MMC section 17.16.040A entitled “Table 17.16.040” identifies “Water and sewer treatment plants” as a conditional use in the HI zone.
9. The WWTF is located at the lower end of Big Gulch. The property abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north. Public access is prohibited on WWTF property.

The Mukilteo Comprehensive Plan designation, zoning and land uses of surrounding properties are as follows:

Direction	Comprehensive Plan Designation	Zoning	Land Use
North	Parks and Open Space, Single Family Residential - Low Density	Open Space, Single Family Residential/ RD 12.5	Big Gulch Park, Single Family Residences
East	Parks and Open Space	Open Space	Big Gulch Park
South	Parks and Open Space	Open Space, Single Family Residential/ RD 8.4	Big Gulch Park, Single Family Residences
West	Single Family Residential - Low Density	Single Family Residential RD 12.5, RD 12.5 (S) Single Family Residential	Burlington Northern Santa Fe Railroad, Possession Sound

10. Big Gulch WWTF is a public wastewater treatment facility treating sewage generated from residents and businesses within the City of Mukilteo and Snohomish County including Paine Field Airport. The WWTF is regulated by the State Department of Ecology, permit number WA0023396. Pursuant to Mukilteo Municipal Code Section 17B.16.100, the City of Mukilteo has identified the WWTF as an essential public facility.
11. The MWWD has identified the proposed project for a new administration/laboratory building in its Comprehensive Plan. The project is also identified in the District's capital budget for permitting/design in 2018 and construction in 2019. Funding for the project will come from the District's Capital Fund reserves.
12. The MWWD states demolition of the existing administration/laboratory building and construction of a new administration/laboratory building is required for two reasons.
  - A. The existing administration/laboratory building is in general need of substantial repair and is too small to accommodate adequate administrative and lab functions at the Wastewater Treatment Facility as shown in the pictures below. The existing administration/laboratory building is in need of HVAC upgrades, electrical upgrades, lacks restroom and shower facilities for both genders, lacks lab space to efficiently operate a State certified lab, lacks ergonomic work stations for the employees, has inadequate area for computerized controls of the Wastewater Treatment Facility, has inadequate area for the storage of spare parts, and lacks sufficient shop area for the maintenance of pumps and other equipment.





- B. Second, the location of the existing administration/laboratory building inhibits the operations of transporting biosolids away from the Big Gulch WWTF to a State certified Beneficial Use Facility (a facility certified by the State to accept biosolids) located in Mansfield, Washington. The ability to utilize larger size tractor-trailer vehicles is restricted due to the inability for a tractor trailer to turn around as shown in the pictures below.



Since 2012, three biosolid transport companies have quit servicing the Wastewater Treatment Facility and the current hauler has raised the cost from \$54 per wet ton to \$88 per wet ton. Future increase in wastewater flows will require modifications to the biosolids system to accommodate increased biosolids volume. With inadequate space to maneuver biosolids hauling vehicles now, the problem will only exacerbate in the future.

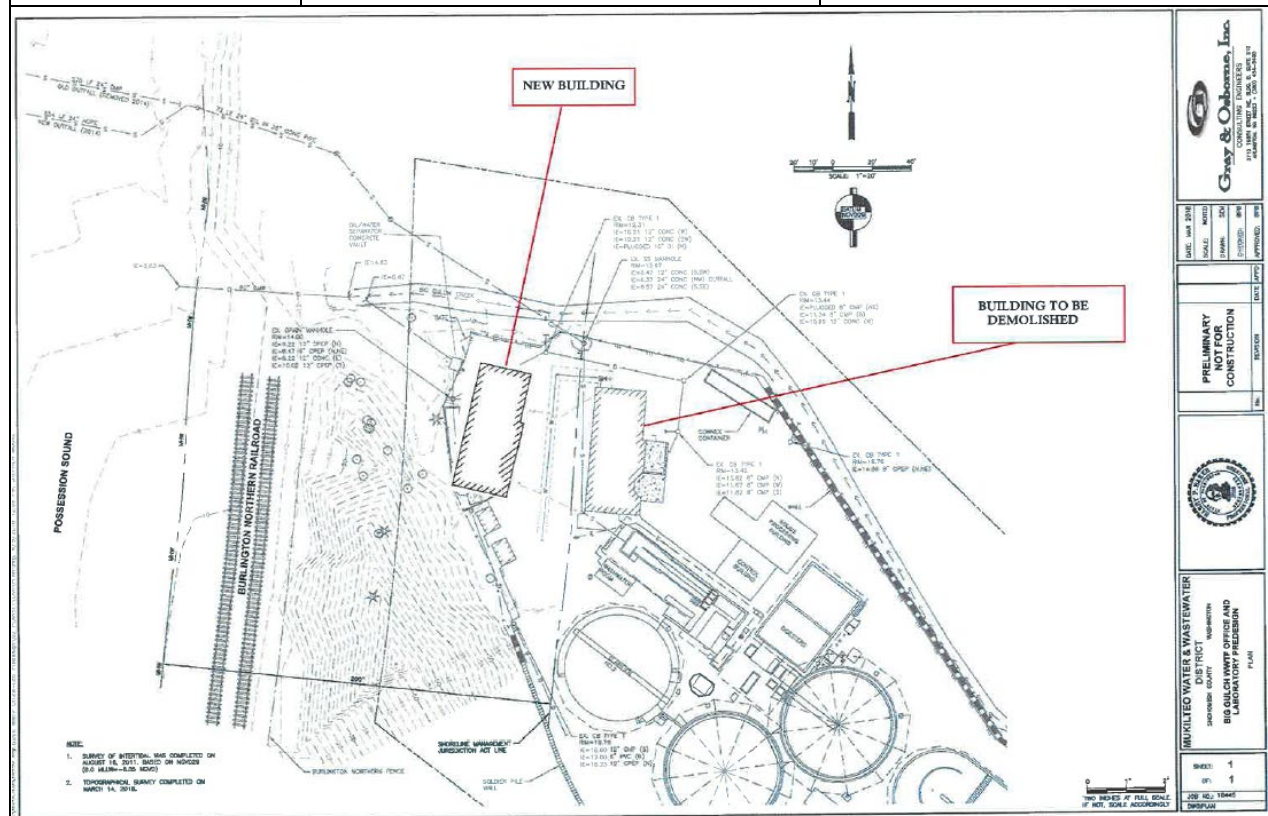




13. In accordance with the consistency test outlined in the Growth Management Act (RCW 36.70B.040), prior to making a decision or recommendation on an application, the City must consider whether a project meets the adopted development regulations and/or Comprehensive Plan policies. The subject property is located in the Heavy Industrial (HI) Zoning District and the following standards apply:

### Heavy Industrial Zoning District

Regulation	Requirement	Submitted
Setbacks:	Front: 25' Rear: IBC, except 50' next to residential zones Sides: IBC, except 50' next to residential zones Corner: 25' OHWM: 200'	Front: 240' Rear: 36' South Side: 150' Northeast Side: 98' Corner: N/A OHWM: 149'  The administrative/laboratory building is proposed to be located within 200 feet of the OHWM.

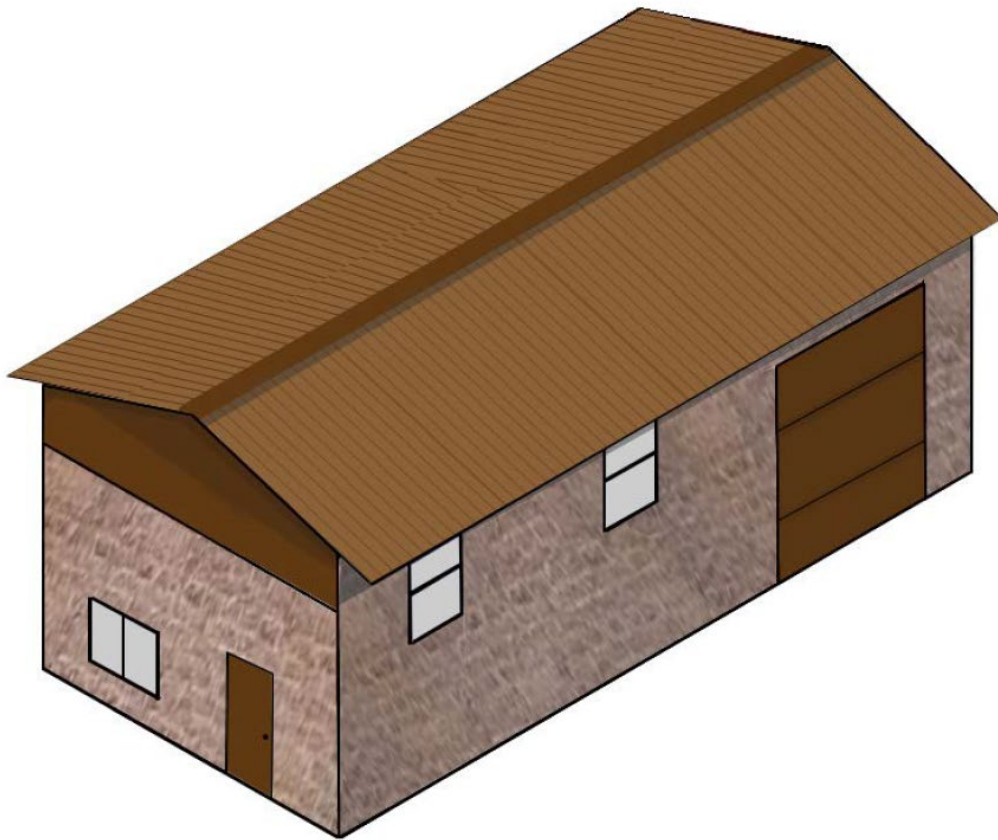




Regulation	Requirement	Submitted
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**Existing Facility**

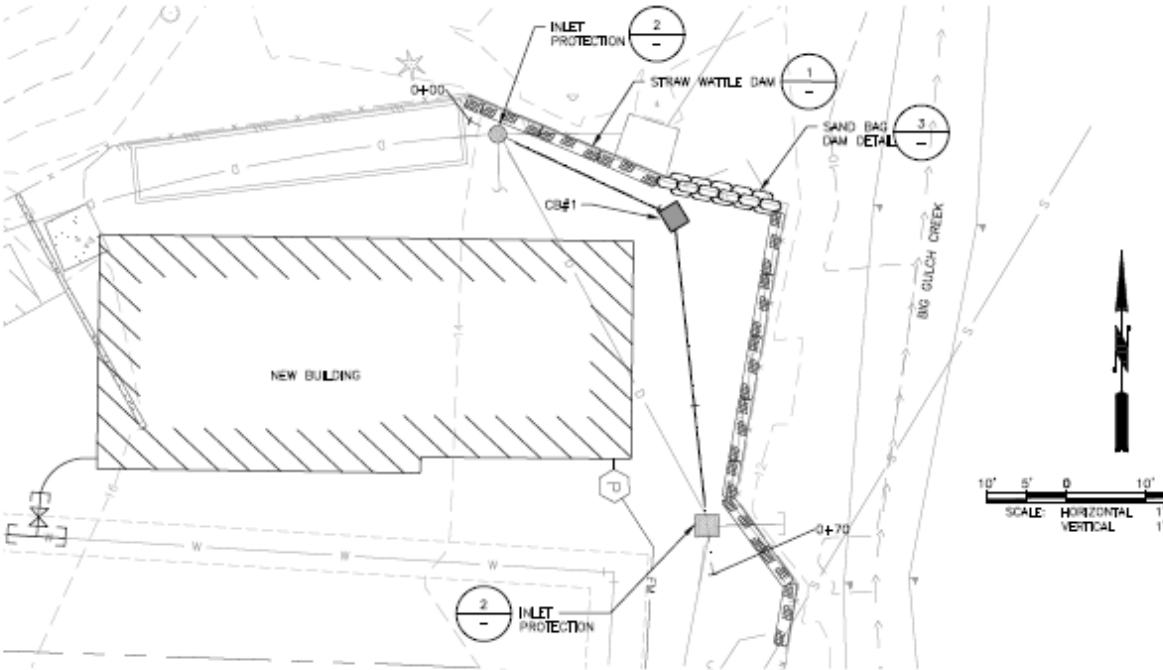


**Proposed Facility**

<b>Regulation</b>	<b>Requirement</b>	<b>Submitted</b>
Maximum Building Height:	65' maximum	32.7'
Lot Size:	None	206,954 square feet
Lot Coverage:	None	24%
Parking off-street:	1 per employee and 2 guest spaces	There is sufficient parking on the site for the five (5) employees plus two (2) guest parking spaces; however, the spots are not delineated. With the construction of the new building the seven (7) parking spaces shall be delineated. This will be a condition of the permit.
Street Improvements:	Per the 2017 Development Standards section 4.3.6 which requires the applicant to work with the City to determine if street improvements are required.	No street improvements are required for this project.
Lighting:	All exterior lighting, including the parking area and property surrounding the building, shall be arranged so as to reflect away from surrounding properties and streets.	Exterior lighting currently exists on the property; therefore, no additional lighting is being proposed.
Landscaping / vegetation:	<p>Abutting residential designated property: 20 feet of Type III or 20 feet of Type V</p> <p>Between R/W or private access road and parking areas: 5 feet of Type III or 5 feet of Type V</p> <p>Outside storage or waste areas: Type I or 5 feet of Type II</p> <p>Between public R/W if not a parking or display area: 20 feet of Type III or 20 feet of Type V</p> <p>Abutting commercially designated property: 20 feet of Type III or 20 feet of Type V</p>	<p>The northeast portion of the property abuts residential designated property. There is approximately 80 feet of vegetation between the property and any of the buildings on the site.</p> <p>No landscaping is being proposed or required as the property abuts open space that belongs to the City of Mukilteo.</p>

<b>Regulation</b>	<b>Requirement</b>	<b>Submitted</b>
Utilities:	Per the requirements of each utility provider	The proposed new administrative/laboratory building will have sanitary sewer, power and water.
Hard Surface Limits	In industrial areas 95% of the lot area can be hard surface.	Approximately 59% of the lot is hard surface. The applicant is not proposing to increase the existing hard surface on the property. The new building will be constructed upon an area that is already hard surface.
Stormwater Improvements	This project is subject to the requirements within the 2014 Washington State Department of Ecology Stormwater Management Manual for Western Washington (2014 SWMMWW).	The application meets the Stormwater Minimum Requirements of the 2014 SWMMWW. A deviation request was submitted and approved for the proposed administrative/ laboratory building to remove the required flow dispersion trench within a few feet of Big Gulch Creek. The approval allows the applicant to route the replaced impervious surface to an existing outfall. This deviation request results in no impact to the adjacent critical areas. See diagram below.



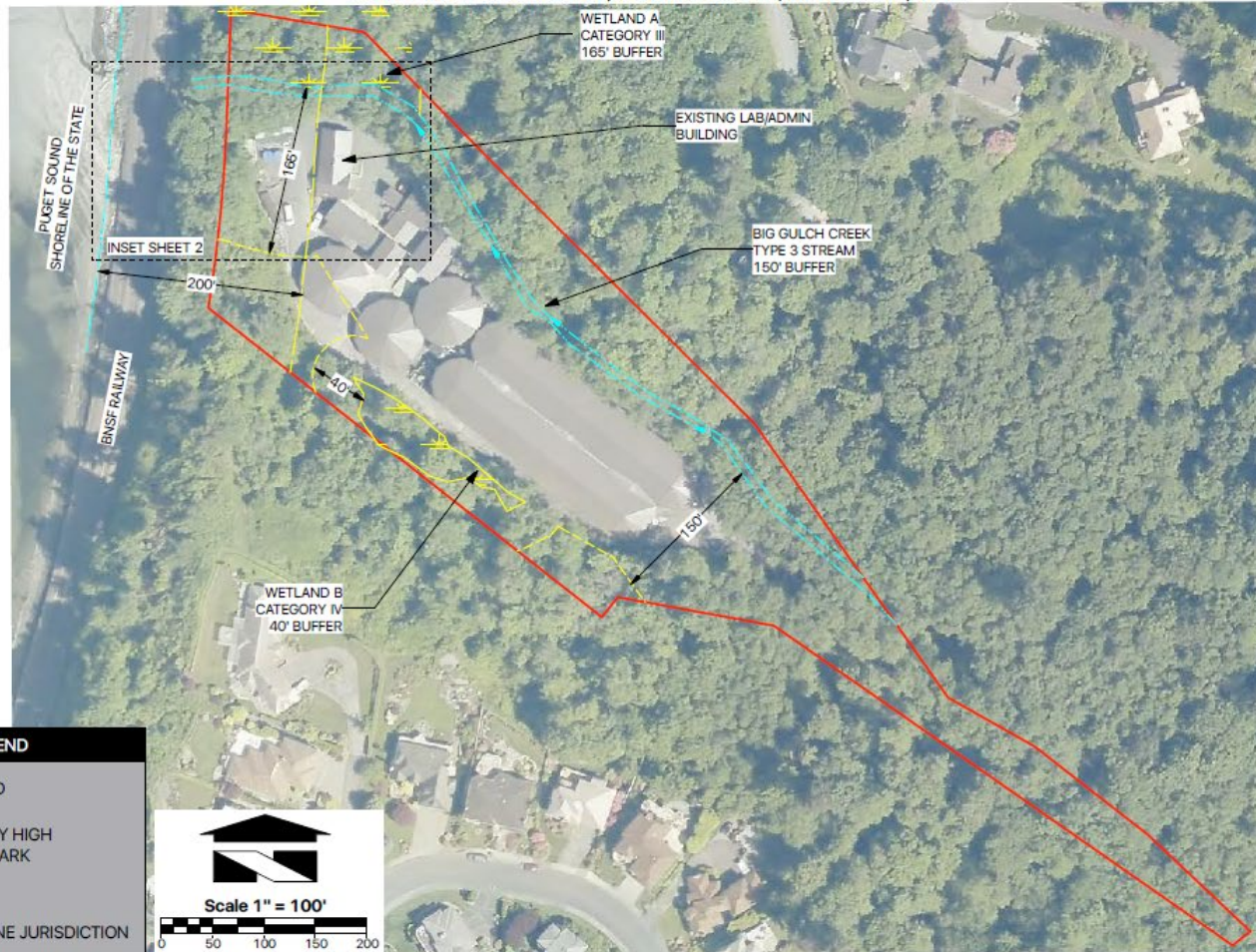
Regulation	Requirement	Submitted
		 <p>The diagram is a site plan for a proposed development. It shows a large rectangular area labeled 'NEW BUILDING' with diagonal hatching. To the north of the building is a 'STRAW WATTLE DAM' and a 'SAND BAG DAM DETAIL'. Two 'INLET PROTECTION' structures are indicated with circular symbols. A 'BIG GULCH CREEK' flows along the eastern boundary. Stationing markers '0+00' and '0+70' are shown along the creek. A north arrow and a scale bar (1"=10' horizontal, 1"=5' vertical) are located in the bottom right corner.</p>
<p>Critical Areas</p>	<p>Critical areas provide a variety of valuable and beneficial biological and physical functions that benefit Mukilteo and its residents, and/or may pose a threat to human safety or to public and private property. The beneficial functions and values provided by critical areas include, but are not limited to, water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation of flood waters, ground water recharge and discharge, erosion control, protection from hazards, historical, archaeological, and aesthetic value protection, and recreation. These beneficial functions are not listed in order of priority.</p> <p>The City requires applicants to avoid and minimize critical area impacts where avoidance and minimization is feasible and</p>	<p>Per the Critical Area Study prepared by Wetland Resources dated July 17, 2018, the existing WWTF development is located within the buffers of Wetlands A and B which are Category III wetlands with a 165 foot buffer as well as Big Gulch Creek which is a Type 3 stream with a 150 foot buffer.</p> <p>Per MMC 17B.52B.070.M, where a legally established, nonconforming use of a buffer exists, proposed actions in the buffer may be permitted as long as they do not increase the degree of nonconformity. The proposed replacement building will be constructed over an area of existing asphalt. As this area is already developed, this project will not increase the extent of nonconforming use, impervious surface on the site, or impact any areas that are not currently</p>

Regulation	Requirement	Submitted
	<p>reasonable. In appropriate circumstances, impacts to critical areas resulting from regulated activities may be compensated for. The city's overall goal is to achieve no net loss of critical area functions and value, and net acreage may be considered in achieving the overall goal.</p>	<p>developed. No impact will occur to any wetlands, streams, or areas of vegetated buffer on the site.</p> <p>Since the proposed replacement building will be located within the limits of the nonconforming use, and will not impact any buffer vegetation or the on-site wetlands or stream, no mitigation is required or was proposed.</p>

## CRITICAL AREA STUDY - EXISTING CONDITIONS

### MWWD - Big Gulch WWTF

PORTION OF SECTION 17, TOWNSHIP 28N, RANGE 04E, W.M.



**Wetland Resources, Inc.**  
9505 198th Avenue S.E. Suite 105 Everett, Washington 98208  
Phone: (425) 337-3174  
Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com






Critical Area Study - Existing Conditions  
**MWWD - Big Gulch WWTF**  
City of Mukilteo

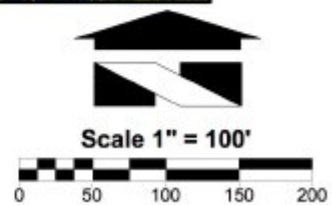
Mukilteo Water & Wastewater District  
Attn: Rick Matthews  
7824 Mukilteo Speedway  
Mukilteo, WA 98275

Sheet 1/2  
WSP: 18057  
Drawn by: MK  
7.17.2018

MWWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 1- WETLAND A



LEGEND	
	FORESTED VEGETATION
	SATURATED ONLY
	SEASONALLY FLOODED
	150' FROM WL BOUNDARY
	PERENNIAL STREAM







**Wetland Resources, Inc.**  
Environmental / Wetland / Restoration / Hydrology / Permit Assistance  
 9905 19th Avenue S.E., Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland A**  
 Mukilteo Water & Wastewater District  
 Attn: Rick Matthews  
 7824 Mukilteo Speedway Mukilteo, WA 98275  
 Figure A-1  
 WRI Job # 18057  
 Rated by: MK



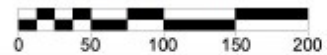
MWWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 1- WETLAND B



LEGEND	
	FORESTED VEGETATION
	SATURATED ONLY
	150' FROM WL BOUNDARY
	PERENNIAL STREAM



Scale 1" = 100'



**Wetland Resources, Inc.**  
Declaration / Investigation / Remediation / Habitat Creation / Permit Assistance  
 9525 15th Avenue S.E., Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: mailbox@wetlandresources.com

**WETLAND RATING  
Wetland B**

Mukilteo Water & Wastewater District  
 Attn: Rick Matthews  
 7824 Mukilteo Speedway  
 Mukilteo, WA 98275  
 Figure B-1  
 WRI Job # 18057  
 Rated by: MK

### **Shoreline Substantial Development Permit**

14. Washington Administrative Code (WAC) 173-27-150 entitled “Review criteria for substantial development permits” states,

- (1) A substantial development permit shall be granted only when the development proposed is consistent with:
- (a) The policies and procedures of the act;
  - (b) The provisions of this regulation; and
  - (c) The applicable master program adopted or approved for the area. Provided, that where no master program has been approved for an area, the development shall be reviewed for consistency with the provisions of chapter 173-26 WAC, and to the extent feasible, any draft or approved master program which can be reasonably ascertained as representing the policy of the local government.”

The following table reviews the proposal against the substantial development permit criteria identified in WAC 173-27-150.

<b>Criteria</b>	<b>Analysis</b>	<b>Meets Criteria</b>
Per WAC 197-27-150 (1)(a), a substantial development permit shall be granted only when the development proposed is consistent with the policies and procedures of the act;	<p>RCW 90.58.020 states that “It is the policy of the state to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses.”</p> <p>RCW 90.58.020 adds that “This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto”</p> <p>The proposal is consistent with state shoreline policy because it is protective of the public health and the natural character of the shoreline. The new building is of modest size; the outdated building will be demolished and removed. No impacts to critical areas have been identified.</p>	<b>YES</b>

Criteria	Analysis	Meets Criteria
Per WAC 197-27-150 (1)(b) a substantial development permit shall be granted only when the development proposed is consistent with the provisions of this regulation;	Chapter 173-27 of the Washington Administrative Code (WAC) is entitled “Shoreline management permit and enforcement procedures” and sets forth permitting procedures and permit criteria. This proposal is being reviewed under the criteria set forth in WAC 173-27-150. “Review criteria for substantial development permits.”	<b>YES</b>
Per WAC 197-27-150 (1)(c) a substantial development permit shall be granted only when the applicable master program adopted or approved for the area. ...”	<p>The proposal has been reviewed against applicable goals and policies and is being processed in accordance with the permit review procedures on the City’s shoreline master program.</p> <p>MMC 17B.16.040 Shorelines Permitted Use Matrix, under Industrial Uses, specifically identifies the “Water and Sewer Treatment Plants and Modifications thereto” as a permitted use in Urban Conservatory subject to a Conditional Use permit.</p> <p>MMC 17B.16.100 Development regulations for essential public facilities A.1 lists the Mukilteo water and wastewater district’s Big Gulch wastewater treatment facility and its outfall as a local essential facility.</p> <p>MMC 17B.16.100 B. in part states “The purpose of this chapter is to implement the Shoreline Management Act, Growth Management Act and the Mukilteo comprehensive plan by establishing processes for the siting and expansion of essential public facilities in the city of Mukilteo as necessary to support orderly growth and delivery of public services”.</p> <p>A detailed response to MMC</p>	<b>YES</b>

Criteria	Analysis	Meets Criteria
	17B.16.100 C.4, Requirements for Siting or Expansion of Local Essential Public Facilities has been submitted as a part of the Special Use Permit Supplemental Application.	

### **Shoreline Conditional Use Permit**

15. MMC Section 17B.64.030 entitled “Review criteria for conditional use permits” identifies the review criteria for shoreline conditional use permits and states, in part,

“The purpose of a conditional use permit is to provide a system within the master program which allows flexibility in the application of use regulations in a manner consistent with the policies of RCW [90.58.020](#). In authorizing a conditional use, special conditions may be attached to the permit by the city or the Department of Ecology to prevent undesirable effects of the proposed use and/or to ensure consistency of the project with the act and the local master program.

- A. WAC [173-27-160](#) allows uses which are classified or set forth as conditional uses; provided, that the applicant demonstrates compliance with all of the following criteria or as updated by state law:
  - 1. That the proposed use is consistent with the policies of RCW [90.58.020](#) and the city’s shoreline master program;
  - 2. That the proposed use will not interfere with the normal public use of public shorelines;
  - 3. That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program;
  - 4. That the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located; and
  - 5. That the public interest suffers no substantial detrimental effect.
- B. In the granting of all conditional use permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if conditional use permits were granted for other developments in the area where similar circumstances exist, the total of the conditional uses shall also remain consistent with the policies of RCW



[90.58.020](#) and shall not produce substantial adverse effects to the shoreline environment.”

The following table reviews the proposal against the conditional use permit criteria

Criteria	Analysis	Meets Criteria
1. Per MMC 17B.64.030(A)(1), the proposed use is consistent with the policies of RCW 90.58.020 and the city’s shoreline master program;	MMC 17B.16.040 Shorelines Permitted Use Matrix, under Industrial Uses, specifically identifies the “Water and Sewer Treatment Plants and Modifications thereto” as a permitted use in Urban Conservatory subject to a Conditional Use permit. MMC 17B.16.100 Development regulations for essential public facilities A.1 lists the Mukilteo water and wastewater district’s Big Gulch wastewater treatment facility and its outfall as a local essential facility. MMC 17B.16.100 B in part states “The purpose of this chapter is to implement the Shoreline Management Act, Growth Management Act and the Mukilteo comprehensive plan by establishing processes for the siting and expansion of essential public facilities in the city of Mukilteo as necessary to support orderly growth and delivery of public services”. A detailed response to MMC 17B.16.100 C.4, Requirements for Siting or Expansion of Local Essential Public Facilities has been submitted as a part of the Special Use Permit Supplemental Application.	YES

Criteria	Analysis	Meets Criteria
<p>2. Per MMC 17B.64.030(A)(2), the proposed use will not interfere with the normal public use of public shorelines;</p>	<p>The project is located within Big Gulch Wastewater Treatment facility property. The facility is fully fenced and not open to the public. Property owned by the Mukilteo Water and Wastewater District where the Wastewater Treatment facility is located immediately abuts property owned by the Burlington Northern Santa Fe (BNSF) railroad. Public shorelines near the Big Gulch Wastewater Treatment facility are located west and across the tracks of the BNSF railroad tracks. BNSF does not allow public access across their tracks in this area resulting in public shores not being accessible from the Wastewater Treatment facility site. With no public access to the project site itself and inaccessible public shores from the Wastewater Treatment facility property, the proposed use will not interfere with the normal use of public shorelines.</p>	<p><b>YES</b></p>
<p>3. Per MMC 17B.64.030(A)(3), the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program;</p>	<p>The project is located within the existing developed Big Gulch Wastewater Treatment facility. The property is zoned Heavy Industrial. The City of Mukilteo's comprehensive plan and shoreline master plan both recognize the Big Gulch Wastewater Treatment facility as an existing and necessary facility.</p>	<p><b>YES</b></p>

<b>Criteria</b>	<b>Analysis</b>	<b>Meets Criteria</b>
4. Per MMC 17B.64.030(A)(4), the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located;	The project is located within the existing developed area of the Big Gulch Wastewater Treatment facility. The location of the project is currently paved and used for the storage of replacement parts and equipment. Constructing the project on existing developed, paved and utilized area will not cause an adverse effect to the shoreline environment in which is to be located.	<b>YES</b>
5. Per MMC 17B.64.030(A)(5), the public interest suffers no substantial detrimental effect.	The collection and treatment of domestic and commercial wastewater is critical for public health, safety and general welfare of the environment. The project is necessary for the safe and efficient operations of the Big Gulch Wastewater Treatment facility. The project will be located on existing developed and paved area within the Wastewater Treatment facility currently utilized for the storage of spare parts and equipment. Locating the project within the existing developed area of the Wastewater Treatment facility results in no impact to the public or the public's interest.	<b>YES</b>

Criteria	Analysis	Meets Criteria
<p>6. Per MMC section 17B.64.030 B consideration shall be given to the cumulative impact of additional requests for like actions in the area.</p>	<p>There have been no recent shoreline conditional use permits issued in the area of the WWTP.</p> <p>The most recent City of Mukilteo Shoreline conditional use permit was issued in 2013 for the Washington State Ferries ferry terminal relocation in the Urban Waterfront shoreline environment, which is characterized by a different set of circumstances and facts.</p> <p>Substantial adverse cumulative effects to the shoreline environment will not result from approval of the MWWD request for a new administrative/lab building.</p>	<p><b>YES</b></p>



**Essential Public facilities**

16. MMC section 17B.16.100(C)(4)(a)-(k) under the section heading “Development regulations for essential public facilities” provides for the appropriate siting of local essential public facilities. The following special use permit for a local essential public facility shall be approved upon a determination that:

a. Per MMC 17B.16.100(C)(4)(a), the project sponsor has demonstrated a need for the project, as supported by a detailed written analysis of the projected service population, an inventory of existing and planned comparable facilities, and the projected demand for the type of facility proposed;	The applicant submitted a project narrative and letter detailing the need for the proposed building with a detailed analysis of the projected service population, an inventory of existing and planned comparable facilities, and the projected demand for the type of facility proposed.	<b>YES</b>
b. Per MMC 17B.16.100(C)(4)(b), the project sponsor has reasonably investigated alternative sites, as evidenced by a detailed explanation of site selection methodology, as verified by the city and reviewed by associated jurisdictions and agencies;	Not applicable. This is an existing facility. The proposal is to allow an accessory administrative office/lab as part of the existing wastewater treatment facility.	<b>NA/YES</b>
c. Per MMC 17B.16.100(C)(4)(c), only water-dependent essential public facilities shall be allowed over water;	Not applicable. The accessory administrative office/lab proposal is not over water.	<b>NA/YES</b>
d. Per MMC 17B.16.100(C)(4)(d), necessary infrastructure is or will be made available to ensure safe transportation access and transportation concurrency;	The proposal for a replacement administrative office/lab does not warrant additional transportation improvements.	<b>YES</b>
e. Per MMC 17B.16.100(C)(4)(e) necessary infrastructure is or will be made available to ensure that public safety responders have the capacity to handle increased calls and expenses that will occur as the result of the facility,	Not applicable, The proposal for a replacement administrative office/lab does not warrant the requirement for additional infrastructure by public safety responders.	<b>NA/YES</b>
f. Per MMC 17B.16.100(C)(4)(f) the project sponsor has the ability to pay for all capital costs associated with on-site and off-site improvements;	Funding for the proposal is programmed in the MWWD capital facilities plan.	<b>YES</b>

g. Per MMC 17B.16.100(C)(4)(g), the facility will not unreasonably increase noise levels in residential and commercial areas and school zones;	There will be no unreasonable increase in noise levels resulting from the proposal.	<b>YES</b>
h. Per MMC 17B.16.100(C)(4)(h), visual screening will be provided that will mitigate the visual impacts from streets and adjoining properties;	The existing WWTP facility lies in a wooded area that will screen the new administrative building/lab from adjoining streets and properties.	<b>YES</b>
i. Per MMC 17B.16.100(C)(4)(i), the local essential public facility is not located in any residential zoning district identified in Table 17.16.040, except as provided in this subsection. If the land on which a local essential public facility is proposed is located in any such residential zoning district, the applicant must demonstrate to the hearing examiner that there is no other feasible location for the facility and that the exclusion of the facility from the residential districts of the city would preclude the siting of all similar facilities anywhere within the city. If the applicant is able to make such a demonstration, the hearing examiner shall authorize the essential public facility to be located in the residential zoning district.	The local essential public facility is not located in any residential zoning district.	<b>YES</b>
j. Per MMC 17B.16.100(C)(4)(j) The local essential public facility meets all provisions of this code for development within the zoning district in which it is proposed to be located, including but not limited to the bulk regulations of Chapter <a href="#">17.20</a> , except as provided in this subsection. If a local essential public facility does not meet all such provisions, the applicant must demonstrate that compliance with such provisions would preclude the siting of all similar facilities anywhere within the city. If the applicant is able to make such a demonstration, the hearing examiner shall	This is an existing sewer treatment facility. This project consists of relocating an existing administration/lab building within the already developed area of the Big Gulch WWTF. As noted earlier in this staff report, the proposed new administrative/lab building will meet all building and zoning regulations within the HI zoning district.	<b>YES</b>

authorize the essential public facility to deviate from the provisions of this code to the minimum extent necessary to avoid preclusion; and		
k. Per MMC 17B.16.100(C)(4)(k) any and all probable significant adverse environmental impacts are mitigated.	The proposal has gone through the SEPA process. A critical areas report has also been prepared in support of the proposal. Environmental impacts have been reviewed and addressed.	<b>YES</b>

### **Permitted Conditional Uses**

17. MMC Section 17.64.020 under the section heading “Performance regulations” identifies the review criteria for conditional use permits. MMC 17.64.010 Permitted conditional uses states, “Conditional use permits shall be granted or denied by the city after due consideration has been given to the performance standards set forth in this title and after the applicant has shown that the conditional use would not impinge on the health, safety, welfare, and rights of the residents of the city.”

The following table reviews the proposal against the conditional use permit criteria:

### **Conditional Use Permit**

<b>Criteria</b>	<b>Analysis</b>	<b>Meets Criteria</b>
A. Per MMC 17.64.020(A), all conditional uses must be in accordance with the goals and objectives of the Comprehensive Plan and they must not violate the purpose of the district in which they will locate.  The following 2015 Comprehensive Plan General Development Goals (GD) and General Utilities Policies applies to this project:	The proposal meets the goals and objectives of the 2015 Comprehensive Plan and is a conditional use in the Heavy Industrial (HI) zoning district.  The following Comprehension Plan General Development Goals (GD) and Land Use Policies (LU) apply to this project:  LU9b: Maintaining the natural hydrological functions of each watershed, and where appropriate and possible, restoring them along with freshwater and marine habitats to a more natural state and ecological functionality should be a consideration of all City of Mukilteo actions.	<b>YES</b>



Criteria	Analysis	Meets Criteria
	<p>UT1: The location, construction, operation, and maintenance of utilities shall minimize impacts to the natural and human environment by using current best management practices to ensure safety and protection of public health, safety, and welfare.</p> <p>UT1b: Where possible, above-ground utilities shall be located within a fully-enclosed building, or surrounded with sight-obscuring fencing or landscaping, or located out of the public and/or private view.</p> <p>UT4: Development applications shall be reviewed by the Mukilteo Water &amp; Wastewater District or the Alderwood Water &amp; Wastewater District for adherence to the developer extension standards of the relevant district as determined by the location of the development.</p> <p>UT5: The City Shall encourage and work with the Mukilteo Water &amp; Wastewater District and the Alderwood Water &amp; Wastewater District to help improve their systems and efficiencies.</p>	
<p>B. Per MMC 17.64.020(B), it must be demonstrated that all conditional uses if located as proposed would not be injurious or detrimental to the character of the zone or to its abutting or adjoining neighbors.</p>	<p>The current sewer treatment facility is located the lower end of Big Gulch. The property abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north. The existing sewer treatment facility is not injurious or detrimental to the character of the zone or to its abutting or adjoining</p>	<p><b>YES</b></p>

<b>Criteria</b>	<b>Analysis</b>	<b>Meets Criteria</b>
C. Per MMC 17.64.020(C), the conditional use must employ reasonable measures of fencing, buffering, traffic restraints, sign and light controls, and any other appropriate measures to protect the surrounding properties and adjoining districts.	The existing sewer treatment facility is within an enclosed fenced area. Access for Big Gulch WWTF employees is via a private single lane access road off of 95th Place SW across City owned property and public access to the property is not allowed.	<b>YES</b>
D. Per MMC 17.64.020(D), all conditional uses must have adequate site area to accommodate the use. The minimum site area for a conditional use is no less than that permitted in the underlying district.	The lot for the existing sewer treatment facility is zoned Heavy Industrial (HI) in which there is no minimum lot size requirement. The lot is approximately 206,954 square feet and will have sufficient room to construct the proposed administrative /laboratory building once the existing building is demolished.	<b>YES</b>
E. Per MMC 17.64.020(E), all conditional uses must conform to the dimensional regulations in the individual districts, except that additional restrictions may be imposed to ensure the uses are compatible within the district.	The proposed administrative/ laboratory will be constructed on an area that has previously been disturbed and located within the two hundred feet ordinary high water mark (OMHW). The construction of the new administrative/laboratory building will have no adverse effect to the shoreline environment in which is to be located.	<b>YES</b>
F. Per MMC 17.64.020(F), all conditional uses having a site area in excess of one (1) acre must provide a buffer of trees and shrubs around the perimeter of lots abutting a residential zone.	The existing sewer treatment facility site is surrounded by several acres of natural vegetation consisting of trees, shrubs, and ground cover within the lower end of Big Gulch. Big Gulch provides a natural vegetation buffer to the existing residential homes in the area.	<b>YES</b>

<b>Criteria</b>	<b>Analysis</b>	<b>Meets Criteria</b>
G. Per MMC 17.64.070(G), all applications for conditional uses must be accompanied by layout and development plans drawn to an appropriate scale which show at least the following: 1. Site plans showing landscaping, paving, parking, access, relationship of building to site, outdoor lighting, proposed fencing and topography; 2. Sections and elevations of proposed structure; 3. Vicinity map showing property, zoning and access; 4. Provision for sewage disposal, storm drainage and surface runoff.	The applicant submitted scaled site plans, elevation plans and civil plans on August 29, 2018. This is an existing sewer treatment facility within an enclosed fence area. The site currently has water, electrical and telephone services.	<b>YES</b>
H. Per MMC 17.64.070(H), all conditional uses must comply with the parking regulations in Chapter 17.56.	There is sufficient parking on the site for the five (5) employees plus two (2) guest parking spaces; however, the spots are not delineated. With the construction of the new building the seven (7) parking spaces shall be delineated. This will be a condition of the permit.	<b>YES</b>
I. Per MMC 17.64.070(I), in the course of reviewing the Conditional Use Permit application, the City staff may request a recommendation by the Planning Commission on matters under its permit authority related to the Conditional Use Permit. The matters may include but are not limited to the Comprehensive Plan or the nature and intent of the zone in which the Conditional Use Permit is requested.	The proposal meets Comprehensive Plan and Zoning Code requirements, so a review by the Planning Commission is not necessary.	<b>YES</b>

18. The Mukilteo Water and Wastewater District was the lead agency for the purposes of implementing the State Environmental Policy Act (SEPA). A Determination of Non-Significance (DNS) under Washington Administrative Code 197-11-340(2) was issued on July 23, 2018. No appeals were filed and the SEPA determination stands as issued.
19. At the time of this staff report's preparation, the City has received comments/responses from the following.

- Mukilteo School District

- Mukilteo School District Transportation

Both indicated that they had no comments on the proposal.

20. Notice of this application has been provided in accordance with the provisions of MMC Chapter 17.13 entitled “Land Use and Development Review Procedures.” This proposal was circulated for review and comment on October 12, 2018, by advertising the Notice of Application in the local newspaper of record; mailing a copy of the Notice to property owners within 380 feet of the project and interested agencies; and posting the Notice at the site and at the official locations for City Notices.
21. The public hearing was noticed November 23, 2018. As shown in **Exhibit I**, the applicant prepared an analysis showing how they meet the requirements for a special use permit for a local essential public facility as required by MMC 17B.16.100(C)(4).

## **CONCLUSIONS**

1. The project is consistent with the Comprehensive Plan, applicable zoning regulations, environmental regulations, and development standards adopted by the City of Mukilteo.
2. With conditions of approval, the proposal would comply with MMC 17B.16.100(C) pertaining to requirements for siting or expansion of local essential public facilities.
3. With conditions of approval, the project complies with the performance regulations for permitted conditional uses contained in MMC 17.64.020.
4. The proposal complies with the “Review criteria for substantial development permits” contained in WAC 173-27-150.
5. The project will have no adverse impacts to the surrounding properties, and, more generally, it will not adversely affect the public health, safety and general welfare as conditioned. According to the laws governing these types of applications, if the criteria contained within the code are met, thus demonstrating compatibility, then the application must be approved.
6. The proposed project was found to be consistent with and meets the intent of the Mukilteo Comprehensive Plan and applicable development regulations, including essential public facilities and shoreline provisions.
7. SEPA review has been conducted and adverse environmental impacts have been addressed.



## **STAFF RECOMMENDATION:**

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Based on the application, facts and finding and conclusions of the staff report, staff recommends **APPROVAL** of the administrative/laboratory building at the Mukilteo Water and Wastewater District Sewer Treatment Facility site Essential Public Facility and Shoreline Substantial Development Permit and Shoreline Conditional Use Permit (EPF 2018-001 and SH-CUP 2018-001), subject to the following conditions:

### **Essential Public Facilities and Shoreline Conditional Use Approval**

1. Construction shall not begin and is not authorized until twenty-one (21) days from the date of approval of the Shoreline Conditional Use Permit by the Washington State Department of Ecology, or until all review proceedings and appeal processes have been completed.
2. Final engineering drawings depicting the project design shall be submitted to the City's Public Works Director for final review and approval before issuance of any grading permits. The improvements shall be designed in accordance with the City's Development Standards.
3. All improvements shall be constructed in accordance with the approved Site Plan dated August 29, 2018. Minor modifications of the plan submitted may be approved by the Community Development Director if the modifications do not substantively change the Findings of Fact and the Conditions of Approval are not changed.
4. Special Inspections shall be conducted for the piling and floor slab installation by the Geotechnical Engineer. Copies of the completed reports shall be submitted to the City for the file. These reports shall verify that the pilings and floor slab were installed and built per the approved engineered design, or if deviations were done, they were approved by the Geotechnical or Structural Engineer of record.
5. Per the International Building Code, the Building Official may require that the property owner obtain a special inspection (such as topography, foundation types, unstable conditions, or soil types) prior to City approval. The cost of these inspections will be the responsibility of the property owner.
6. The clearing limits of the approved Site Plan shall be clearly delineated in the field.
7. The City of Mukilteo does not allow equipment with steel tracks on pavement, the Permittee and their contractors shall use rubber tire equipment only.
8. All development shall proceed in accordance with the recommendations listed in the Geotechnical Report prepared by PanGeo Incorporated dated July 11, 2018.

### **Stormwater**

9. Stormwater pollution prevention measures shall be employed per the approved Stormwater Pollution Prevention Plan and as necessary to ensure appropriate on-site and off-site water quality control. Site runoff during construction shall be handled and treated as to quantity and quality impacts by utilizing Best Management Practices, as defined in the current DOE Stormwater Management Manual for Western Washington

and the current Department of Ecology National Pollutant Discharge Elimination System (NPDES).

10. A wet weather Stormwater Pollution Prevention Plan is required to be submitted to the City for review and approval if the project is clearing or grading between October 1<sup>st</sup> and April 30<sup>th</sup>.
11. The stormwater detention design and stormwater discharge shall utilize the Best Management Practices of the current DOE Stormwater Management Manual for Western Washington and the current Department of Ecology National Pollutant Discharge Elimination System (NPDES).

### **Fire**

12. The following requirements shall be adhered to during construction and completed before occupancy of any structure in accordance with Fire Code Development Standards and 2015 International Fire Code:
  - Fire hydrants shall be equipped four- (4) inch quarter-turn Storz adapters
  - An access route, for firefighting apparatus, must be provided at the start of construction. Minimum access route requirements include a 20' width, 13'6" vertical height clearance, and the ability to support a load up to 75,000 pounds;
  - All buildings must be addressed visibly and legibly from the road. When buildings are not visible from the street, appropriate provisions must be made to identify clearly which road or drive serves the appropriate address including private roads.
  - A Type I or Type II building shall not require a fire protection system.

### **Utilities**

13. The cost of any work, new or upgrade, to the existing electric system and facilities that is required to connect the project to the Snohomish County PUD electric system shall be in accordance with applicable Snohomish County PUD policies.

### **Miscellaneous**

14. A maximum of seven (7) parking spaces shall be provided for the Sewer Treatment Facility. All parking spaces shall be clearly delineated on site.
15. All exterior facility lighting shall be arranged so as to reflect away from surrounding properties and streets if installed on the outside of the building.
16. All construction equipment, building materials, and debris shall be stored on the applicant's property, out of the public right-of-way. In no case shall the access to any private or public property be blocked or impinged upon without prior consent from the affected property owners and the City of Mukilteo.
17. All contractors and subcontractors working on the project described herein shall obtain a business license from the City before initiation of any site work.

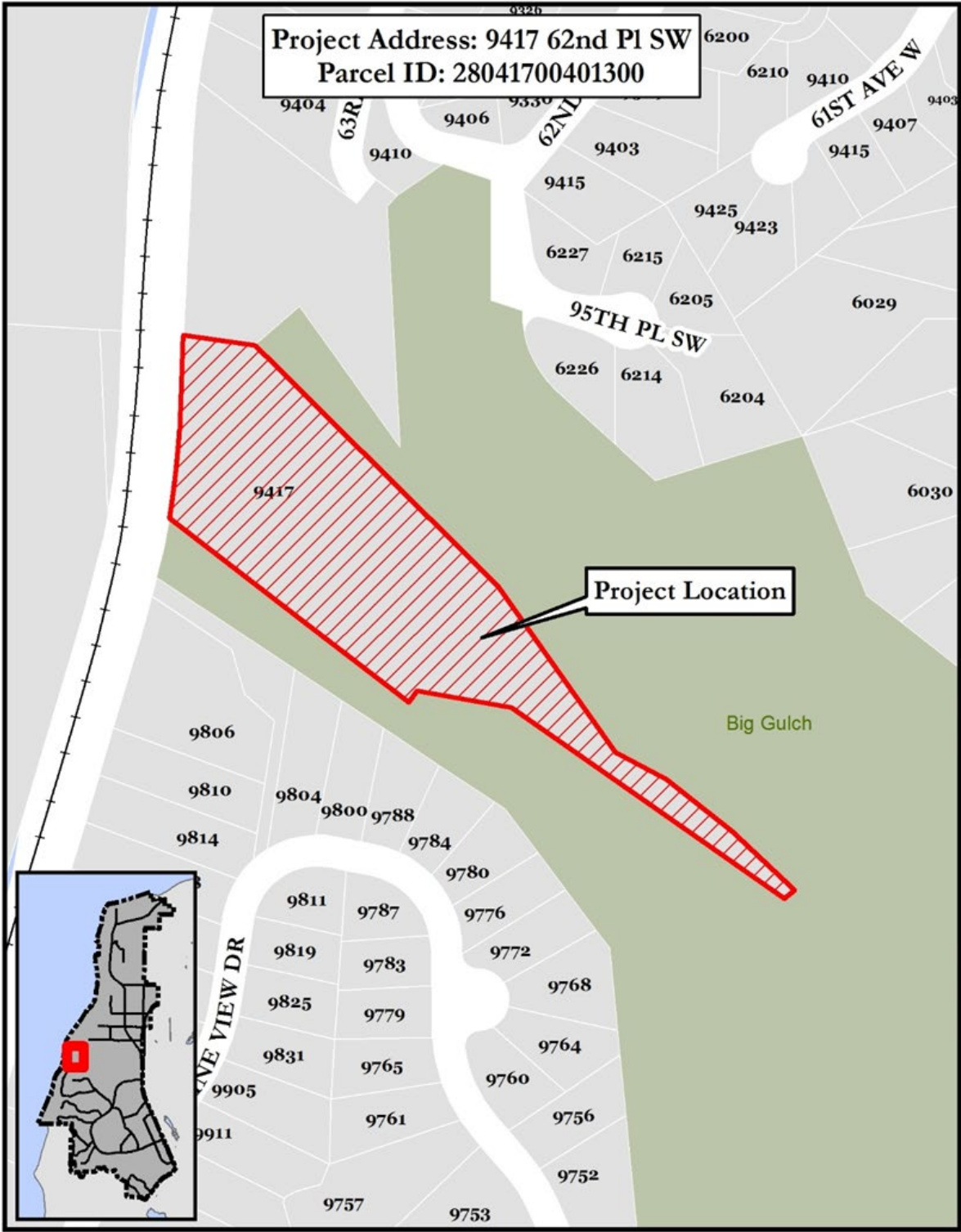
18. If at anytime during clearing, grading and construction the streets are not kept clean and clear, all work will stop until the streets are cleaned and maintained in a manner acceptable to the Public Works Director.
19. Noise from construction activity that is audible beyond the property lines of the project site shall not be allowed between the hours of six (6) p.m. to seven (7) a.m. on weekdays, six (6) p.m. to nine (9) a.m. on Saturdays, Sundays and holidays.
20. The applicant and contractor shall attend a pre-construction meeting with City staff to discuss expectations and limitations of the project permit before starting the project.
21. The applicant shall have a licensed Civil Engineer prepare and/or supervise the preparation of As-Built drawings to be reviewed, approved and signed by the City Engineer upon satisfactory installation of the constructed infrastructure improvements and site work. One (1) reproducible, one (1) signed Mylar drawing and one (1) 11"x17" reduced copy of the drawings shall be submitted prior to final approval of the proposed project.

## **EXHIBITS**

EXHIBIT 'A'	LOCATION MAP
EXHIBIT 'B'	AERIAL MAP
EXHIBIT 'C'	ZONING MAP
EXHIBIT 'D'	COMPLETE LETTER
EXHIBIT 'E'	NOTICE OF APPLICATION
EXHIBIT 'F'	APPLICATIONS
EXHIBIT 'G'	LEGAL DESCRIPTION
EXHIBIT 'H'	SPECIAL USE PERMIT SUPPLEMENTAL APPLICATION TO THE LAND USE PERMIT FOR LOCAL ESSENTIAL PUBLIC FACILITIES
EXHIBIT 'I'	PROJECT NARRATIVE
EXHIBIT 'J'	REDUCED SITE PLAN
EXHIBIT 'K'	BUILDING ELEVATIONS AND LAYOUT
EXHIBIT 'L'	CIVIL PLAN PLANS
EXHIBIT 'M'	DRAINAGE STUDY
EXHIBIT 'N'	DRAINAGE DEVIATION REQUEST
EXHIBIT 'O'	GEOTECHNICAL REPORT DATED MARCH 28, 2008
EXHIBIT 'P'	CRITICAL AREAS REPORT PREPARED BY
EXHIBIT 'Q'	MMC REGULATIONS ANALYSIS
EXHIBIT 'R'	COMPREHENSIVE PLAN AND SHORELINE MANAGEMENT PLAN REGULATIONS ANALYSIS
EXHIBIT 'S'	DETERMINATION OF NONSIGNIFICANCE
EXHIBIT 'T'	SEPA CHECKLIST
EXHIBIT 'U'	AFFIDAVITS



## Location Map

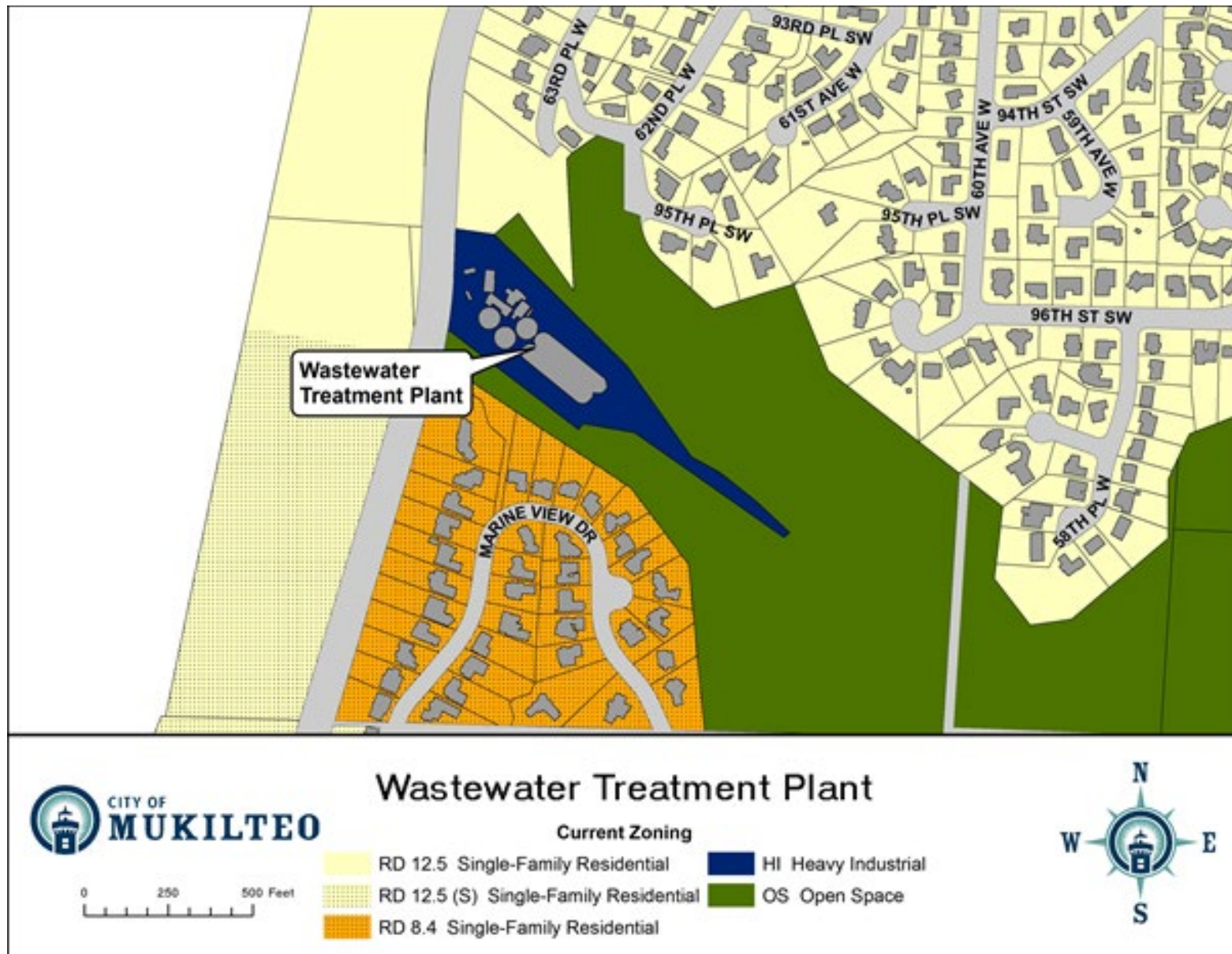


## Aerial Map





## Zoning Map





Planning and Community  
Development Department

11930 Cyrus Way, Mukilteo, WA 98275  
(425) 263-8000  
Fax: (425) 290-1009

City of Mukilteo, Washington  
**Application Submittal  
Notification**

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**Applicant:** Mukilteo Water and Wastewater District      **Date:** 10-1-18  
**Address:** 7824 Mukilteo Speedway  
Mukilteo WA 98275  
**Contact Number:** 425-355-3355  
**Project:** MWWD Sewer Treatment Facility Lab-Admin Building CUP/Shoreline Permit  
**Site Address:** 9417 62<sup>nd</sup> Place SW  
Mukilteo WA 98275

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Thank you for your application submittal. This letter is your official notice that your application submitted on August 29, 2018, is considered:

☒ Complete on October 1, 2018  
☐ Incomplete

**Complete Applications.** Processing and review of a permit application may begin when it is deemed complete. A COMPLETE APPLICATION IS NOT AN APPROVED APPLICATION. A permit application is complete when it meets the submission requirements outlined in the Table on the back side of this notice. The City's determination of completeness does not preclude the City from requesting revisions, additional information or studies if new information is required, corrections are needed, or where there are substantial changes in the proposed action.

**Incomplete Applications.** An incomplete application will not be processed. The Applicant has 90 calendar days to submit all the required information to receive a notice of complete application. If the required information is not submitted within the 90 calendar day period, the application will be considered lapsed for failure to submit the necessary information in a timely manner and the file will be closed. The Applicant may request, in writing, an extension of up to an additional 90 calendar days. Extensions are granted at the sole discretion of the Planning Director.

If you have questions regarding the City's permit review process, please do not hesitate to call the City at (425) 263-8000. Our office hours are 7:30 a.m. – 5:00 p.m., Monday through Thursday and 7:30 a.m. – 4:30 p.m. on Fridays.

Sincerely,

Linda Ritter  
Senior Planner

pc:      Orig. to Applicant  
         File  
         Permit Services Supervisor  
         Correspondence





11930 Cyrus Way  
Mukilteo, WA 98275  
(425) 263-8000

**Notice of Application  
for Mukilteo Water and Wastewater  
District Administrative/Lab Building  
at 9417 62<sup>nd</sup> Place SW  
by the Mukilteo Water and Wastewater  
District**

**The Mukilteo Water and Wastewater District** applied for an Essential Public Facility (EPF) Permit, Shoreline Substantial Development Conditional Use Permit (CUP), and a Shoreline CUP with the City of Mukilteo on August 29, 2018. The application became complete on October 1, 2018. This application and all supporting documents are available at City Hall for public viewing. (File No. EFP-2018-001 / SH-SDP-2018-001 / SH-CUP-2018-001)

**Description of Proposal:** Demolition of the current administrative/lab building which is one story and has a building footprint of approximately 1,960 square feet. The new administrative/lab building will be a two-story building with the same footprint of 1,960 square feet. The new building will be constructed over an area of existing pavement approximately 25 feet from the existing administrative/lab building. Administrative offices and the lab will be on the top floor with a maintenance shop and storage on the lower floor.

**Location of Proposal:** See Attachment

**Environmental Documents Prepared for the Proposal**

- Determination of non-significance (DNS) issued July 23, 2018
- Environmental Checklist dated May, 2018
- Preliminary Geotechnical Report prepared by PanGeo dated July 11, 2018
- Critical Area Study for Big Gulch Wastewater Treatment Facility prepared by Wetland Resources, Inc. dated July 17, 2018

Mukilteo Water and Wastewater District, as the designated lead agency for State Environmental Policy Act (SEPA), has issued a DNS for the proposed project on July 23, 2018. No appeals of the DNS were filed and the SEPA determination stands as issued. No additional review under SEPA is required.

**List of Required Permits:**

- EPF Permit
- Shoreline Substantial Development CUP
- Shoreline CUP
- Building Permit
- Engineering Permit
- Any State and Federal Permits if applicable

## Applicable Policies and Requirements

The project will be reviewed for consistency with the following policies, standards and regulations:

- |  |  |
|--|--|
| <input type="checkbox"/> Possession Shores Master Plan                         | <input type="checkbox"/> Sector Plan & Amendments                          |
| <input checked="" type="checkbox"/> Comprehensive Plan, Shoreline Master Plan  | <input checked="" type="checkbox"/> Mukilteo Municipal Code                |
| <input checked="" type="checkbox"/> International Building Code (2015 Edition) | <input checked="" type="checkbox"/> City of Mukilteo Development Standards |
| <input checked="" type="checkbox"/> International Fire Code (2015 Edition)     |  |

## Comment Period

The application and supporting documents are available for review at the City of Mukilteo, 11930 Cyrus Way, Mukilteo, WA 98275. Contact: Linda Ritter at (425) 263-8043. The public is invited to comment on the project by submitting written comments to the Planning Department at the above address by 4:30 p.m. on the date noted below.

**Notice of Application Issued:** Friday, October 12, 2018

**End of Comment Period:** Tuesday, November 13, 2018

The City will not act on this application until the end of the 30-day shoreline permit public comment period. Upon completion of project review the proposed application will be scheduled for a public hearing with the Mukilteo Hearing Examiner where the project will be approved, approved with conditions, or denied. You may request a copy of the final decision on the project by making a written request to the City contact person named below.

## Public Hearing

There will be a public hearing conducted on this project. You have the right to request notice of and to participate in the public hearing. If you want to receive notice of the hearing, you may make a written request to the City contact person named below.

## Appeals

Any person aggrieved by the granting, denying, or rescinding of a permit on shorelines of the state pursuant to RCW 90.58.140 may seek review from the shorelines hearings board by filing a petition for review within twenty-one days of the date of filing as defined in Chapter 90.58 RCW. Only persons who file written comments on the project in response to the Notice of Application are considered parties of record who may appeal the decision. If you do not file written comments within the comment period, you may not appeal the final decision.

**Contact Person:** Linda Ritter, Senior Planner (425) 263-8043

Signature: \_\_\_\_\_

Linda Ritter, Senior Planner

Date: \_\_\_\_\_

10/8/18



11930 Cyrus Way Mukilteo, WA 98275  
(425) 263-8000

RECEIVED  
Date stamp

AUG 29 2018 *dlv*

CITY OF MUKILTEO

## Land Use Permit Application

### OWNER

Name: Mukilteo Water and Wastewater District

Address: 7824 Mukilteo Speedway

City: Mukilteo State: WA Zip: 98275

Phone #: 425-355-3355 Email Address: jimv@mukilteowwd.org

### APPLICANT

Name: same as owner

Address:

City: State: Zip:

Phone #: Email Address:

Project Address: 9417 62nd Pl W, Mukilteo, WA 98275

Legal Description of Property: SEC 17 TWP 28 RGE 04A PTN GOVT LOTS 2 & 3 DAF-COM MOST SLY COR  
LOT 35 ASSESSOR'S PLAT OF OLYMPUS TERRACE TH S55\*34 35 W

Key Contact Person: Jim Voetberg

Phone: 425-355-3355

Email: jimv@mukilteowwd.org

Fax:

### Project Type:

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Commercial         | <input type="checkbox"/> Preliminary Subdivision* | <input checked="" type="checkbox"/> Special Use Permit* |
| <input type="checkbox"/> Multi-Family                  | <input type="checkbox"/> Final Subdivision*       | <input type="checkbox"/> Reasonable Use                 |
| <input type="checkbox"/> Industrial                    | <input type="checkbox"/> Preliminary Short Plat*  | <input type="checkbox"/> Lot Line Adjustment*           |
| <input checked="" type="checkbox"/> Shoreline* (JARPA) | <input type="checkbox"/> Final Short Plat*        | <input type="checkbox"/> Grading*                       |
| <input type="checkbox"/> Conditional Use*              | <input type="checkbox"/> Sector Plan Amendment    | <input type="checkbox"/> Binding Site Plan              |
| <input type="checkbox"/> Variance*                     | <input type="checkbox"/> Waterfront Development   | <input type="checkbox"/> Project Rezone                 |
|  | <input type="checkbox"/> Single Family Residence  | <input type="checkbox"/> Other, Specify _____           |

\* Need to fill out supplemental application form with project.

### Project Resume:

Existing Use: STORING EQUIPMENT Proposed Use: OFFICE ADMIN/LAB BUILDING

Total Site Area: 4.75 ACRES Water District: MWWWD

Building Foot Print Area: 1960 SQ.FT. Sewer District: MWWWD

Lot Coverage: LESS THAN 30% # of Proposed Units: 1

No. of Parking Stalls Provided: 0 Building Height: 32.7'

Comp Plan Designation: Essential Public Facility Zoning: HI

Gross Floor Area by Uses: 1

Electric Vehicle Charging Units Provided: Yes \_\_\_ No X If Yes, How Many? \_\_\_\_\_

Solar Panels being installed: Yes \_\_\_ No X If Yes, How Many \_\_\_\_\_

Pre-application Meeting Held: ☒ Yes; date) 8/2/18

The information given is said to be true under the penalty of perjury by the laws of the State of Washington.

Applicant/Authorized Agent Signature

Date

Owners Signature

Date

### Legal Description

SEC 17 TWP 28 RGE 04A PTN GOVT LOTS 2 & 3 DAF - COM MOST SLY COR LOT 35 ASSESSOR'S PLAT OF OLYMPUS TERRACE TH S55\*34 35W (PLAT BEARING S54\*26 30W) ALG PROJ SE LN SD LOT 35 26.27FT TO INT THE C/L PROJ OF ARD AS SHOWN ON SD PLAT TH S03\*23 11E 391.58FT TO S LN SD GOVT LOT 2 TH N34\*46 31W 184.33FT TH S38\*12 58W 350FT TO TPB TH N38\*12 58E 350FT TH N34\*46 31W 89.17FT TH S44\*15 57W 96FT TH N80\*26 03W 131.58FT TO ELY MGN BNRR R/W TH SLY ALG ELY MGN SD R/W TO AN INT WITH A LN TH BEARS N51\*47 02W FR SD TPB TH S51\*47 02E TO TPB TGW FDT -COM MOST SLY COR LOT 35 ASSESSOR'S PLAT OF OLYMPUS TERRACE TH S55\*34 35W (PLAT BEARING S54\*26 30W) ALG PROJ OF SE LN SD LOT 35 26.27FT TO INT C/L PROJ OF A RD SHOWN ON SD PLAT TH S03\*23 11E 391.58FT TO S LN SD GOVT LOT 2 TH N34\*46 31W 184.33FT TO TPB TH S38\*12 58W 350FT TH S51\*47 02E 440FT TH S79\*41 08E 154.05FT TH S55\*04 08E 545.88FT TH N51\*54 26E 22.06FT TH N46\*34 40W 137.17FT TH N52\*02 18W 140.68FT TH N60\*30 20W 96.61FT TH N35\*10 55W 327.22FT TH N45\*03 40W 333FT TH N43\*29 23E 60.73FT TH N34\*46 31W 120.12FT M/L TO TPB LESS COM AT MOST SLY COR LOT 35 TH S55\*34 35W (PLAT BEARING S54\*26 30W) ALG PROJ OF SE LN SD LOT 35 DIST 26.27FT TO INT OF C/L PROJ OF A RD AS SHOWN ON SD PLAT TH ALG MOST ELY LN OF THE PAR LD DESC IN TH CERTAIN LEASE AGREE UNDER AF 1294023 TH S03\*28 11E 391.58FT TO S LN GOVT LOT 2 TH N34\*46 31W 64.21FT TO TPB TH S43\*29 23W 60.73FT TH N44\*28 03W 206.347FT TH N44\*15 57E 96FT TH S34\*46 41E 209.29FT TPB & TERM OF DESC TGW PTN GOVT LOTS 2 & 3 DAF COM AT MOST SLY COR LOT 35 SD OLYMPUS TERRACE TH S55\*34 35W (PLAT BEARING S54\*26 30W) ALG PROJ OF SE LN SD LOT 35 DIST 26.27FT TO INT OF C/L PROJ OF A RD AS SHOWN ON SD PLAT TH ALG MOST ELY LN OF PAR LD DESC IN LEASE AGREE UNDER AF 1294023 TH S03\*23 11E 391.58FT TAP ON S LN OF GOVT LOT 2 TH N34\*46 31W 184.33FT TH S38\*12 58W 350FT TH N51\*47 02W 62.50FT TAP ON ELY MGN OF BNRR R/W SD PT ALSO BEING TPB TH S02\*19 54W ALG SD R/W MGN DIST 30.86FT TH S51\*47 02E 484.41FT TH N38\*12 58E 25FT TH N51\*47 02W 502.50FT TO TPB otherwise known as 9417 62<sup>nd</sup> Place SW, Mukilteo WA 98275.



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11930 Cyrus Way  
Mukilteo, WA 98275  
425-263-8000

City of Mukilteo, Washington  
**Special Use Permit** CITY OF MUKILTEO  
**Supplemental Application**  
**to the Land Use Permit for**  
**Essential Public Facilities**

---

Applicant:	<u>Mukilteo Water and Wastewater District</u>	Owner: <u>Same</u>
Address:	<u>7824 Mukilteo Speedway</u>	Address: <u>Same</u>
	<u>Mukilteo, WA 98275</u>	
Phone:	<u>425-5-355-3355</u>	Phone: <u>Same</u>
Key Contact Person:	<u>Jim Voetberg</u>	Phone: <u>425-355-3355</u>
		E-mail: <u>jimv@mukilteowwd.org</u>

---

Type of Essential Public Facility: Big Gulch Wastewater Treatment Facility

Project Address: 9417 62<sup>nd</sup> Pl W, Mukilteo, WA 98275

Legal Description of Property: \_\_\_\_\_

Legal Parcel Number(s) 28041700401300

---

**Local:**

- ☐ City of Mukilteo  
☒ Special Purpose District: \_\_\_\_\_  
☐ Snohomish County – Non-County Wide Services  
☐ Other Local Government: \_\_\_\_\_  
☐ Entity on Contract w/ Local Government: \_\_\_\_\_

**State or Regional:**

- ☐ Snohomish County  
☐ State Agency: \_\_\_\_\_  
☐ Regional Agency: \_\_\_\_\_  
☐ Entity on Contract w/ State or Regional Agency: \_\_\_\_\_
-

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CITY OF MUKILTEO

**Special Use Permit  
Supplemental Application to the land Use Permit  
For  
Local Essential Public Facilities**

**1. Why is the project needed? Provide a written analysis of the projected service population, an inventory of existing and planned comparable facilities, and the projected demand for the type of facility proposed.**

Why is the project needed:

The collection and treatment of domestic and commercial wastewater is critical for public health, safety and general welfare of the environment. In 1993, the City of Mukilteo transferred their sewer collection and treatment system to Olympus Terrace Sewer District which has since merged with Mukilteo Water District and is now known as Mukilteo Water and Wastewater District (MWWD). MWWD owns and operates the sewer system serving Mukilteo in accordance with RCW 57.

Treatment of sewage collected by MWWD occurs at the Big Gulch Wastewater Treatment Facility (WWTF). Big Gulch WWTF is a public wastewater treatment facility treating sewage generated from residents and businesses within the City of Mukilteo and Paine Field. The WWTF is regulated by the State Department of Ecology, permit number WA0023396.

The WWTF is located at the lower end of Big Gulch immediately adjacent to Burlington Northern Santa Fe railroad property adjoining Puget Sound (see Attachment A). City of Mukilteo property surrounds the WWTF property.

The WWTF site is fully developed within the District's property with no room to expand (see Attachment B). Immediately north of the WWTF developed area is Big Gulch Creek and immediately south is a steep sensitive hillside with houses built on the bluff. The west side abuts Burlington Northern Santa Fe railroad property and the east side is too narrow for any development.

The project is to demo and build a new administration/lab building (see Attachment C). The current administration/lab building to be demolished is a one story building with a footprint of 1,960 square feet. The new administration/lab building will be a two story building with the same footprint of 1,960 square feet. The new administration/lab building will be constructed within the existing paved area of the WWTF. Administrative offices and the lab will be on the top floor with a maintenance shop and storage on the lower floor.

Demolition of the existing administration/lab building and construction of a new administration/lab building is required for two reasons. First, the existing administration/lab building is in general need of substantial repair and is too small to accommodate adequate

administrative and lab functions at the WWTF. The existing administration/lab building is in need of HVAC upgrades, electrical upgrades, lacks restroom and shower facilities for both genders, lacks lab space to efficiently operate a State certified lab, lacks ergonomic work stations for the employees, has inadequate area for computerized controls of the WWTF facility, has inadequate area for the storage of spare parts, and lacks sufficient shop area for the maintenance of pumps and other equipment (see pictures of existing administration/lab building in Attachment D).

Second, the location of the existing administration/lab building inhibits the operations of transporting biosolids away from the WWTF to a State certified Beneficial Use Facility (a facility certified by the State to accept biosolids) located in Mansfield Washington. The ability to utilize larger size tractor-trailer vehicles is restricted due to the inability for a tractor trailer to turn around. Since 2012, three biosolid transport companies have quit servicing the WWTF and the current hauler has raised the cost from \$54 per wet ton to \$88 per wet ton. Attachment E illustrates the conflict between the existing administration/lab building and the turning radius required for a tractor-trailer exiting the biosolids building.

Provide a written analysis of the projected service population:

Pursuant to the District's Wastewater Comprehensive Plan Amendment 1, Chapter 2, following is the projected service population for the Big Gulch Wastewater Treatment Facility:

The population of the District is estimated using data from Puget Sound Regional Council (PSRC) 2015 macroeconomic forecast. The forecast data is presented for regions known as Forecast Analysis Zones (FAZs). The FAZ data provided by PSRC includes forecasts of populations for residents and employees inside each FAZ. Population forecasts within the FAZs are provided for 2017, 2023, 2030, and 2037. Residential and employee populations for the District are based on GIS analysis of the four FAZs that contain the District's service area. Residential populations are estimated using the percentage of residential zoned land within the District's service area to total residential zoned land within the FAZ. The boundaries for FAZs 8000 and 7526 extend beyond the shoreline to include some of Puget Sound. These FAZ boundaries were trimmed to match the shoreline so that the percentage of land within the study area could be compared to the total FAZ area over land. This assumes that no residential or employment growth will occur beyond the shoreline in the waters of Puget Sound. The percentages for land use zoning inside the service area were also used to estimate employment. The residential population of the current westside service area is estimated to have been 15,054 in 2010. The employee population within the current service area is estimated to have been 8,713 in 2010 which does not include Paine Field. The PSRC provides population and employment projections for 2025, 2030, 2035, and 2040. These numbers are used as a baseline for the projections. Between these projected years, the population growth rates were interpolated to project individual years in the District's 20-year planning period.

Table 1 lists the FAZ identification number and the service area's residential population within each FAZ. Table 2 lists the service area's employee population within each FAZ.

TABLE 1

## Residential Population Forecasts within the District Westside Service Area(1)

<b>FAZ(2)</b>	<b>2010</b>	<b>2017</b>	<b>2023</b>	<b>2030</b>	<b>2037</b>
7526	8,259	8,507	8,719	8,724	8,734
7537	1,637	1,696	1,747	1,873	2,050
8000	5,158	5,545	5,877	6,095	6,395
<b>Total</b>	<b>15,054</b>	<b>15,748</b>	<b>16,343</b>	<b>16,691</b>	<b>17,179</b>

(1) The Westside Service Area only includes areas within the District boundary that contribute wastewater to the WWTF.

(2) Data based on PSRC 2015 Macroeconomic Forecast.

TABLE 2

## Employee Population Forecasts within the District Westside Service Area(1)

<b>FAZ(2)</b>	<b>2010</b>	<b>2017</b>	<b>2023</b>	<b>2030</b>	<b>2037</b>
7526	3,583	3,918	4,205	4,181	4,977
8000	5,130	5,838	6,445	6,562	6,700
<b>Total</b>	<b>8,713</b>	<b>9,756</b>	<b>10,649</b>	<b>10,743</b>	<b>11,677</b>

(1) The Westside Service Area only includes areas within the District boundary that contribute wastewater to the WWTF. Paine Field is based on contracted amounts.

(2) Data based on PSRC 2015 Macroeconomic Forecast.

Inventory of existing and planned comparable facilities: The Big Gulch Wastewater Treatment Facility is the only public wastewater treatment facility serving the District's Mukilteo service area. There are no existing or planned wastewater treatment facilities that will service the collection area of the Mukilteo Wastewater Service District.

The nearest wastewater treatment facility is owned and operated by the Alderwood Water and Wastewater District (AWWD) and is located in the Picnic Point area. Due to topography, MWWD's sewage volume and AWWD's wastewater plant's capacity, flow from MWWD to AWWD is not possible. AWWD was specifically designed and the facility laid out to allow large tractor trailer vehicles to enter and exit their biosolids building.

Projected demand for the type of facility proposed:

Pursuant to the District's Wastewater Comprehensive Plan Amendment 1, Chapter 4, following is the demand criteria for the Big Gulch Wastewater Treatment Facility:

The wastewater flow design criteria is summarized for the Big Gulch WWTP service area in Table 3. Flows from Paine Field are included in accordance with an agreed maximum flow of 250,000 gpd.

**TABLE 3**  
**Summary of Big Gulch WWTP Wastewater Demand Criteria**

<b>Demand Criteria</b>	<b>2020</b>	<b>2030</b>	<b>2037</b>
Residential Population	16,392	16,691	17,179
Residential Per Capita Flow (gpcd)	60	60	60
Average Residential Flow (gpc)	983,508	1,001,460	1,030,728
Employee Population	11,151	10,743	11,677
Employee Per Capita Flow (gpcd)	22	22	22
Average Employee Flow (gpd)	245,316	236,352	256,891
Paine Field Average Flow	250,000	250,000	250,000
Average Annual Domestic Flow (gpd)	1,478,824	1,487,812	1,537,618
Average Annual I/I (gpd):	530,000	530,000	530,000
Average Annual Wastewater Flow (gpd)	2,008,824	2,017,812	2,067,619
Maximum Month Average Flow (gpd)	2,611,471	2,623,156	2,687,905
Maximum Day Flow (gpd)	5,423,825	5,448,093	5,582,572
Peak Hour Flow (gpd)	7,030,884	7,062,343	7,236,668
Peak Hour Flow (gpm)	4,883	4,904	5,025

The inadequate size of the existing administrative/lab building will not accommodate additional employees or additional lab space necessary to meet future flows. Also, the District's current Wastewater Pre-Treatment position, who logically should operate out of the wastewater treatment plant, operates out of the main District offices at 7824 Mukilteo Speedway simply due to a lack of space at the WWTF.

Future increase in wastewater flows will required modifications to the biosolids system to accommodate increased biosolids volume. With inadequate space to maneuver biosolids hauling vehicles now, the problem will only exacerbate in the future.

**2. Describe the investigative process used to identify any alternative sites for the EPF. Describe the site selection methodology and why sites were eliminated from consideration.**

The project is to demolish and rebuild an administration/lab building from its current location to a new location within the developed area of the Big Gulch Wastewater Treatment Facility. The Big Gulch Wastewater Treatment Facility is the Essential Public Facility (EPF). Consideration of relocating the entire Gulch Wastewater Treatment Facility EPF due to a need to demolish and rebuild the administration/lab building is not practicable for reasons including, the entire sewer collection system including pipes and lift stations are installed to flow to the Big Gulch Wastewater Treatment Facility and there are no properties within Mukilteo of sufficient size and location to construct a new wastewater treatment facility EPF.

Specific to investigating sites within the existing Big Gulch Wastewater Treatment Facility to locate the new administration/lab building, the following was considered. First the existing Big Gulch Wastewater Treatment Facility developable property is essentially fully built out due to Big Gulch Creek bordering one side of the Facility and a steep hillside bordering the other side (see Appendix B). Any new building will be located on existing developed area. Second, the new



building's footprint would be the same footprint as the existing building. Third, the new building needs to be located such that it does not conflict with turning movements necessary for trucks hauling biosolids from the biosolids building.

**3. What infrastructure is or will be made available to ensure safe transportation access and transportation concurrency?**

The Big Gulch Wastewater Treatment Facility is not accessible via a public road and the facility is closed to the public. The District has an existing access road to the Facility for use by its employees, suppliers and contractors. No new infrastructure is or will be necessary to ensure safe transportation access and transportation concurrency. The demolition of a 2,000 square foot administration/lab building and construction of a new 2,000 square foot administration/lab building does not require traffic concurrency.

**4. What type of infrastructure and/or services are needed to ensure that public safety responders have capacity to handle increased calls or expenses that will occur as the result of the facility?**

The project is the demolition of an existing administration/lab building and construction of a new administration/lab building within the developed area of the Big Gulch Wastewater Treatment Facility. The new administration/lab building will not create additional need for public safety and will not change or modify how public safety is currently being provided to the Big Gulch Wastewater Treatment Facility. No additional infrastructure and/or services is needed to ensure that public safety responders have capacity to handle increased calls or expenses as a result of the relocated administration/lab building.

**5. Describe the project sponsors ability to pay for all capital costs associated with on-site and off-site improvements.**

The project sponsor is the Mukilteo Water and Wastewater District. The District has identified this project in its comprehensive plan and the project is identified in the District's capital budget for permitting/design in 2018 and construction in 2019. Funding for the project will come from the District's Capital Fund reserves.

**6. How much and what kinds of noise will the facility generate and what type of mitigation will be provided? Describe both day and night time noise disturbances.**

The project is the demolition of an existing administration/lab building and construction of a new administration/lab building within the developed area of the Big Gulch Wastewater Treatment Facility. Use of the existing administration/lab building does not create noise. The new administration/lab building will not create noise. By relocating the building into the shoreline, noise will not increase at the site regardless of the building being in the shoreline or not in the shoreline.

**7. What kinds of visual screening will be provided that will mitigate the visual impacts from streets and adjoining properties?**

The project is the demolition of an existing administration/lab building and construction of a new administration/lab building within the developed area of the Big Gulch Wastewater Treatment Facility. The area where the new administration/lab building will be located is paved and currently occupied by small storage buildings, pumps, equipment and miscellaneous parts. The new location of the administration/lab building is not visible from streets and adjoining properties. With no visual impacts from streets and adjoining properties, no visual screening will be provided.

**8. If the land on which a local EPF is proposed is located in a residential zoning district, describe any other feasible locations for the facility other than a residential zone and how the exclusion of the facility from the proposed location in a residential zone would preclude the siting of the facility and all similar facilities anywhere within the City.**

The Big Gulch Wastewater Treatment Facility is the EPF and currently exists. This project consists of relocating an existing administration/lab building within the current developed area of the Big Gulch Wastewater Treatment Facility. Relocation of the Big Gulch Wastewater Treatment Facility (the EPF) to another location within the City is not practical.

**9. Describe how the EPF meets all provisions of City code for development within the zoning district in which it is proposed to be located, including but not limited to the bulk regulations of MMC Chapter 17.20. If the proposal does not meet City code, describe how compliance with such provisions would preclude the siting of all similar facilities anywhere within the City.**

The Big Gulch Wastewater Treatment Facility is the EPF and currently exists. This project consists of relocating an existing administration/lab building within the already developed area of the Big Gulch Wastewater Treatment Facility. Relocation of the Big Gulch Wastewater Treatment Facility (the EPF) to another location within the City is not practical.

**10. Describe any and all probable mitigation measures being applied to the project.**

No mitigations measures are being applied to this project.

# **Attachment A**

**Site Map  
Property Map**





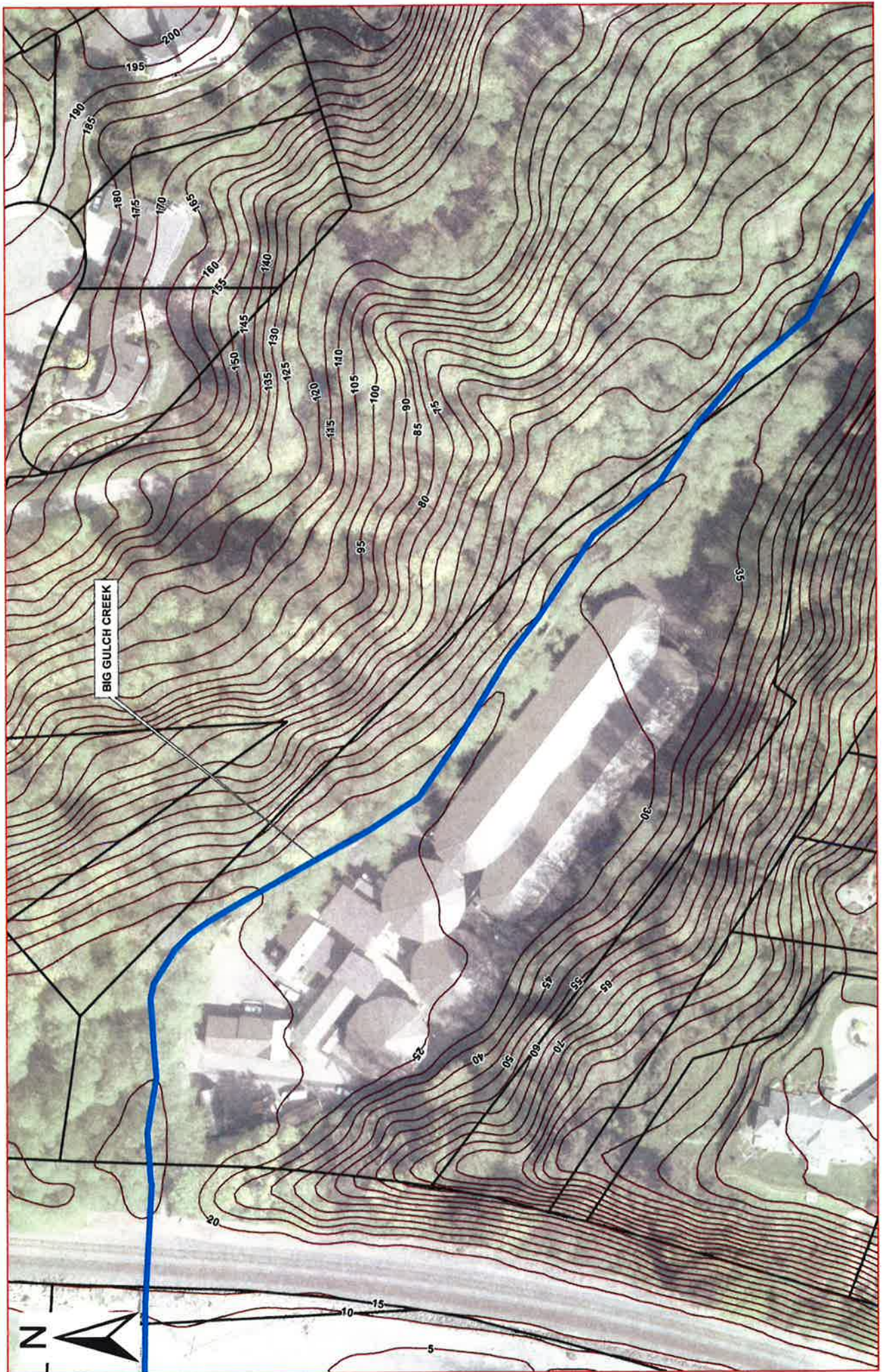




## **Attachment B**

**Site Contour Map  
Pictures of WWTF Site (Steep Hillside and Creek)**







## **Attachment D**

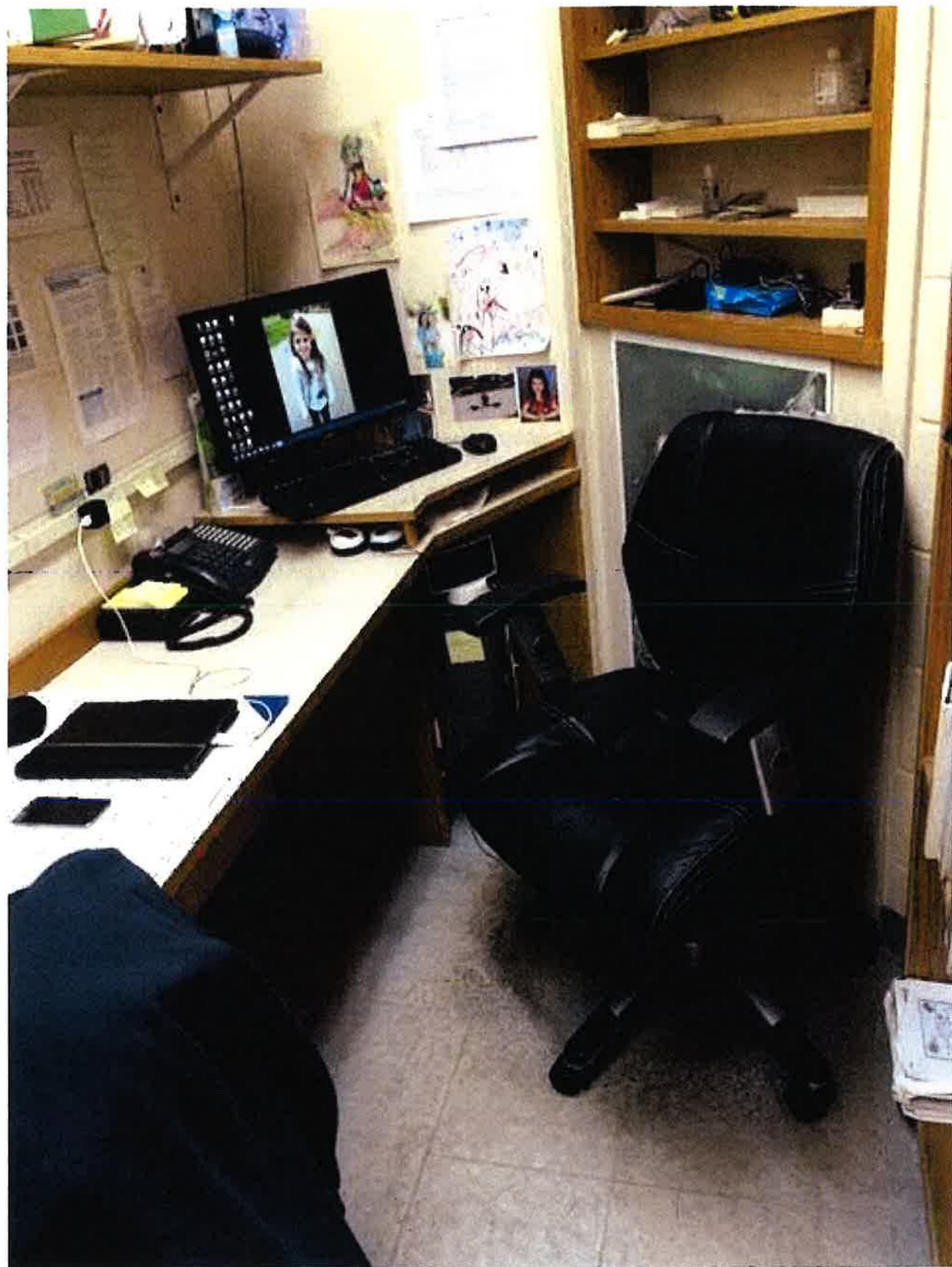
### **Pictures of Existing Admin/Lab Building**

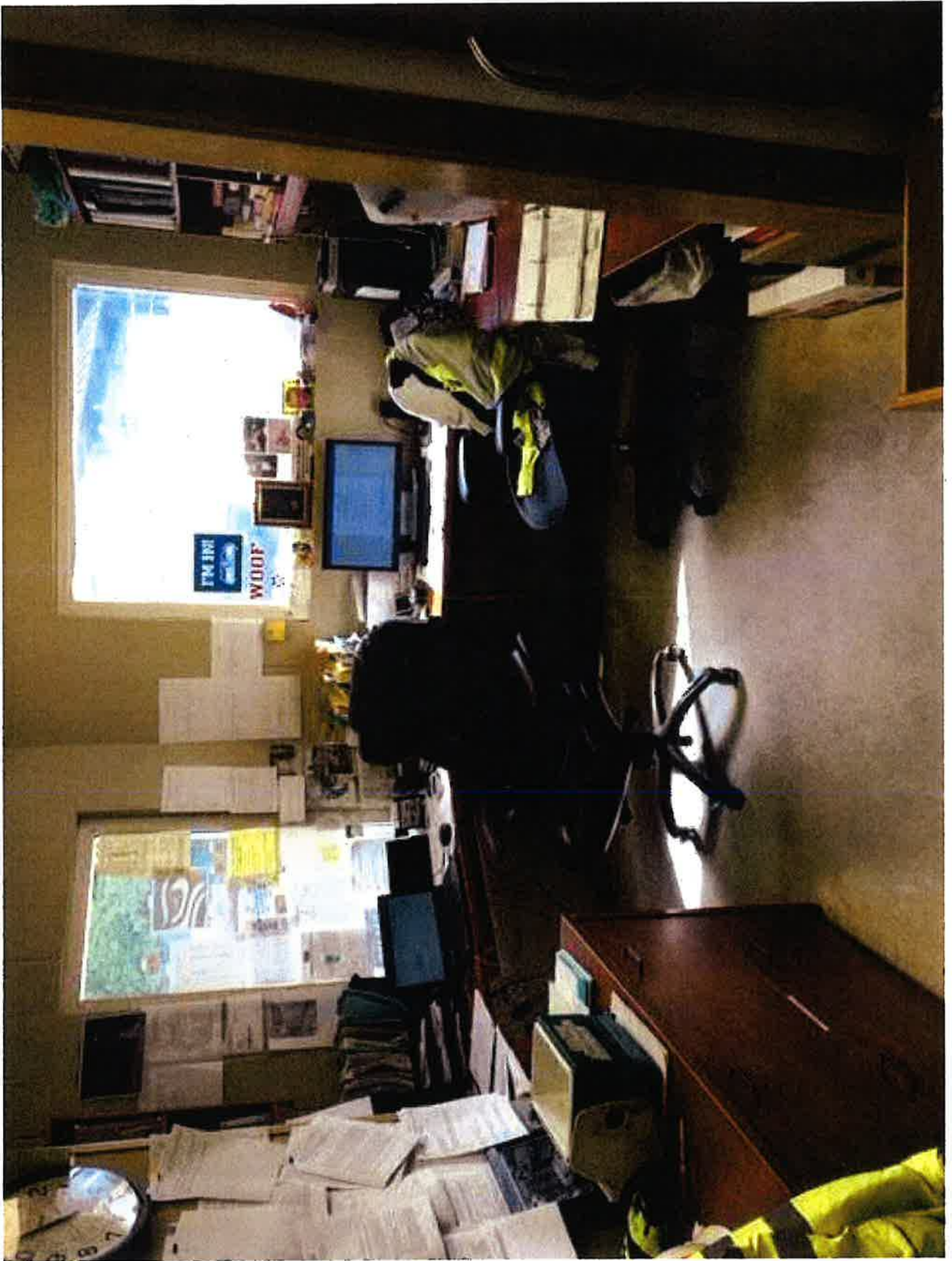






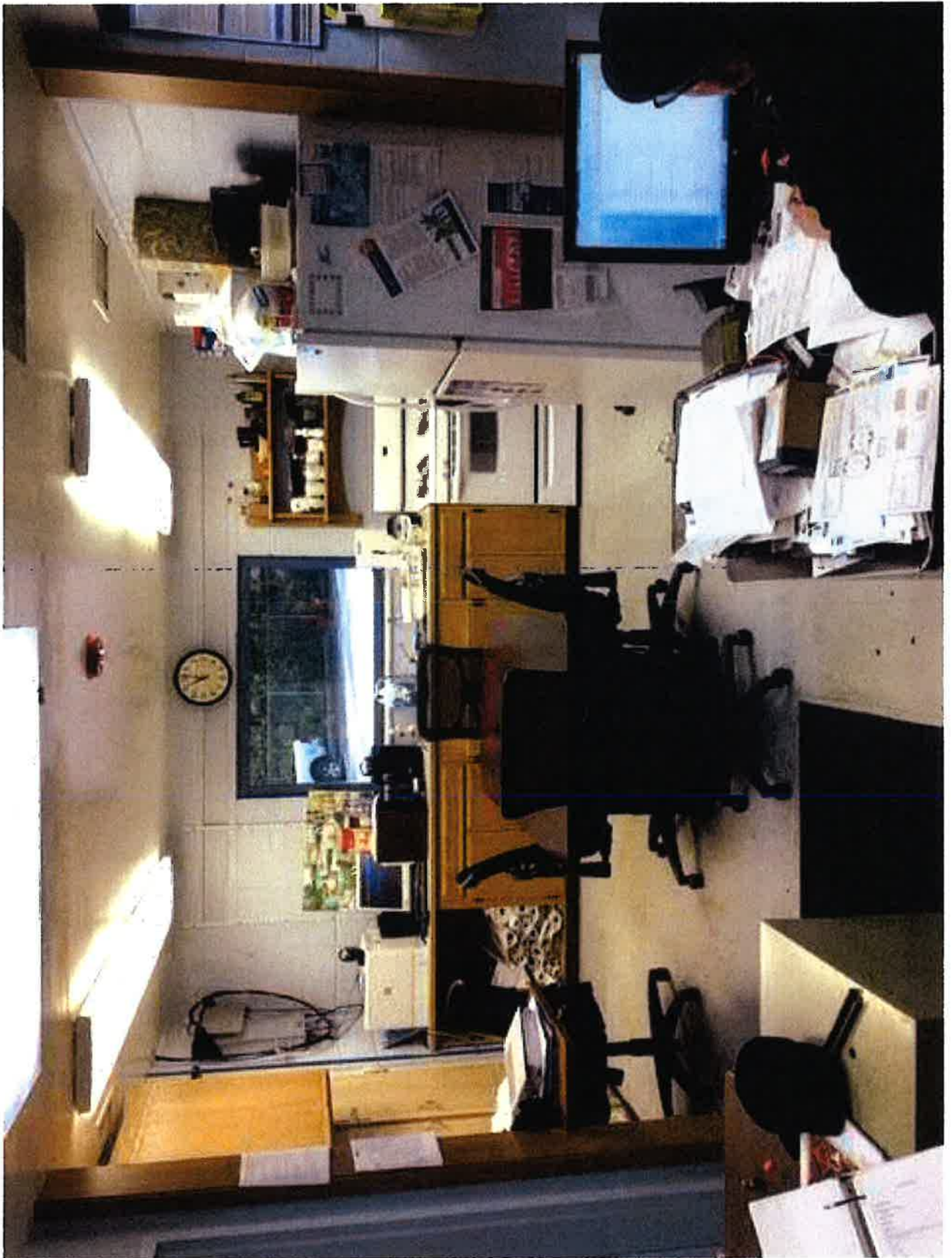








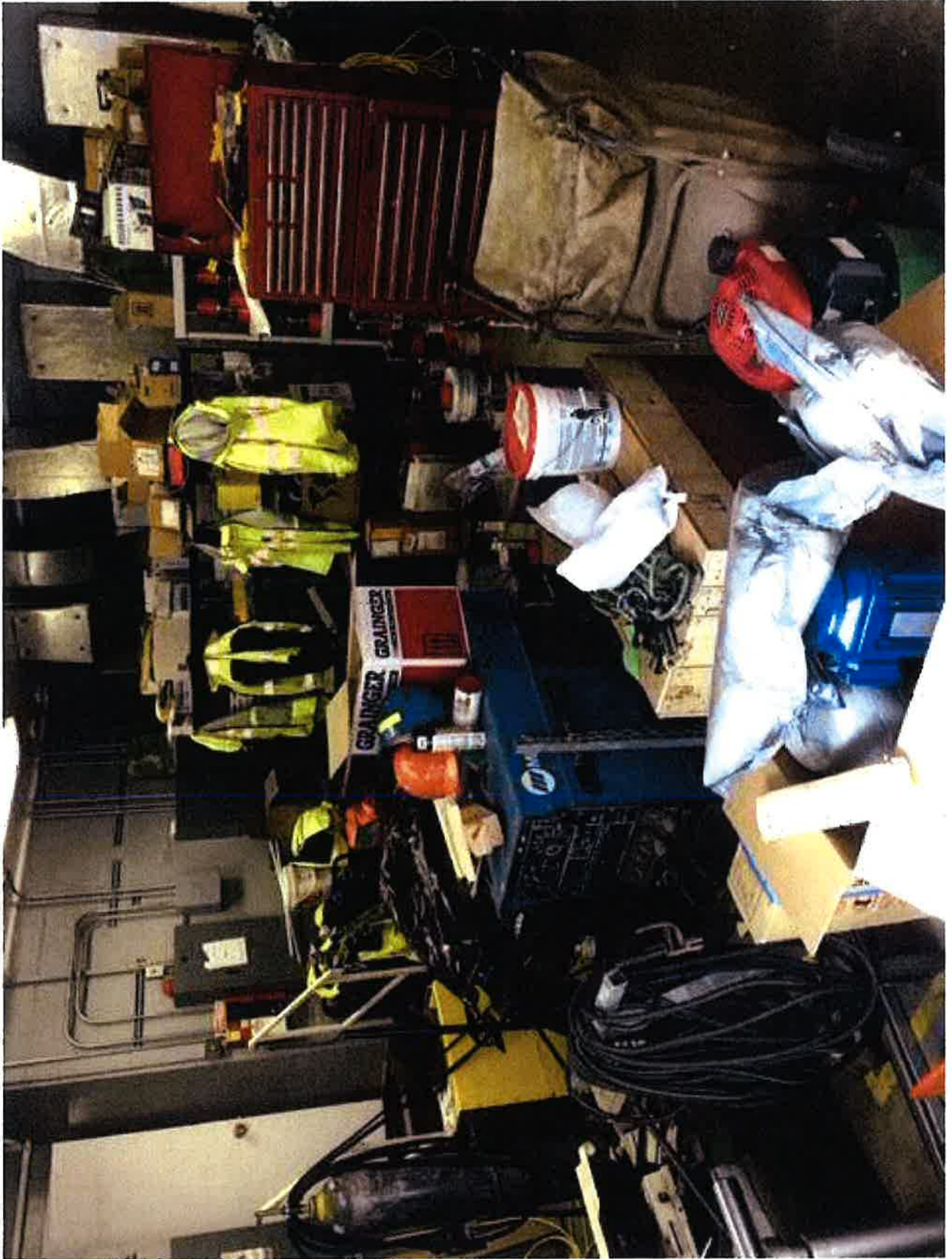
















# **Attachment E**

## **Biosolids Tractor-Trailer Turning Area**



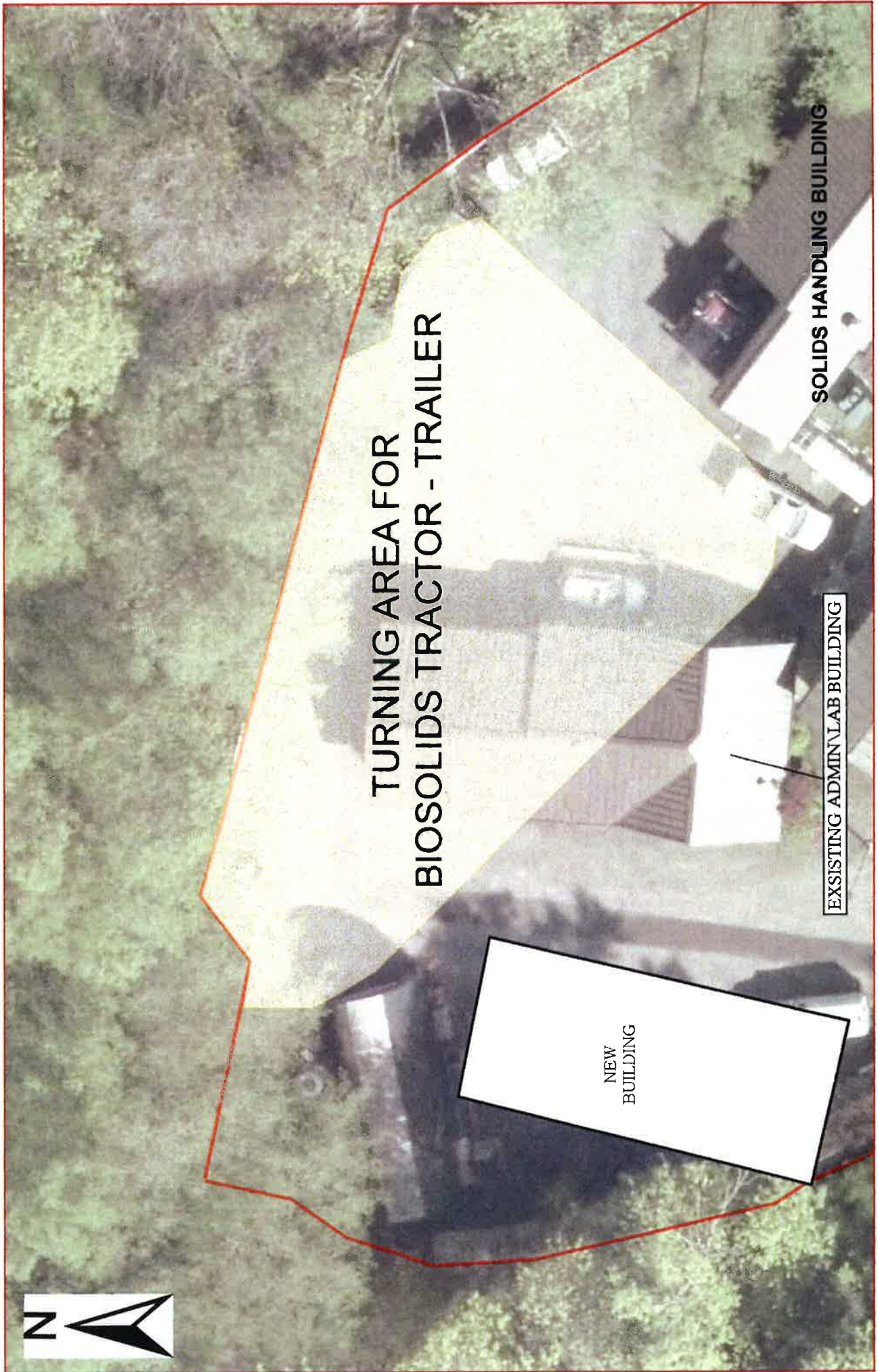


TURNING AREA FOR  
BIOSOLIDS TRACTOR - TRAILER

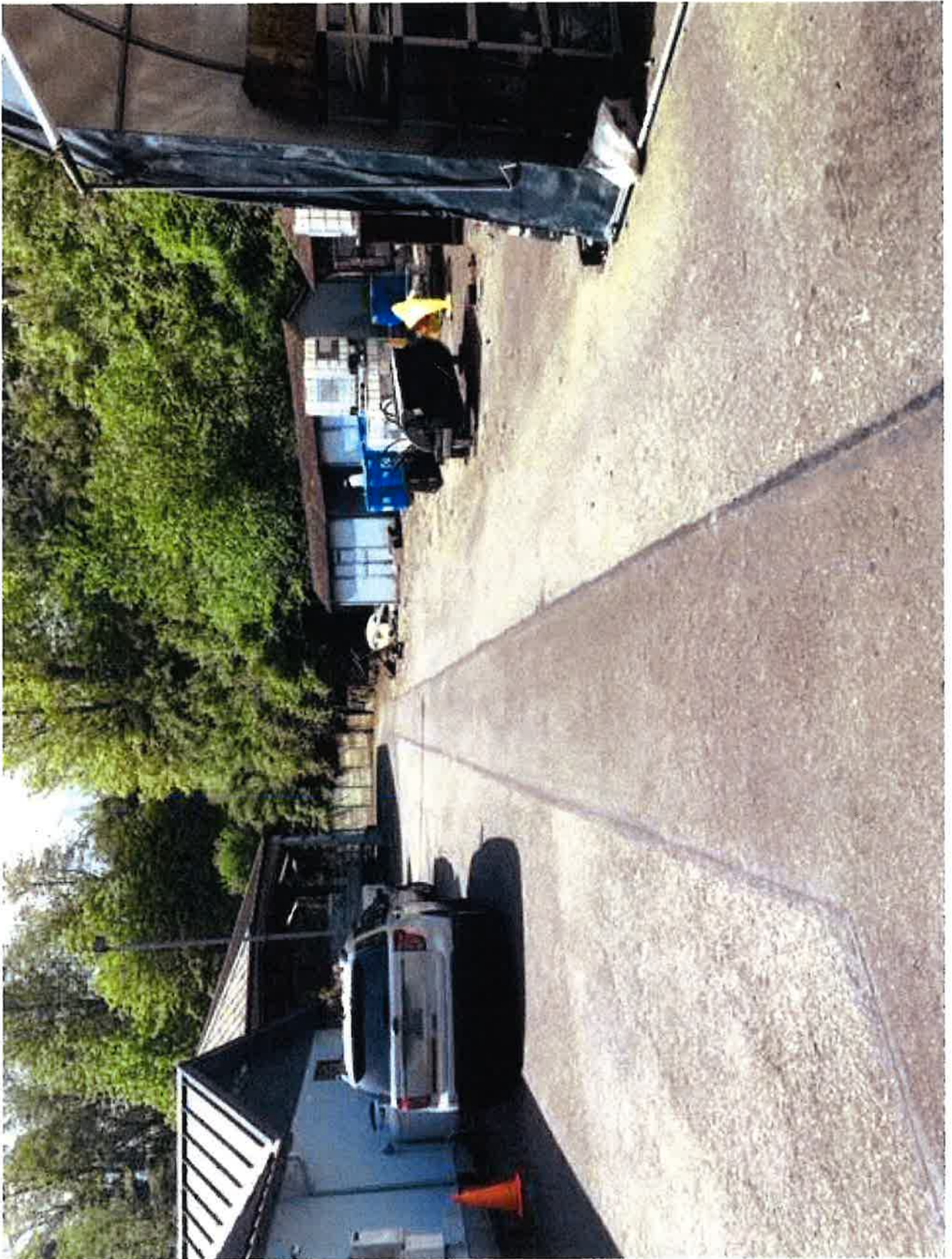
NEW  
BUILDING

EXISTING ADMIN\LAB BUILDING

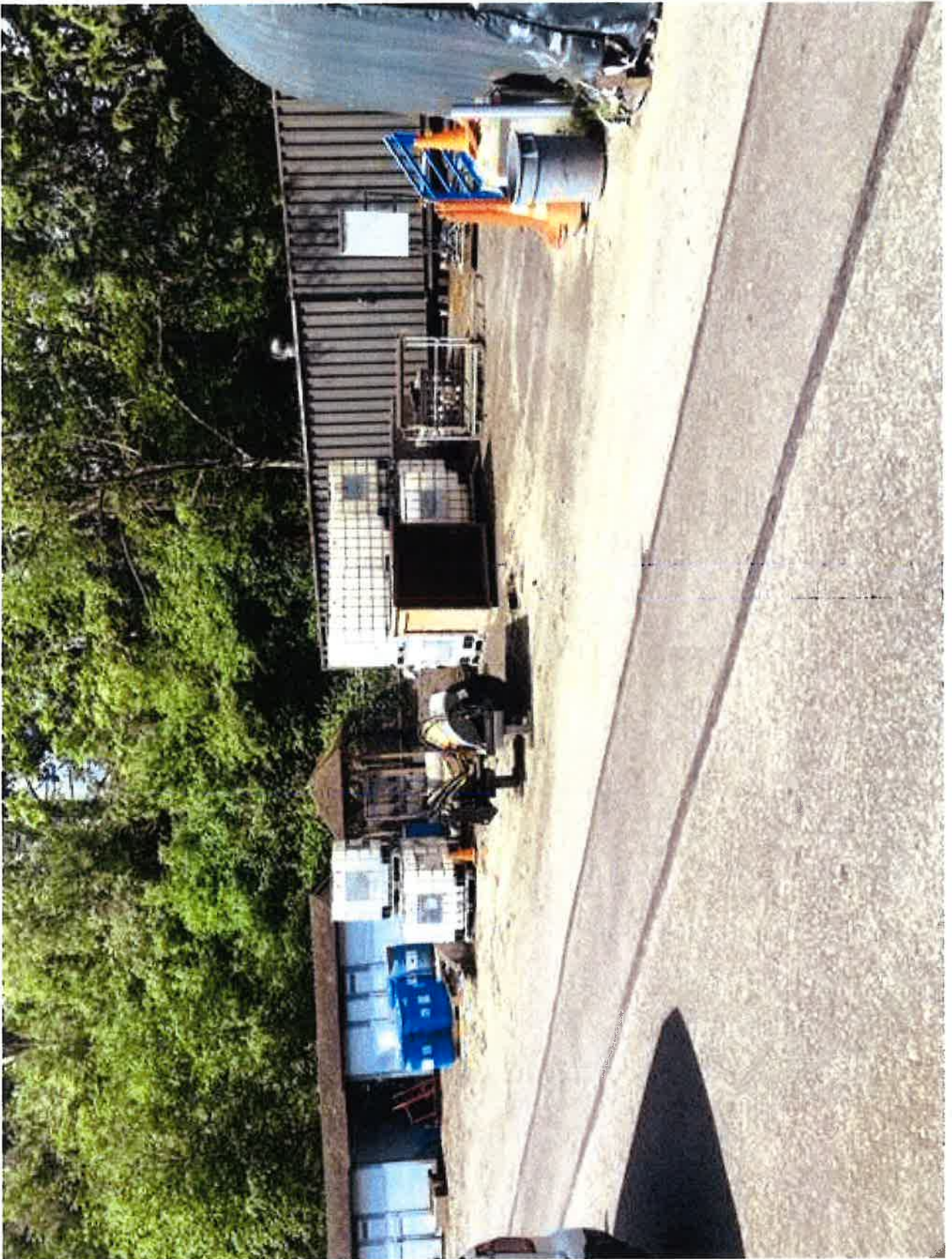
SOLIDS HANDLING BUILDING















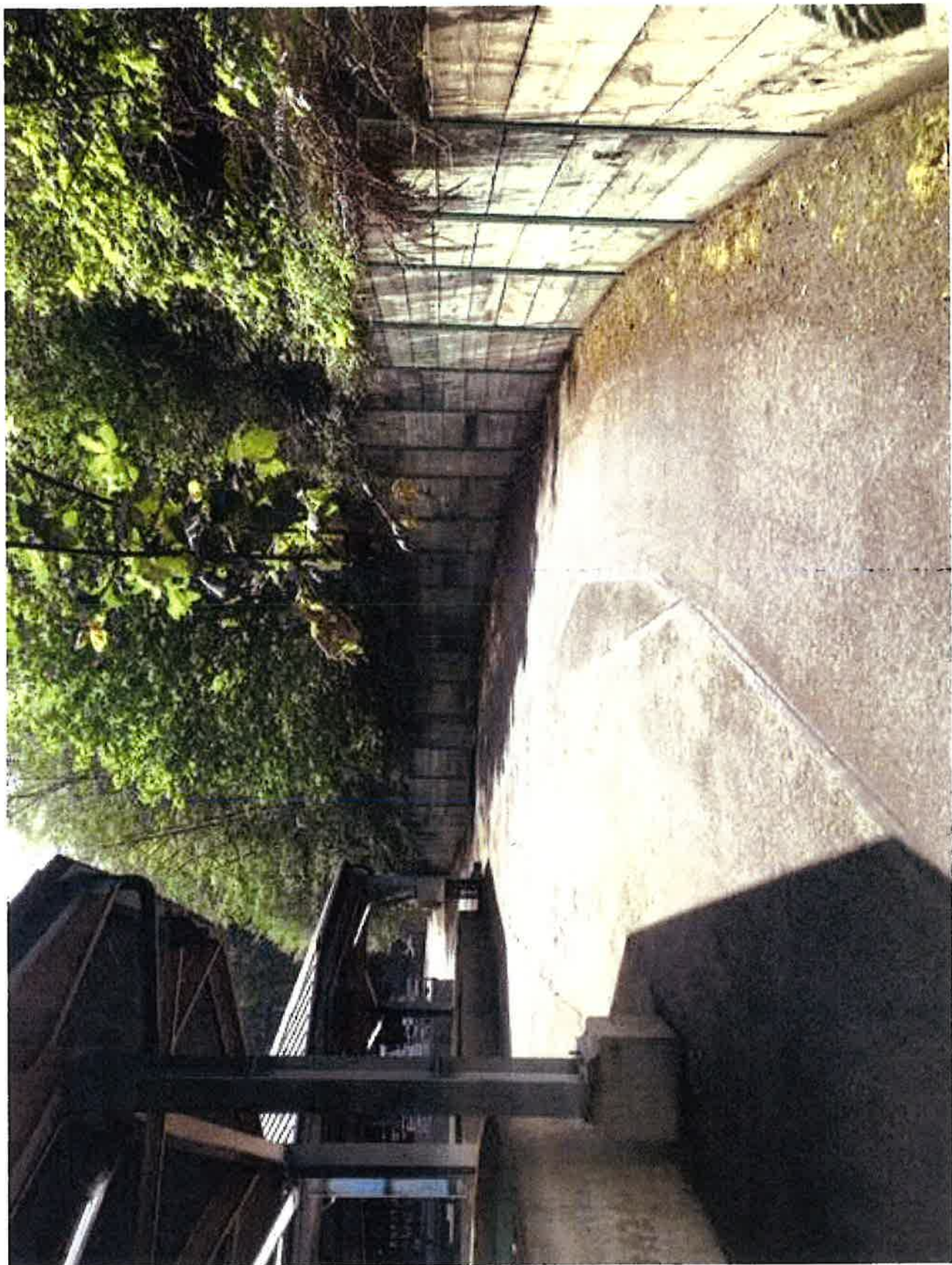














## **Attachment C**

**New Building location**

- \\WV010102\1845 Bg Cutch WMP Office-Lab Pdesign\02 PLANS\CT\CM\PLAN.dwg, 4/9/2018 12:09 PM, STEPHEN MOORE

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AUG 29 2018

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CITY OF MUKILTEO

**Mukilteo Water and Wastewater District  
Big Gulch Wastewater Treatment Facility  
New Administration/Lab Building**

**Project Narrative**

The collection and treatment of domestic and commercial wastewater is critical for public health, safety and the general welfare of the environment. In 1993, the City of Mukilteo transferred their sewer systems to Olympus Terrace Sewer District which later merged with the Mukilteo Water District and is now known as the Mukilteo Water and Wastewater District (District). The District owns and operates the sewer system, including the Big Gulch Wastewater Treatment Facility (WWTF) in accordance with RCW 57.

Big Gulch WWTF is a public wastewater treatment facility treating sewage generated from residents and businesses within the City of Mukilteo and Snohomish County including Paine Field Airport. The WWTF is regulated by the State Department of Ecology, permit number WA0023396. Pursuant to Mukilteo Municipal Code, 17B. 16.100, the City of Mukilteo has identified the WWTF as an essential public facility.

The WWTF is located at the lower end of Big Gulch. The property abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north. Public access is prohibited on WWTF property.

The WWTF site is fully developed within the District's property with no room to expand. Immediately north of the WWTF developed area is Big Gulch Creek and immediately south is a steep sensitive slope hillside with houses built on the upper bluff. The west side abuts Burlington Northern Santa Fe railroad property. Vehicle access is provided from the east side is too narrow for development.

The proposed project will demolish the existing administrative/lab building and construct a new administration/lab building. The current administration/lab building, to be demolished, is one story with a footprint of 1,960 square feet. The new administration/lab building will be a two story building with the same footprint of 1,960 square feet. The new administration/lab building will be constructed over an area of existing pavement approximately 25 feet from the existing administrative/lab building. Administrative offices and the lab will be on the top floor with a maintenance shop and storage on the lower floor.





**Mukilteo Water and Wastewater District**

7824 Mukilteo Speedway  
Mukilteo, WA 98275-0260  
Phone 425 355-3355

July 24, 2018

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AUG 29 2018 *214*

CITY OF MUKILTEO

City of Mukilteo  
Planning and Community Development  
11930 Cyrus Way  
Mukilteo, Washington 98275

Re: Mukilteo Water and Wastewater District Shoreline Permit Application

Mukilteo Water and Wastewater District submits the following, with attachments, for a shoreline permit application:

**Property Owner/Applicant:** Mukilteo Water and Wastewater District, 7824 Mukilteo Speedway, Mukilteo, Washing, 98275.

**Project permit location:** 9417 62<sup>nd</sup> Place SW, Mukilteo Washington, tax parcel 2804170040300.

**Project Request:** Demolish and remove an existing 1,960 square foot one story administrative/lab building footprint located at the Big Gulch Wastewater Treatment Facility and construct a new two story administrative/lab building with a 1,960 square foot footprint within the City of Mukilteo's shoreline setback. The new building will be located on a paved area approximately 25' west of the existing building.

**Background:** The Big Gulch Wastewater Treatment Facility (Big Gulch WWTF) provides wastewater treatment to a majority of the City of Mukilteo, Paine Field and a small area within Snohomish County. Big Gulch WWTF is owned and operated by the Mukilteo Water and Wastewater District, a Special Purpose District governed under Title 57 RCW. Constructed in the early 1990's Big Gulch WWTF is located at the very end of Big Gulch Creek, immediately adjacent to the Burlington Northern Right-of-Way and Puget Sound.

All feasibly buildable property where Big Gulch WWTF is located is fully paved and developed. Immediately to the north of the existing developed area is Big Gulch Creek, to the south is a steep hillside with houses at the top, to the east is a single lane access road, and to the west is the Burlington Northern Right-of-Way and Puget Sound. The proposed project demolishes an existing administrative/lab building and constructs new administrative/lab building with the same footprint approximately 25' to the west. The new building will be located on existing paved area currently utilized for equipment and parts storage.

**Designated essential public facility:** City of Mukilteo Code 17B.16.100 A.10 lists the Mukilteo Water and Wastewater District's Big Gulch Wastewater Treatment Facility and its outfall as an essential public facility.

**Description of project:** The project is to demo remove an existing administration/lab building and build a new administrative/lab building approximately 25' west of the existing building. The current administration/lab building to be demolished is a one story building with a footprint of 1,960 square feet. The new administration/lab building will be a two story building with the same footprint of 1,960 square feet. The new administration/lab building will be constructed within the existing paved area of the Wastewater Treatment Facility. Administrative offices and the lab will be on the top floor with a maintenance shop and storage on the lower floor.

**Need for the project:** The Mukilteo Water and Wastewater District owns and operates the Big Gulch WWTF located at the end of Big Gulch adjacent to the Burlington Northern Right-of-Way and Puget Sound. The District has five full-time employees who operate the Big Gulch WWTF. The administration and lab work necessary to operate the Facility is currently performed out of a single story 1,960 building.

Demolition of the existing administration/lab building and construction of a new administration/lab building is required for two reasons. First, the existing administration/lab building is in general need of substantial repair and is too small to accommodate adequate administrative and lab functions at the Wastewater Treatment Facility. The existing administration/lab building is in need of HVAC upgrades, electrical upgrades, lacks restroom and shower facilities for both genders, lacks lab space to efficiently operate a State certified lab, lacks ergonomic work stations for the employees, has inadequate area for computerized controls of the Wastewater Treatment Facility, has inadequate area for the storage of spare parts, and lacks sufficient shop area for the maintenance of pumps and other equipment.

Second, the location of the existing administration/lab building inhibits the operations of transporting biosolids away from the Big Gulch WWTF to a State certified Beneficial Use Facility (a facility certified by the State to accept biosolids) located in Mansfield Washington. The ability to utilize larger size tractor-trailer vehicles is restricted due to the inability for a tractor trailer to turn around. Since 2012, three biosolid transport companies have quit servicing the Wastewater Treatment Facility and the current hauler has raised the cost from \$54 per wet ton to \$88 per wet ton.

**Requirements for siting or expansion of local essential public facilities:** City of Mukilteo Code 17B.16.100 C.4 lists the requirements for approval of a special use permit for a local essential public facility. Following is Mukilteo Water and Wastewater District's response to meeting these requirements:

City of Mukilteo Code 17B.16.100 C.4.a: The project sponsor has demonstrated a need for the project, as supported by a detailed written analysis of the projected service population, an inventory of existing and planned comparable facilities, and the projected demand for the type of facility proposed.

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project. Section 1 of the Special Use Permit explains the need for the project, an analysis of the projected service population, an inventory of existing and planned comparable facilities, and the projected demand for the type of facility proposed. The proposed project is to demolish and remove a one story 1,960 square foot administrative/lab building and construct a new two story administrative/lab building with a 1,960 square foot footprint. The new building will be located on a paved area approximately 25' west of the existing building.

City of Mukilteo Code 17B.16.100 C.4.b: The project sponsor has reasonably investigated alternative sites, as evidenced by a detailed explanation of site selection methodology, as verified by the city and reviewed by associated jurisdictions and agencies.

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project. Section 2 of the Special Use Permit explains the site selection methodology. Keep in mind the proposed project is not an expansion of the Big Gulch WWTF but the demolition and removal of a one story administrative/shop building and construction of the same footprint size administrative/shop building approximately 25' away on existing pavement.

City of Mukilteo Code 17B.16.100 C.4.c: Only water-dependent essential public facilities shall be allowed over water.

Not applicable. The project is the demolition and removal of a one story administrative/shop building and construction of the same footprint size administrative/shop building approximately 25' away on existing pavement.

City of Mukilteo Code 17B.16.100 C.4.d: Necessary infrastructure is or will be made available to ensure safe transportation access and transportation concurrency.

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project. Section 3 of the Special Use Permit discusses there is not a need to Improve public access as public access to the Big Gulch WWTF is not allowed. Access for Big Gulch WWTF employees is via a private single lane access road off of 95<sup>th</sup> Place SW. The project of demolishing and removing a one story administrative/shop building and constructing a new administrative/shop building with the same footprint approximately 25' away on existing pavement with no increase in the number of employees who work at the Big Gulch WWTF will not require additional infrastructure to ensure safe transportation access and transportation concurrency.

City of Mukilteo Code 17B.16.100 C.4.e: Necessary infrastructure is or will be made available to ensure that public safety responders have capacity to handle increased calls or expenses that will occur as the result of the facility.

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project. Section 4 of the Special Use Permit states that demolishing an existing building and constructing a new building with the same footprint 25' away with no increase in the number of employees who work at the Big Gulch WWTF will not increase public safety calls. No additional infrastructure and/or services is needed to ensure that public safety responders have capacity to handle increased calls or expenses as a result of the relocated administration/lab building.

City of Mukilteo Code 17B.16.100 C.4.f: The project sponsor has the ability to pay for all capital costs associated with on-site and off-site improvements.

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project.



Section 5 of the Special Use Permit states the sponsor, Mukilteo Water and Wastewater District has sufficient funds for this project.

City of Mukilteo Code 17B.16.100 C.4.g: The facility will not unreasonably increase noise levels in residential areas, especially at night;

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project. Section 6 of the Special Use Permit states there will be no increase in noise levels from the project. Use of the new administrative/lab building will be the same as the existing administrative/lab building and moving the building 25' will not create additional noise levels.

City of Mukilteo Code 17B.16.100 C.4.h: Visual screening will be provided that will mitigate the visual impacts from streets and adjoining properties.

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project. Section 7 of the Special Use Permit states that due to terrain and tree cover, the existing administrative/lab building is not visible from streets or adjoining property. The new administrative/lab building, located approximately 25' west of the existing administrative/lab building will not be visible from streets or adjoining properties. With no visual impacts from streets and adjoining properties, no visual screening will be provided.

City of Mukilteo Code 17B.16.100 C.4.i: The local essential public facility is not located in any residential zoning district identified in Table 17B.16.040, except as provided in this subsection. If the land on which a local essential public facility is proposed is located in any such residential zoning district, the applicant must demonstrate to the hearing examiner that there is no other feasible location for the facility and that the exclusion of the facility from the residential districts of the city would preclude the siting of all similar facilities anywhere within the city. If the applicant is able to make such a demonstration, the hearing examiner shall authorize the essential public facility to be located in the residential zoning district.

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project. Section 8 of the Special Use Permit states the property where the Big Gulch WWTF is located is zoned Heavy Industrial. The project, relocation of an existing administrative/lab building, will be entirely within the property zoned Heavy Industrial.

City of Mukilteo Code 17B.16.100 C.4.j: The local essential public facility meets all provisions of this code for development within the zoning district in which it is proposed to be located, including but not limited to the bulk regulations of Chapter 17B.20, except as provided in this subsection. If a local essential public facility does not meet all such provisions, the applicant must demonstrate that compliance with such provisions would preclude the siting of all similar facilities anywhere within the city. If the applicant is able to make such a demonstration, the hearing examiner shall authorize the essential public facility to deviate from the provisions of this code to the minimum extent necessary to avoid preclusion.

Included with the Shoreline Permit packet is a completed Special Use Permit/Supplemental Application to the Land Use Permit for Essential Public Facilities for the proposed project.

Section 9 of the Special Use Permit states Big Gulch WWTF currently meets all provisions of City code for development within the zoning district (Heavy Industrial) in which it is located, including but not limited to the bulk regulations of MMC Chapter 17.20. This project consists of relocating an existing administration/lab building within the already developed area of the Big Gulch WWTF. The proposed new administrative/lab building will meet all building and zoning regulations.

City of Mukilteo Code 17B.16.100 C.4.k: Any and all probable significant adverse environmental impacts are mitigated.

The proposed project demolishes an existing administrative/lab building and constructs new administrative/lab building with the same footprint approximately 25' to the west of the existing building. The new building will be located on existing paved area currently utilized for equipment and parts storage. No impacts from the new administration/lab building will occur. No mitigation is contemplated.

**Supporting Documentation:**

The following documents are included:

Special Use Permit, Supplemental Application to the Land Use Permit for Essential Public Facilities.

Site Plan

Biosolids Tractor-Trailer Turning Radius Drawing

Building Height Worksheet

SEPA Checklist

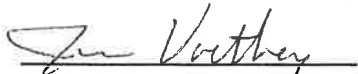
Storm water plan

Wetlands Delineation

Geotech Report

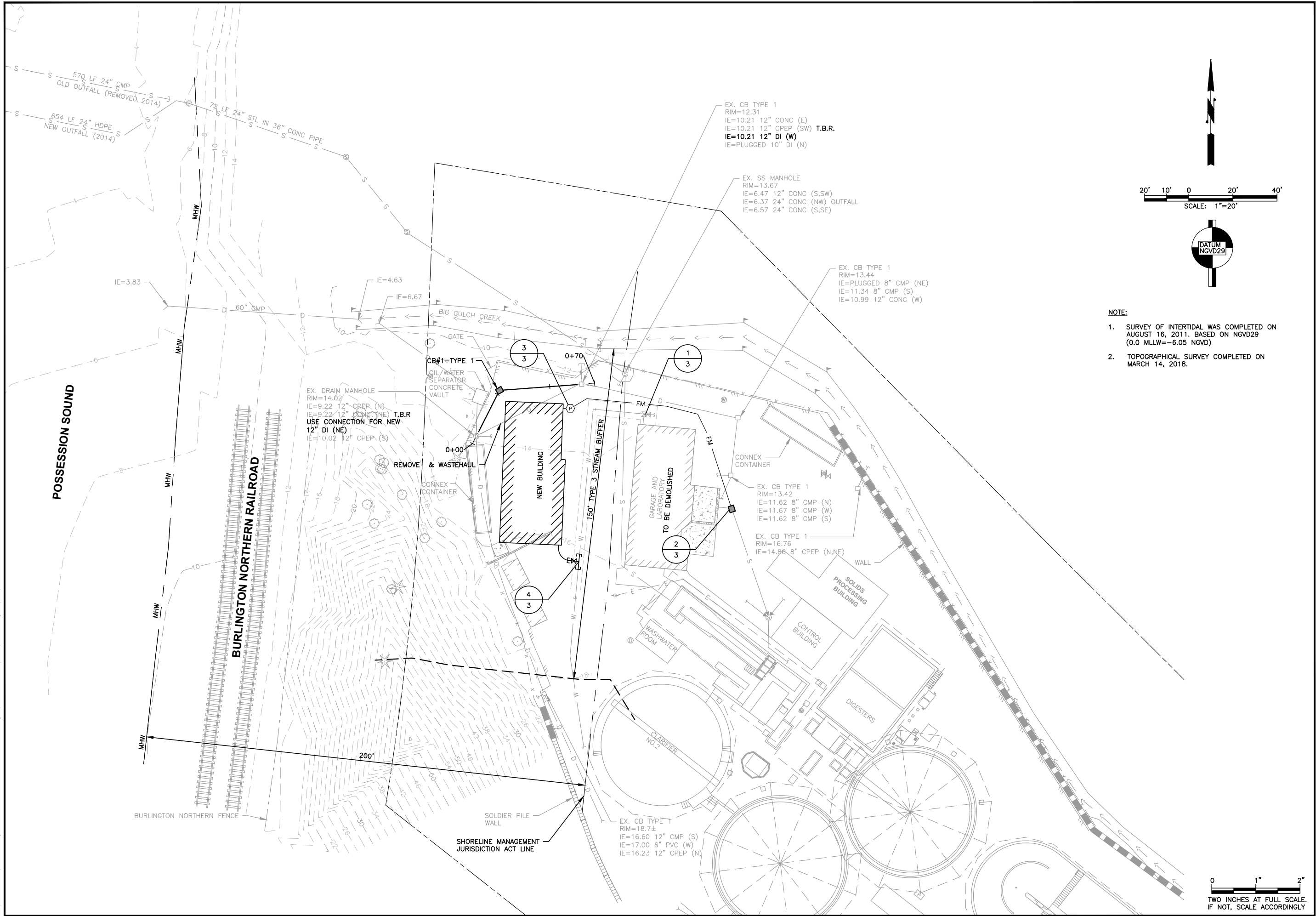
The District looks forward to a positive review of this application.

Sincerely,





Jim Voetberg, General Manager  
Mukilteo Water and Wastewater District

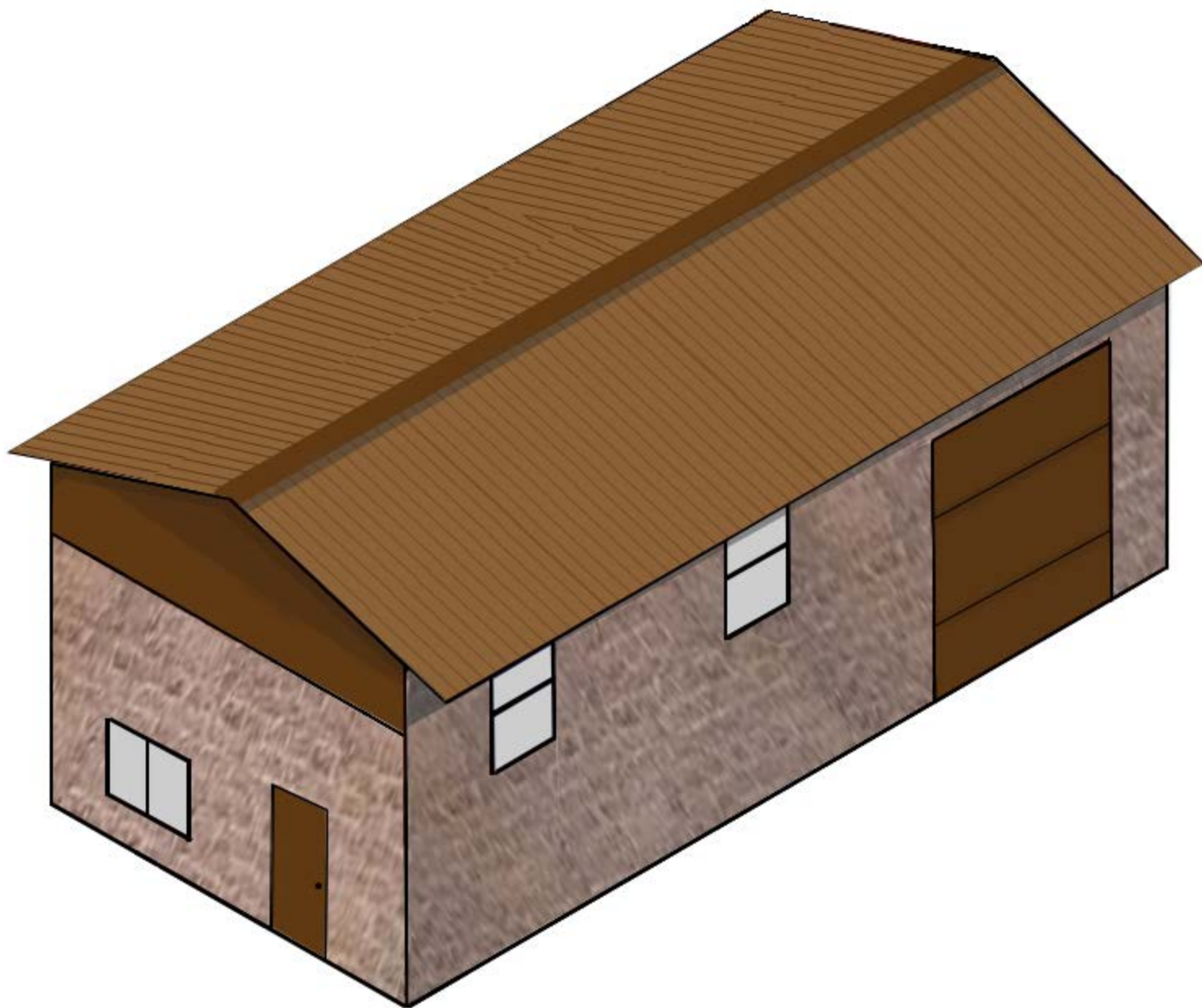
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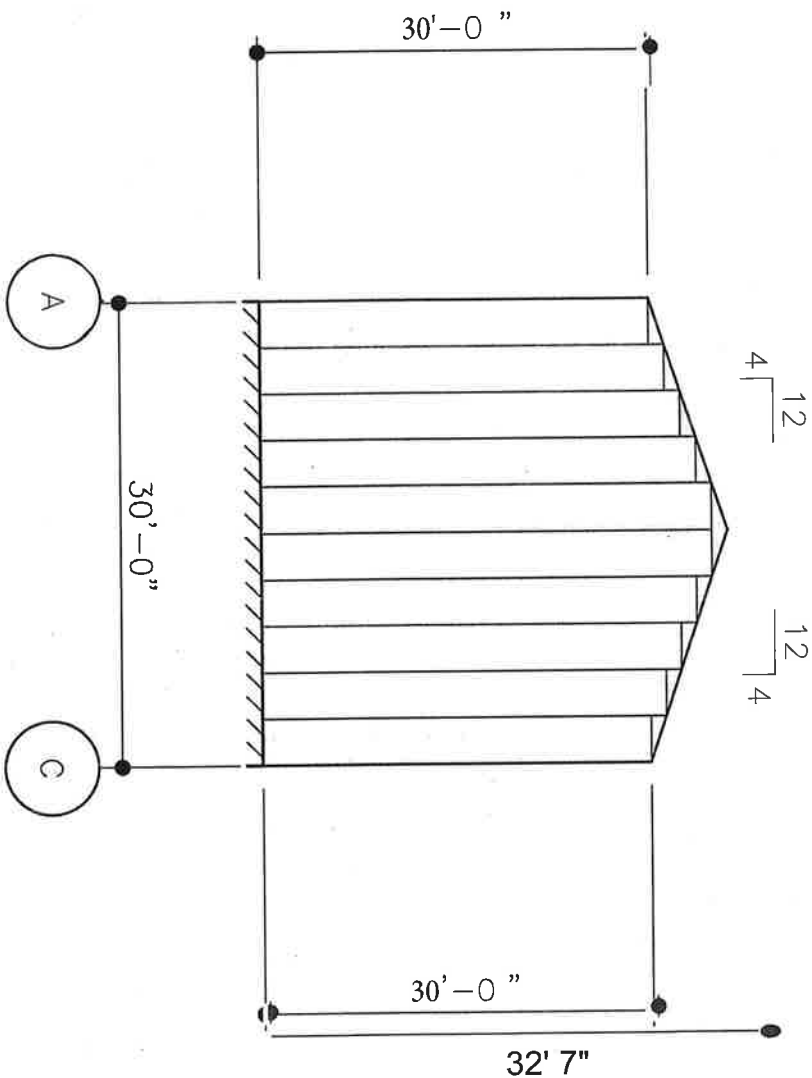
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1. SURVEY OF INTERTIDAL WAS COMPLETED ON AUGUST 16, 2011. BASED ON NGVD29 (0.0 MLLW=-6.05 NGVD)
  2. TOPOGRAPHICAL SURVEY COMPLETED ON MARCH 14, 2018.

 <b>Gray &amp; Osborne, Inc.</b> CONSULTING ENGINEERS 3710 18TH STREET NE, BLDG. B, SUITE 210 ARLINGTON, WA 98223 • (360) 434-5990				
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<b>MUKILTEO WATER &amp; WASTEWATER DISTRICT</b> SNOMISH COUNTY WASHINGTON <b>BIG GULCH WWTF OFFICE AND LABORATORY PREDESIGN</b> PLAN				
SHEET: 1		OF: 3		
JOB NO.: 18445		DWG:PLAN		





WWTF Lab-Admin  
STORA  
Bldg. D



# WALL SHEETING ELEVATION AT LINE 1

PANELS: 26 GA. CLASSIC WALL - TBS

CITY OF MUKILTEO

SEP 05 2018

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SHEET TITLE: 9/5/2018 12:42 PM  
PRELIMINARY SHEETING ELEVATIONS  
SHEET NUMBER: WSC9.05.18  
QUOTE NUMBER: MUKILTEO BIG GULCH WWTF

PROJECT NAME: MUKILTEO BIG GULCH WWTF  
MUKILTEO, WA  
CUSTOMER NAME: GRENLAR CONSTRUCTION  
RENMORE, WA

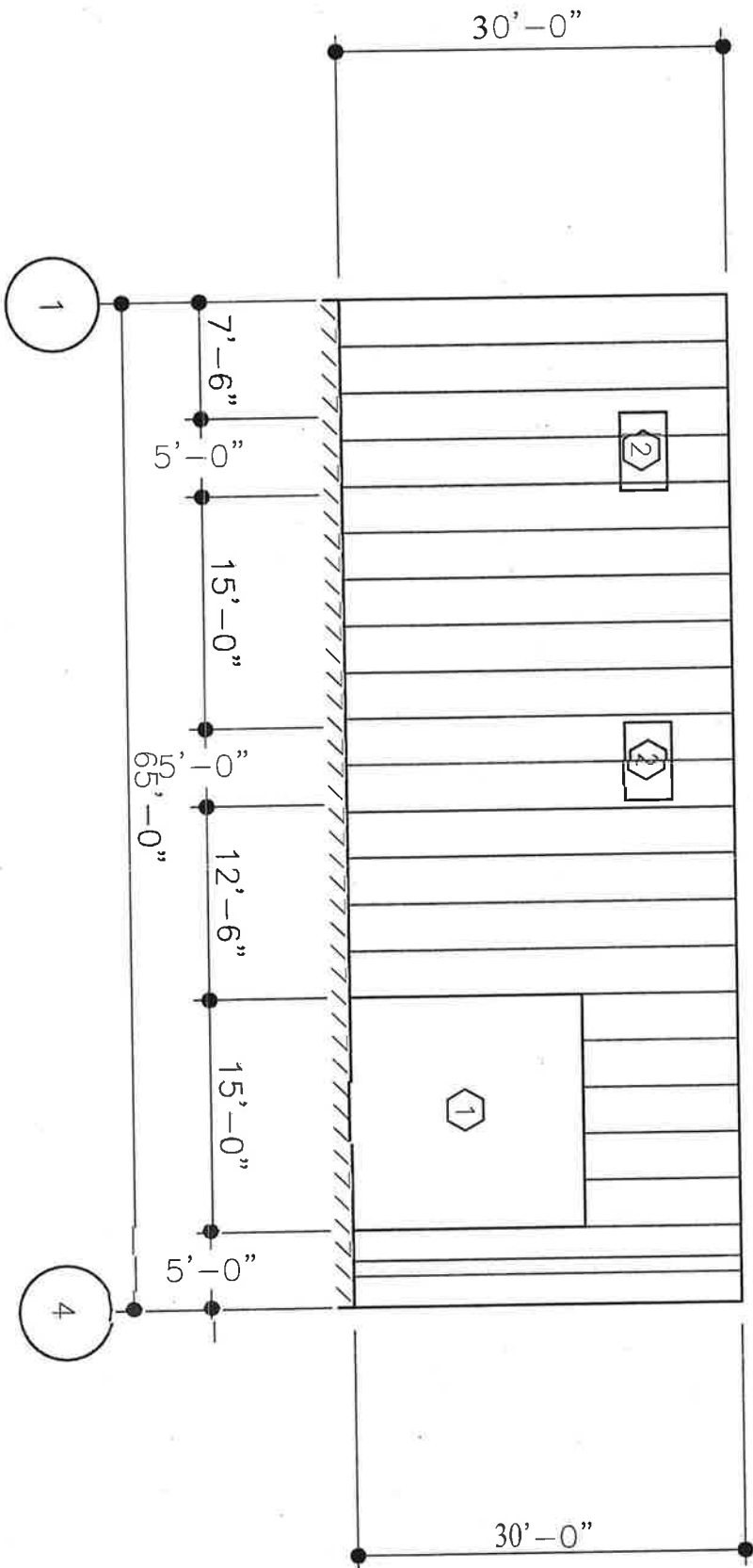


KEY PLAN

WWTF Lab-Admin  
Bldg. B L

FRAMED OPENING SCHEDULE

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2	2	5'-0"	3'-0"	18'-0"	FACTORY



WALL SHEETING ELEVATION AT LINE C

PANELS: 26 GA. CLASSIC WALL - TBS

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PRELIMINARY SHEETING ELEVATIONS

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CUSTOMER NAME: GRENLAR CONSTRUCTION

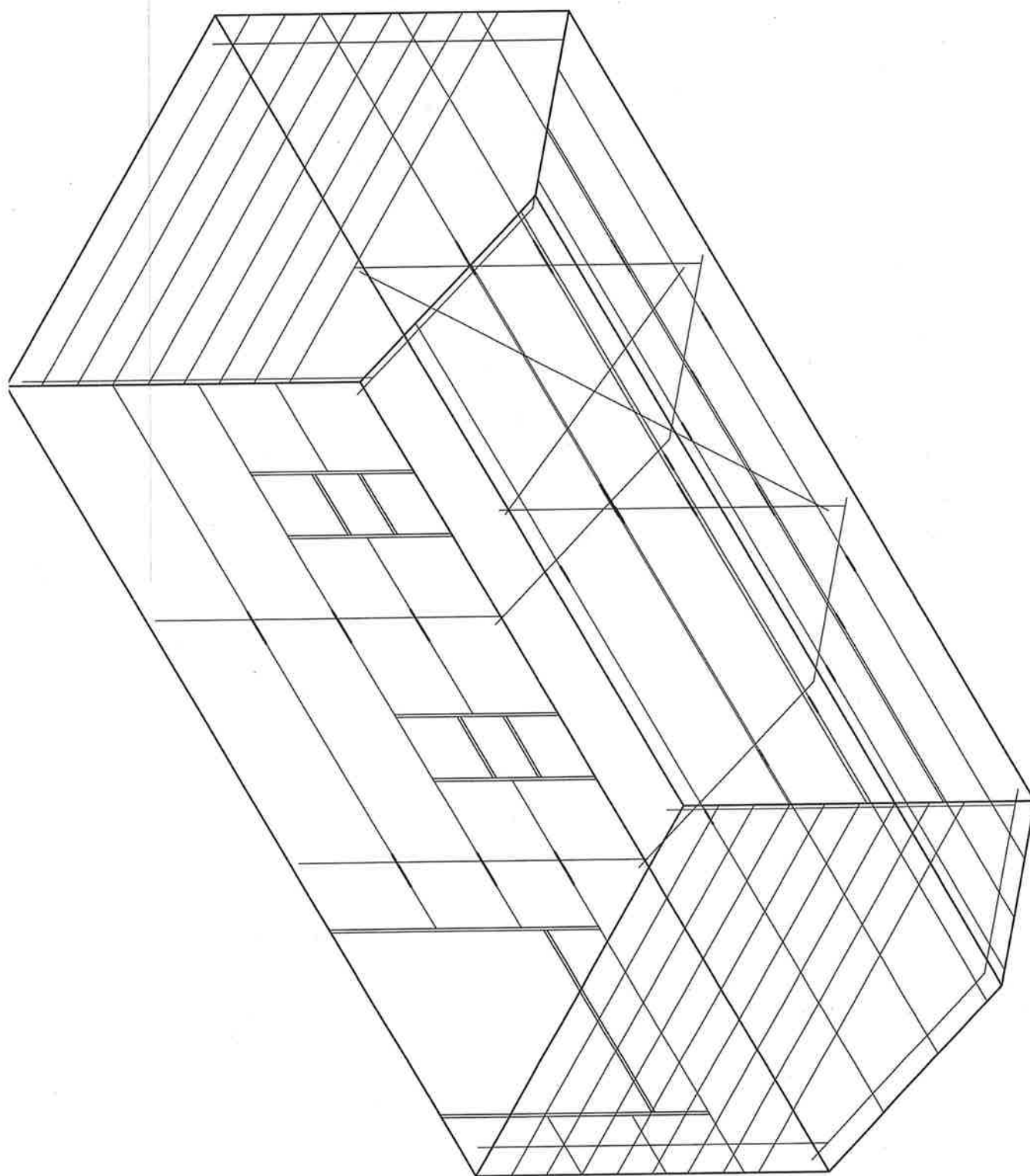
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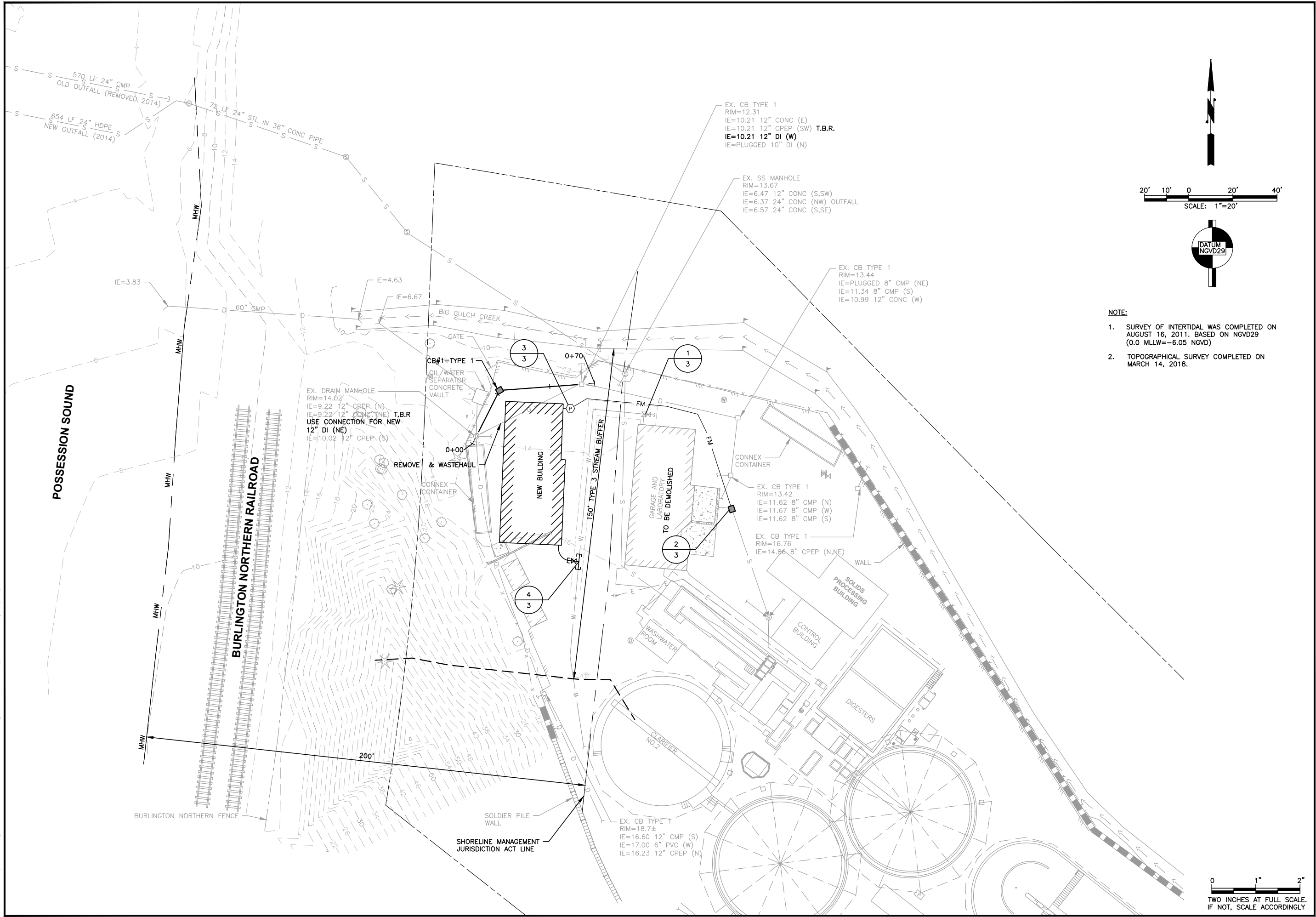
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NOTE:

1. SURVEY OF INTERTIDAL WAS COMPLETED ON AUGUST 16, 2011. BASED ON NGVD29 (0.0 MLLW=-6.05 NGVD)
2. TOPOGRAPHICAL SURVEY COMPLETED ON MARCH 14, 2018.



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SNOMONISH COUNTY WASHINGTON  
BIG GULCH WWTF OFFICE AND LABORATORY PREDESIGN  
PLAN

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OF: 3

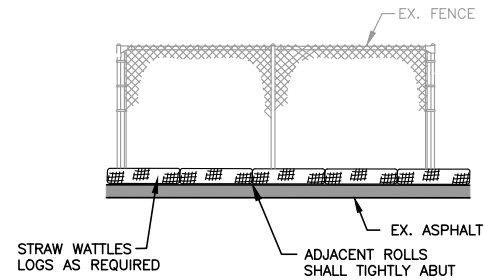
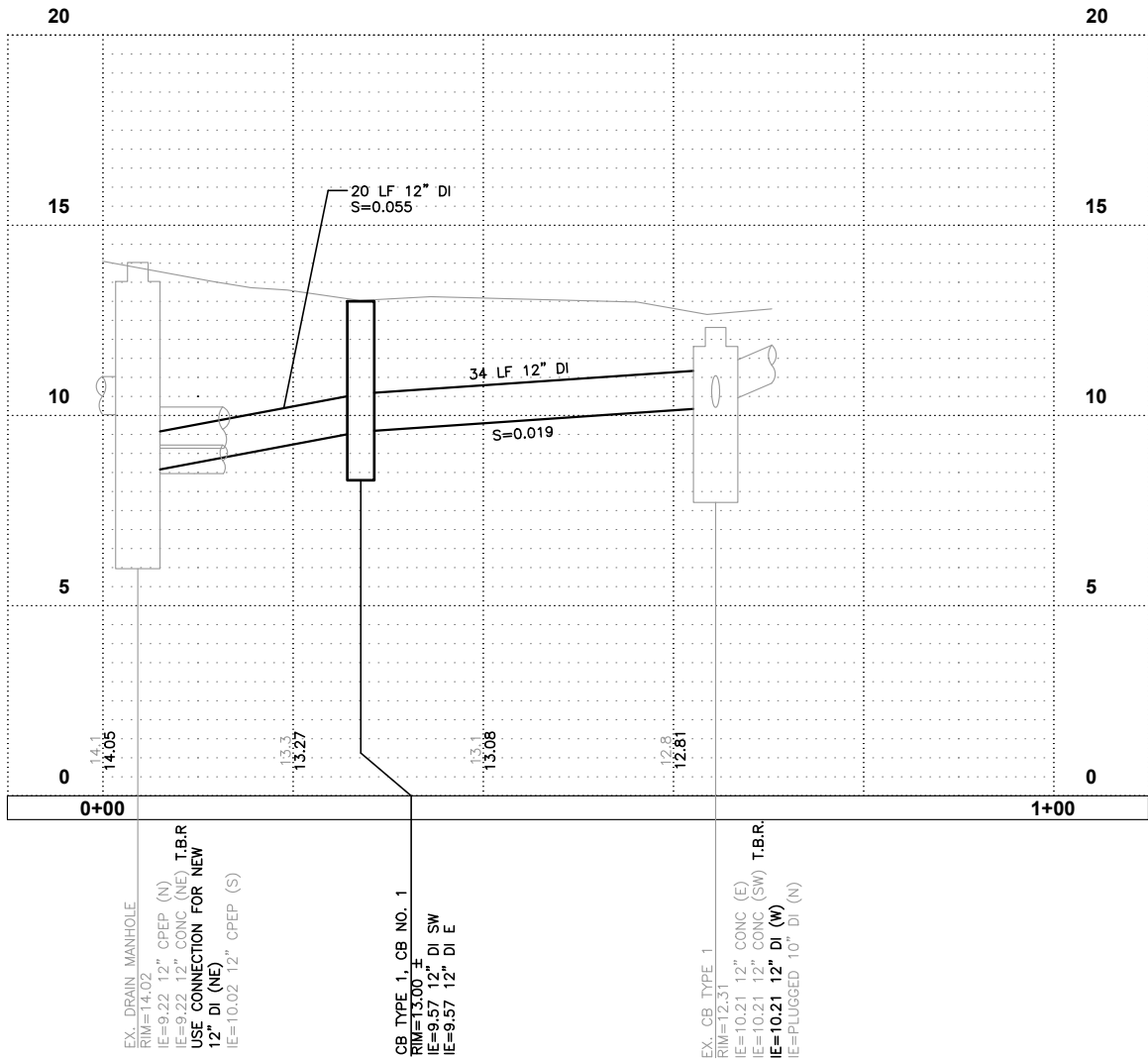
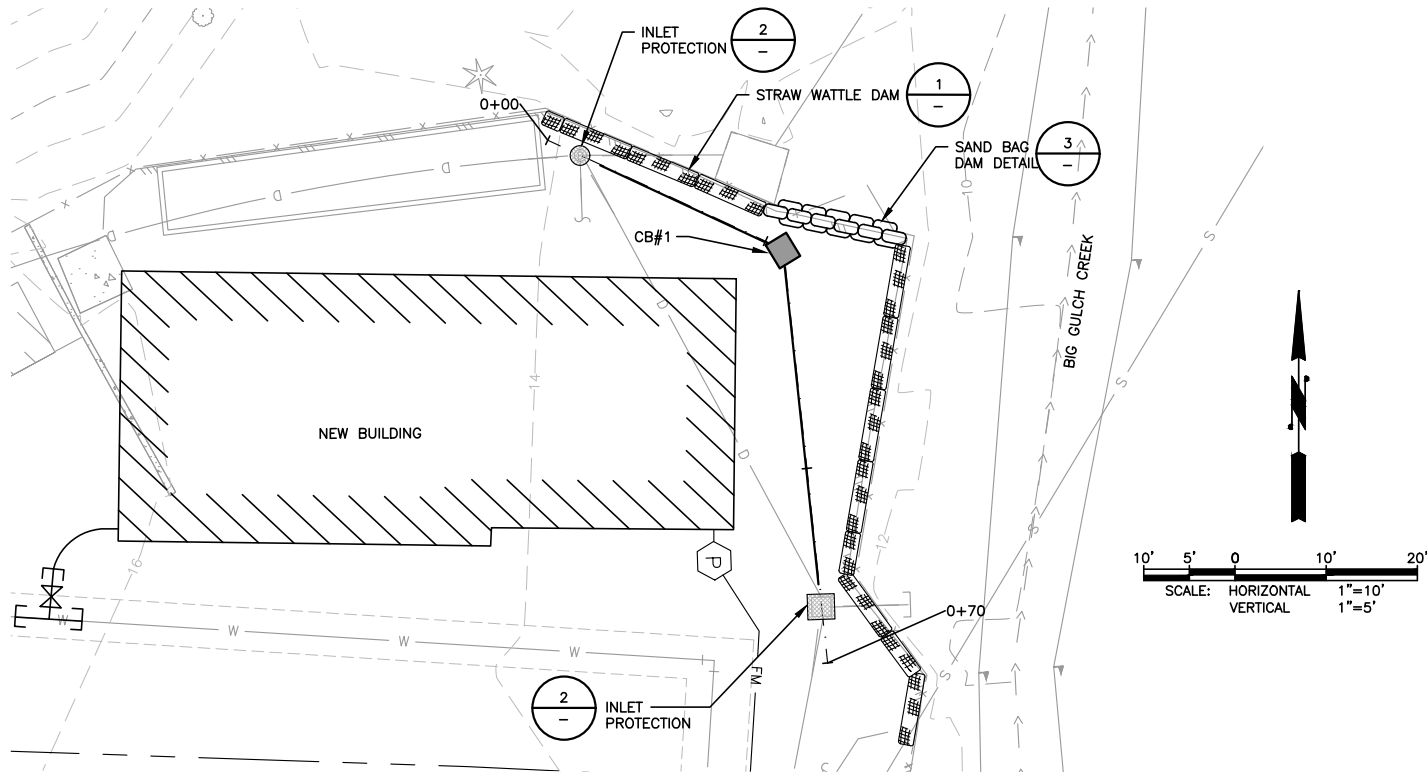
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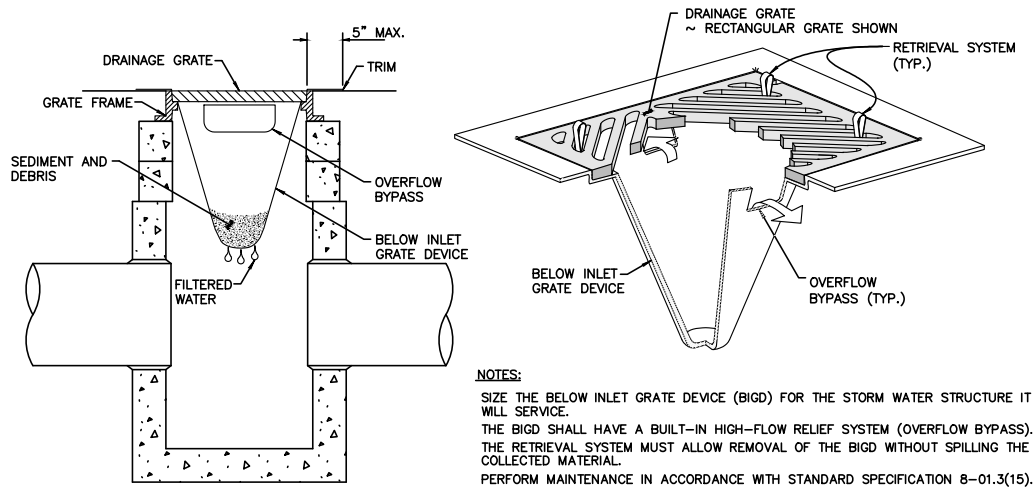
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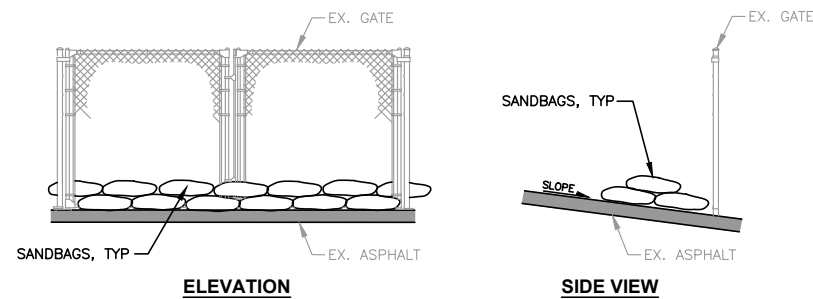
#### STRAW WATTLE NOTES:

1. STRAW WATTLES LOGS TO BE LOCATED AS INDICATED ON THE PLANS OR DIRECTED BY THE ENGINEER.
2. TEMPORARY SILTATION TO BE CONSTRUCTED BY PLACING STRAW WATTLES ON ASPHALT ADJACENT TO FENCE.
3. ALL TEMPORARY EROSION CONTROL STRUCTURES SHALL BE MAINTAINED IN SATISFACTORY CONDITION UNTIL CLEARING AND/OR CONSTRUCTION IS COMPLETED AND SURFACE RESTORATION HAS BEEN COMPLETED.
4. RETURN SILTATION CONTROL AREAS TO ORIGINAL GROUND CONDITIONS.

1 STRAW WATTLE DAM  
NOT TO SCALE



2 CB INLET PROTECTION  
SCALE: NTS



3 SAND BAG DAM DETAIL  
NOT TO SCALE

0 1" 2"  
TWO INCHES AT FULL SCALE.  
IF NOT, SCALE ACCORDINGLY

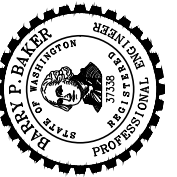


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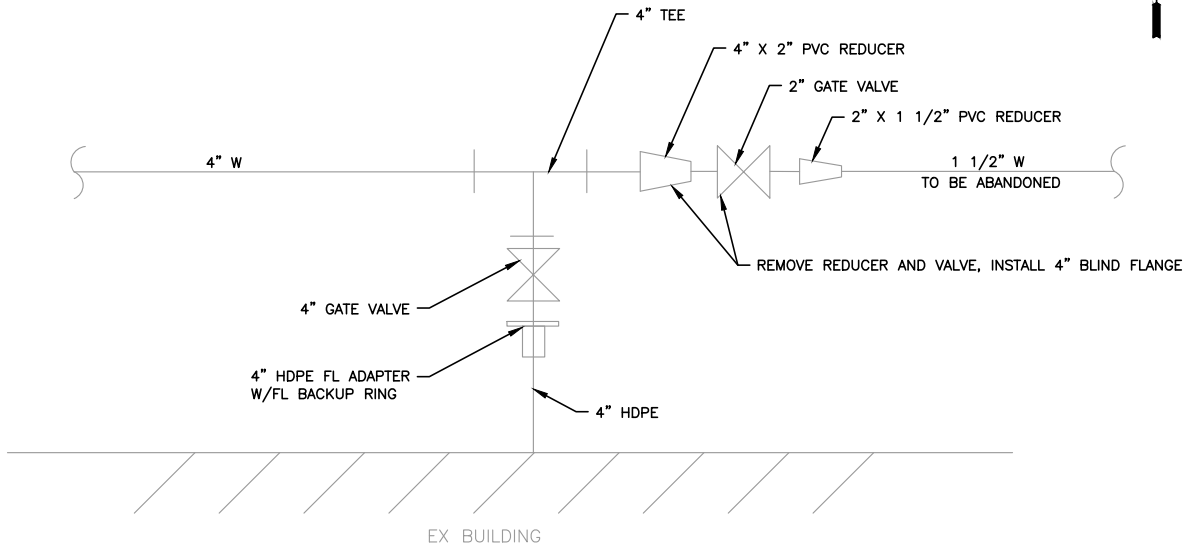
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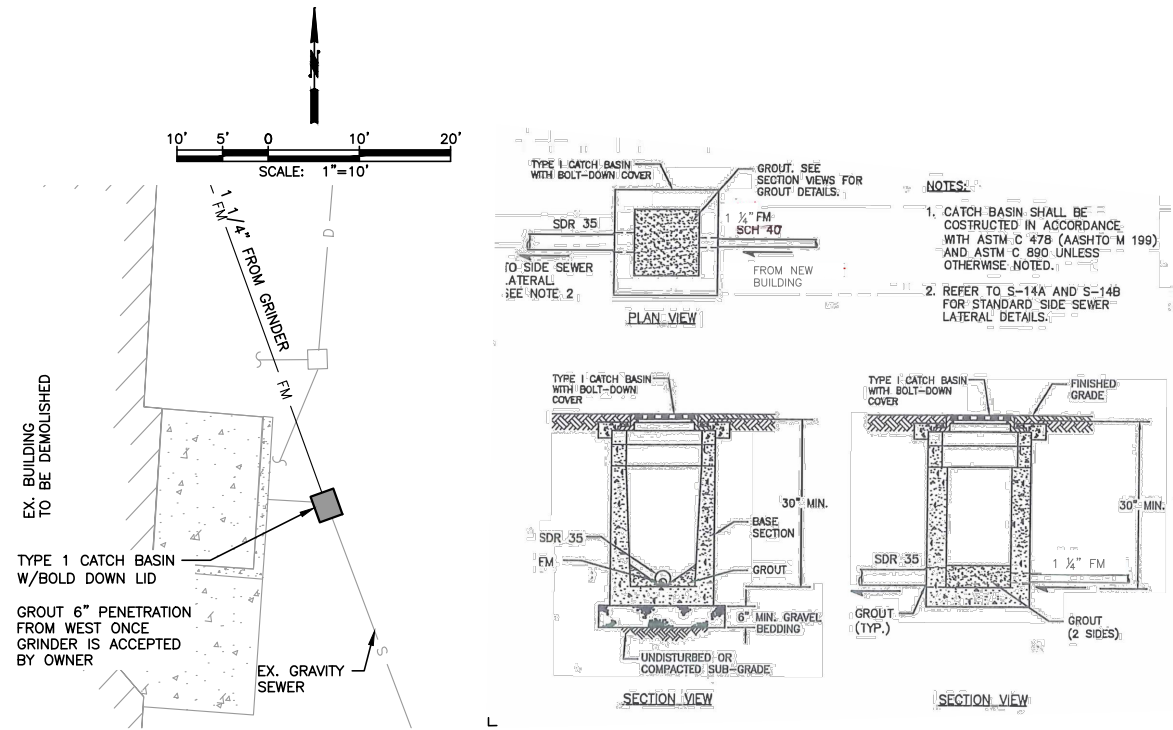
**MUKILTEO WATER & WASTEWATER DISTRICT**  
WASHINGTON COUNTY  
SNOMOMISH COUNTY  
**BIG GULCH WWTF OFFICE AND LABORATORY PREDESIGN**  
TESC & STORMWATER PLAN & PROFILE

SHEET: 2
OF: 3
JOB NO.: 18445
DWG-PLAN

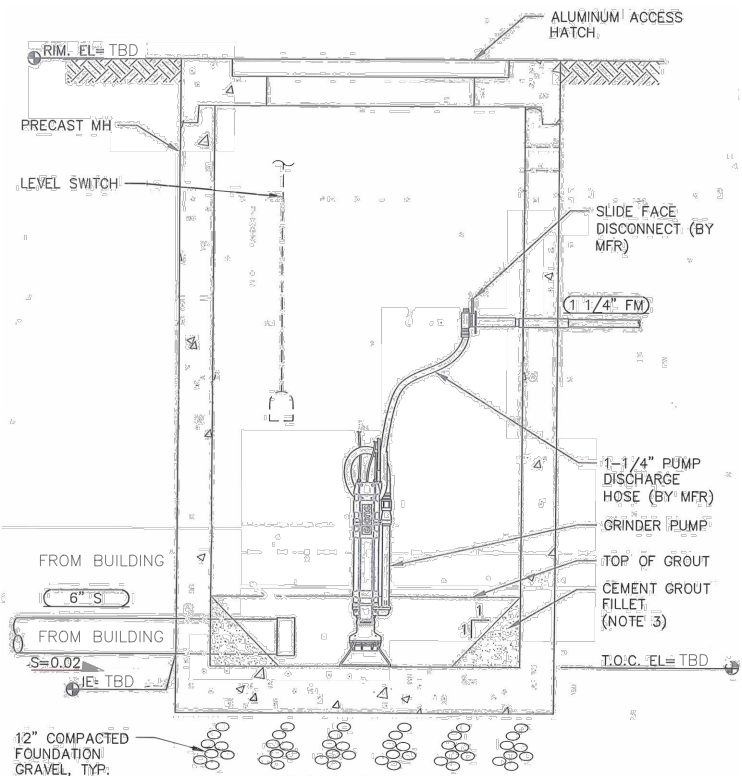




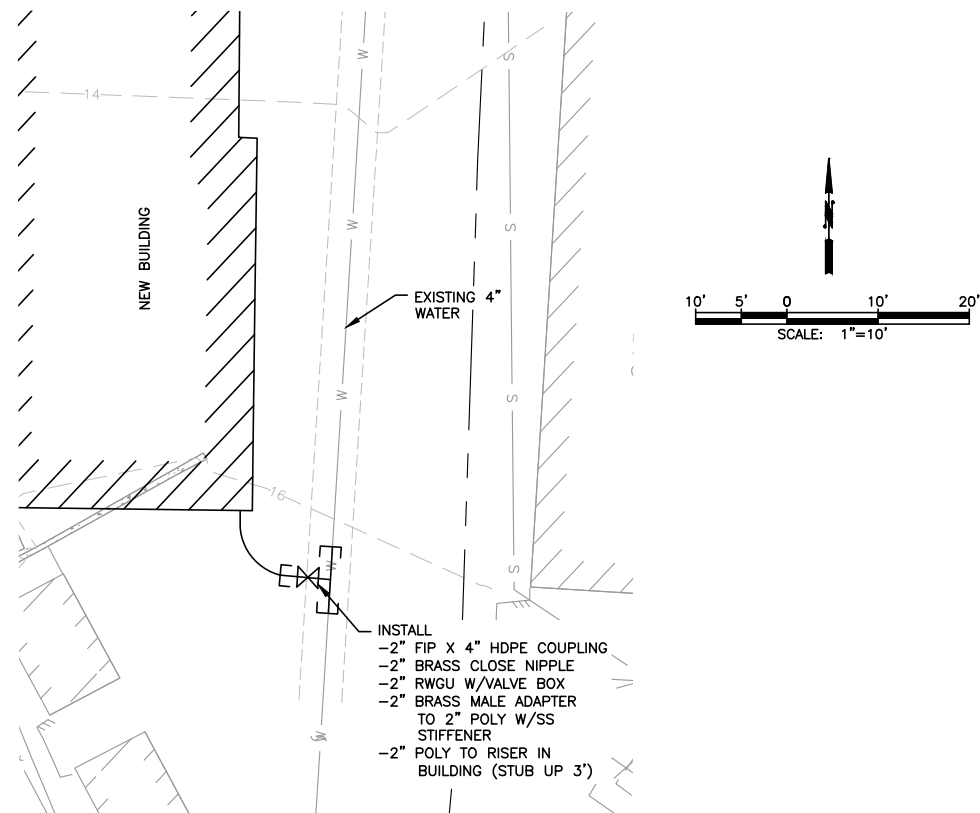
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1  
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NTS



2  
1  
**SEWER CONNECTION DETAIL**  
1"=10'



3  
1  
**GRINDER SECTION**  
NTS

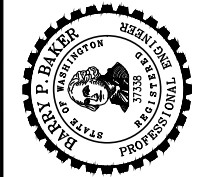


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**WATER CONNECTION DETAIL**  
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0 1" 2"  
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IF NOT, SCALE ACCORDINGLY

DATE: SEPT 2018	SCALE: NOTED	DRAWN: SEM	CHECKED: BPB	APPROVED: BPB
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	REVISION	No.



**MUKILTEO WATER & WASTEWATER DISTRICT**  
SNOMONISH COUNTY WASHINGTON  
**BIG GULCH WWTF OFFICE AND LABORATORY PREDESIGN DETAILS**

SHEET: 3
OF: 3
JOB NO.: 18445
DWG-PLAN

# MUKILTEO WATER & WASTEWATER DISTRICT

SNOHOMISH COUNTY

WASHINGTON



## STORMWATER SITE PLAN BIG GULCH WASTEWATER TREATMENT PLANT OFFICE-LAB BUILDING

9417 62<sup>ND</sup> PLACE WEST  
MUKILTEO, WASHINGTON 98275

**PARCEL ID 28041700401300**

Jim Voetberg, General Manager  
Mukilteo Water & Wastewater District  
7824 Mukilteo Speedway  
Mukilteo, Washington 98275  
[JimV@mukilteowwd.org](mailto:JimV@mukilteowwd.org)  
(425) 355-3355

**G&O #18445  
AUGUST 2018**



**Gray & Osborne, Inc.**

CONSULTING ENGINEERS

1130 Rainier Avenue South, Suite 300  
Seattle, Washington 98144  
(206) 284-0860

# MUKILTEO WATER & WASTEWATER DISTRICT

SNOHOMISH COUNTY

WASHINGTON



## STORMWATER SITE PLAN BIG GULCH WASTEWATER TREATMENT PLANT OFFICE-LAB BUILDING



G&O #18445  
AUGUST 2018



**Gray & Osborne, Inc.**  
CONSULTING ENGINEERS



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## APPENDICES

Appendix A – Preliminary Site Plan  
Appendix B – Snohomish County Parcel Information  
Appendix C – City of Mukilteo Deviation Request

## **PROJECT OVERVIEW**

The Mukilteo Water & Wastewater District proposes to construct a new office and laboratory building at the Big Gulch Wastewater Treatment Plant (WWTP) and remove the existing office and laboratory building. The Big Gulch WWTP is located in the City of Mukilteo at 9417 62<sup>nd</sup> Place West in the Big Gulch Drainage Basin (WRIA 8, Cedar/Sammamish). Big Gulch Creek drains approximately 2.4 square miles (1,550 acres), flows parallel to the northern extent of the WWTP, and discharges to Possession Sound approximately 200 feet downstream of the project location. Improvements to the site include paving the footprint of the existing office and laboratory building.

This Stormwater Site Plan is provided to outline the project stormwater management requirements and compliance with the guidelines in the Department of Ecology's 2014 Stormwater Management Manual for Western Washington (Ecology Manual). With more than 35 percent existing impervious coverage, the project is defined as redevelopment. Because the project will result in more than 2,000 square feet and less than 5,000 square feet of new plus replaced hard surface, Minimum Requirements 1 through 5 apply to the new and replaced hard surfaces and the land disturbed per Figure I-2.4.2 of the Ecology Manual.

Stormwater runoff from the replaced hard surfaces will follow the existing path to Big Gulch Creek to the north. Temporary sediment and erosion control measures shall apply to all portions of this project.

A draft Geotechnical Report was prepared by PanGEO, Inc. on July 5, 2018. The report is on file with the District and the City as part of the SEPA documentation. Data from three test borings revealed seasonal groundwater fluctuations for the site between approximately 2.7 feet and 10.5 feet. Soil conditions encountered include a 35-foot (or thicker) layer of very loose to loose sand and soft silt on top of dense to very dense sand with silt layers.

The District is submitting a Deviation Request as part of the Stormwater Site Plan. The total impervious area of the facility remains the same and no work outside of the existing asphalt and perimeter fence is proposed if the deviation request is granted. If the deviation request is not granted, a flow spreader will be required to be constructed between the existing facility fence and the Big Gulch Creek using BMP T5.10B Downspout Dispersion to meet Minimum Requirement 5. Because of site and topography constraints, the would require construction within five feet and ground disturbance within three feet of the Ordinary High Water of Big Gulch Creek.

## **SITE VISIT AND ANALYSIS**

The existing site is a wastewater treatment facility within a fully impervious fenced area of approximately 2 acres on a 4.75-acre parcel. Adjacent areas are low- and

medium-density single-family residential parcels approximately 500 feet away and parks/open space immediately adjacent to the parcel with the west fork trailhead of the Big Gulch Trail located to the northeast.

Topography of the site is generally flat, sloping toward the north at less than 5 percent. The topography surrounding the site is relatively steep, with slopes ranging from 25 to 70 percent. According to the USDA National Resources Conservation Service maps, the soils in the area are Alderwood-Everett gravelly sandy loams. Because these soils have low infiltration rates, runoff may enter the site from the steep slopes to the south. The site is contained within one threshold discharge area. Runoff from the site and adjacent areas is tributary to Big Gulch Creek which crosses the Burlington Northern Santa Fe Railway into Possession Sound.

The proposed building is within the 200-foot Shoreline Management Act jurisdiction and also within the Type 3 stream 150-foot buffer for Big Gulch Creek.

A site visit was completed on May 23, 2018. The weather was cool and clear with no precipitation. No runoff was present on the paved site or within the stormwater collection system. Stream flows in Big Gulch Creek were moderate and well below the ordinary high-water mark.

## PRELIMINARY DEVELOPMENT LAYOUT

The preliminary site plan, included in Appendix A, shows the proposed site layout including the existing building to be removed and replaced with pavement as well as the new building which will replace the existing pavement. Table 1 lists the land use areas for the project site under both existing and proposed conditions.

**TABLE 1**

### **Land Use Areas**

	Existing Conditions		Proposed Conditions	
	Pervious Area (ac)	Hard Area (ac)	Pervious Area (ac)	Hard Area (ac)
Project Site	0	2.026	0	2.026

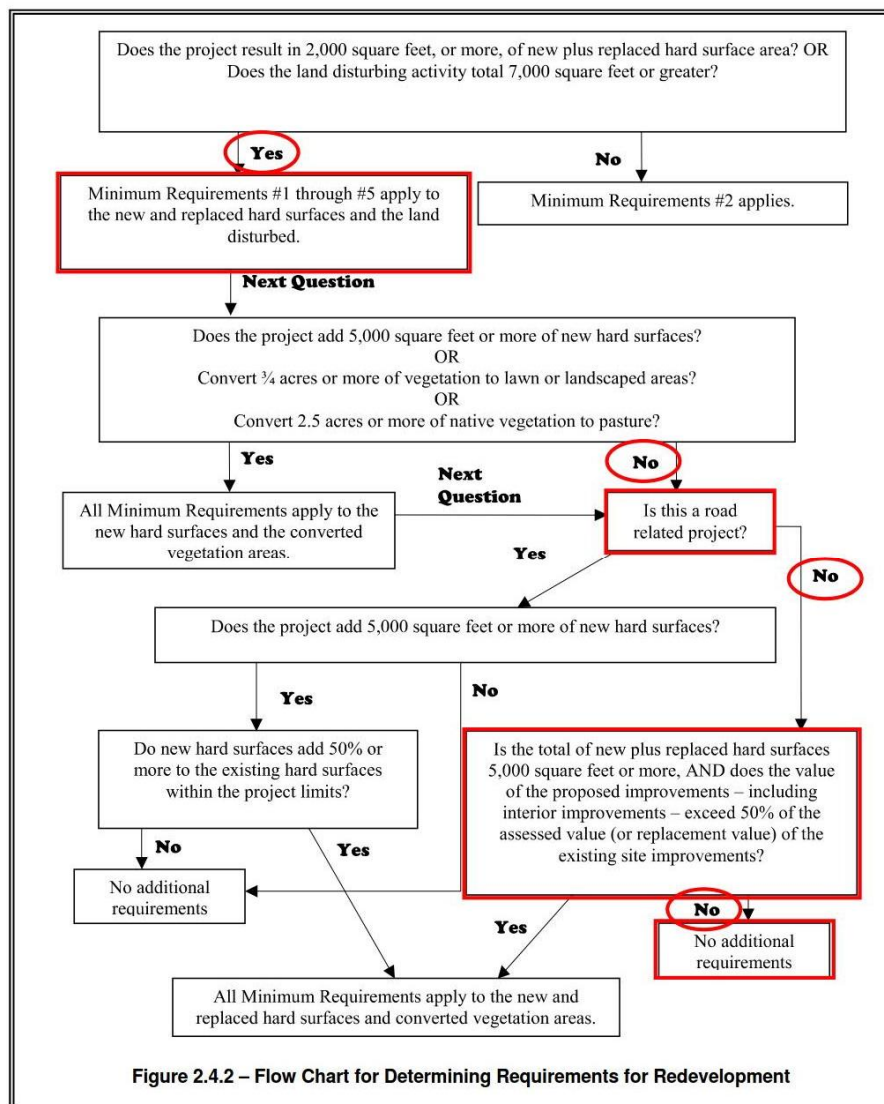
Table 2 lists the new impervious area associated with the TDA under developed conditions. Figure I-2.4.2 from the Ecology Manual shows the flow chart for determining requirements for redevelopment. The new areas for the project fall below threshold requirements in Table 2; and therefore, water quality and flow control are not required.



**TABLE 2****New Impervious Areas**

	<b>New PGHS<sup>(1)</sup> Area (Pavement) (sf)</b>	<b>Existing PGHS Area to be Replaced or Upgraded (sf)</b>	<b>Water Quality Threshold (Based on New PGHS) (sf)</b>	<b>New Non-PGHS (sf)</b>	<b>Total New Hard Surface (sf)</b>	<b>Flow Control Requirement Trigger (New Hard Surface Area) (sf)</b>
TDA 1	1,940	1,770	5,000	0	0	5,000

(1) PGHS = Pollutant Generating Hard Surface



## **OFF-SITE ANALYSIS**

The project will not result in a significant increase in pollutant generating hard surface area, or in flow rates and volumes leaving the site. Steep slopes (>33 percent) exist just south of the site. Downstream of the site, to the northwest, slopes are mild leading to Big Gulch Creek and Possession Sound. A culvert conveys Big Gulch Creek across the Burlington Northern Santa Fe Railway. There is currently no evidence of any issues with this culvert crossing. Changes in the site layout proposed in this project will have minimal impact on water quality, erosion potential, slopes stability, or drainage downstream of the site.

## **APPLICABILITY OF MINIMUM REQUIREMENTS**

Section 2.4.2 of the Ecology Manual states that for redevelopment projects with 2,000 square feet, or more, of new plus replaced hard surface area, but less than 5,000 square feet of new hard surfaces, the new and replaced hard surfaces and the land disturbed must comply with Minimum Requirements 1 through 5. The new and replaced hard surface area proposed for the project totals approximately 3,710 square feet. Therefore, Minimum Requirements 1 through 5 apply to all new and replaced hard surfaces and land disturbed.

### **MINIMUM REQUIREMENT 1: PREPARATION OF STORMWATER SITE PLANS**

This Stormwater Site Plan describes the proposed stormwater improvements on the project site in compliance with Minimum Requirement 1.

### **MINIMUM REQUIREMENT 2: CONSTRUCTION STORMWATER POLLUTION PREVENTION**

A final Stormwater Pollution Prevention Plan (SWPPP) will be prepared by the contractor once the project is awarded. BMPs as described in Volume II of the Manual will be employed during constructing to prevent the transport of sediment, polluted runoff, or increased runoff volumes to downstream waterways.

### **MINIMUM REQUIREMENT 3: SOURCE CONTROL OF POLLUTION**

All applicable BMPs will be implemented for the project and during construction to prevent stormwater from coming into contact with pollutants.

#### **MINIMUM REQUIREMENT 4: PRESERVATION OF NATURAL DRAINAGE SYSTEMS AND OUTFALLS**

The project does not alter any existing drainage systems or outfalls. Drainage will continue to flow north to an outfall to Big Gulch Creek then west through a culvert underneath the Burlington Northern Santa Fe Railway and into Possession Sound.

#### **MINIMUM REQUIREMENT 5: ON-SITE STORMWATER MANAGEMENT**

The project triggers only Minimum Requirements 1 through 5, and therefore must either (a) use on-site Stormwater Management BMPs from List 1, (b) demonstrate compliance with the LID Performance Standard or seek a deviation request through the City administrative process. List 1 was selected and is listed with site specific feasibility in Table 3.

**TABLE 3**

**List 1 Feasibility**

<b>List 1 Elements</b>		<b>Feasibility</b>
<b>Roofs</b>		
BMP T5.30	Full Dispersion	Not feasible because this project cannot protect 65 percent of the site in a forested or native condition
BMP T5.10A	Downspout Full Infiltration	Not feasible due to high seasonal groundwater within 3 feet of final grade.
BMP T5.14A	Rain Gardens	Not feasible because the minimum vertical separation of 1-foot to the seasonal high water table cannot be achieved.
BMP T7.30	Bioretention	Not feasible because the minimum vertical separation of 1-foot to the seasonal high water table cannot be achieved.
<b>BMP T5.10B</b>	<b>Downspout Dispersion</b>	The required trench length for the 1,960 sf roof is 28 feet with a 5-foot buffer to the property line. This can be achieved in the vegetated area downstream of the site, therefore downspout dispersion could be used for runoff from the new roof. This location is within the Shoreline jurisdiction and the stream buffer.
BMP T5.10C	Perforated Stub-out	Not feasible because seasonal high water table is less than 1-foot below trench bottom.

**TABLE 3 (continued)****List 1 Feasibility**

<b>List 1 Elements</b>		<b>Feasibility</b>
<b>Other Hard Surfaces</b>		
BMP T5.30	Full Dispersion	Not feasible because this project cannot protect 65 percent of the site in a forested or native condition
BMP T5.15	Permeable Pavement	Not feasible due to high seasonal groundwater within 3 feet of final grade.
BMP T 5.14	Rain Gardens	Not feasible because the minimum vertical separation of 1-foot to the seasonal high water table cannot be achieved.
BMP T7.30	Bioretention	Not feasible because the minimum vertical separation of 1-foot to the seasonal high water table cannot be achieved.
BMP T5.12	Sheet Flow Dispersion	The existing parcel does not have adequate space for the required vegetated buffer area of approximately 65-feet long by 20-feet wide.
BMP T5.11	Concentrated Flow Dispersion	The existing parcel does not have adequate vegetation area downstream for the required 50-foot length.

The District is submitting a Deviation Request as part of the Stormwater Site Plan. The total impervious area of the facility remains the same and no work outside of the existing asphalt and perimeter fence is proposed if the deviation request is granted. If the deviation request is not granted, a flow spreader will be required to be constructed between the existing facility fence and the Big Gulch Creek using BMP T5.10B Downspout Dispersion to meet Minimum Requirement 5. Because of site and topography constraints, the would require construction within five feet and ground disturbance within three feet of the Ordinary High Water of Big Gulch Creek.

**MINIMUM REQUIREMENT 6: WATER QUALITY SYSTEM**

Flows from the new impervious areas will be routed to an existing oil/water separator vault located immediately upstream of the existing discharge to Big Gulch Creek. As described earlier, no additional water quality will be provided for this project since the new pollutant generating hard surface area is less than the threshold designated in the Ecology Manual.

**MINIMUM REQUIREMENT 7: FLOW CONTROL SYSTEM**

As described earlier, detention will not be provided for this project since the new hard surface area is less than the threshold designated in the Ecology Manual.



## **MINIMUM REQUIREMENT 8: WETLANDS PROTECTION**

The project does not impact any wetlands.

## **MINIMUM REQUIREMENT 9: OPERATION AND MAINTENANCE**

This project does not trigger Minimum Requirement 9. WWTP staff will operate, monitor, and maintain stormwater facilities as part of the WWTP operation.

## **SPECIAL REPORTS AND STUDIES**

The Mukilteo Watershed-Based Stormwater Strategies Plan was prepared in 2013 and identifies strategies to protect and/or restore key watershed processes as well as opportunities to advance off-site stream and wetland mitigation efforts. No strategies identified impact this project area. A draft geotechnical report was prepared by PanGEO on July 5, 2018. The report identified high seasonal groundwater for the site and provided recommendations for the new structures foundation.

## **OTHER PERMITS**

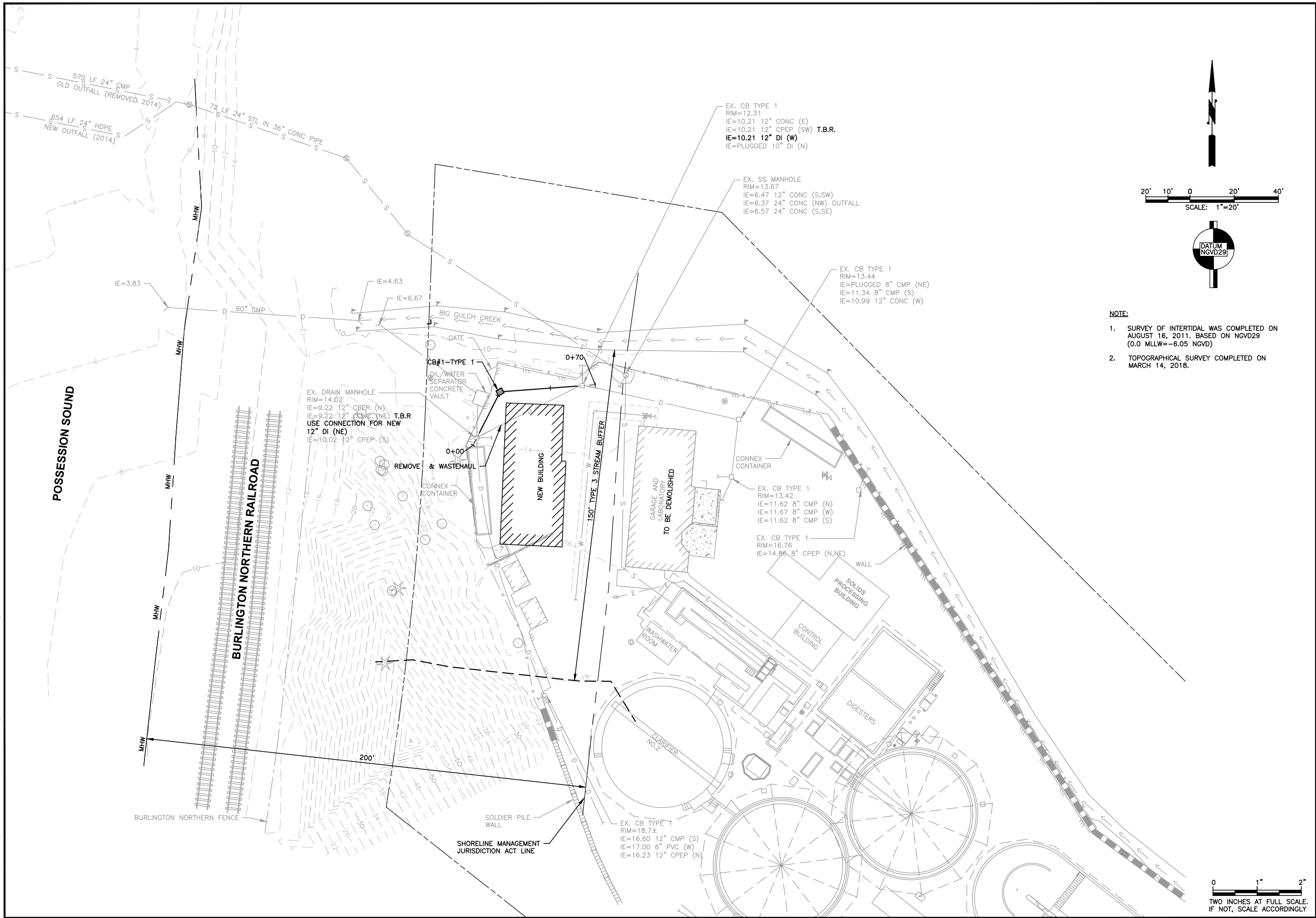
The following permits have or will be submitted for this project:



- SEPA
- Building Permit
- Conditional Use Permit
- Engineering Permit
- Land Use Permit
- Shoreline Permit

**APPENDIX A**

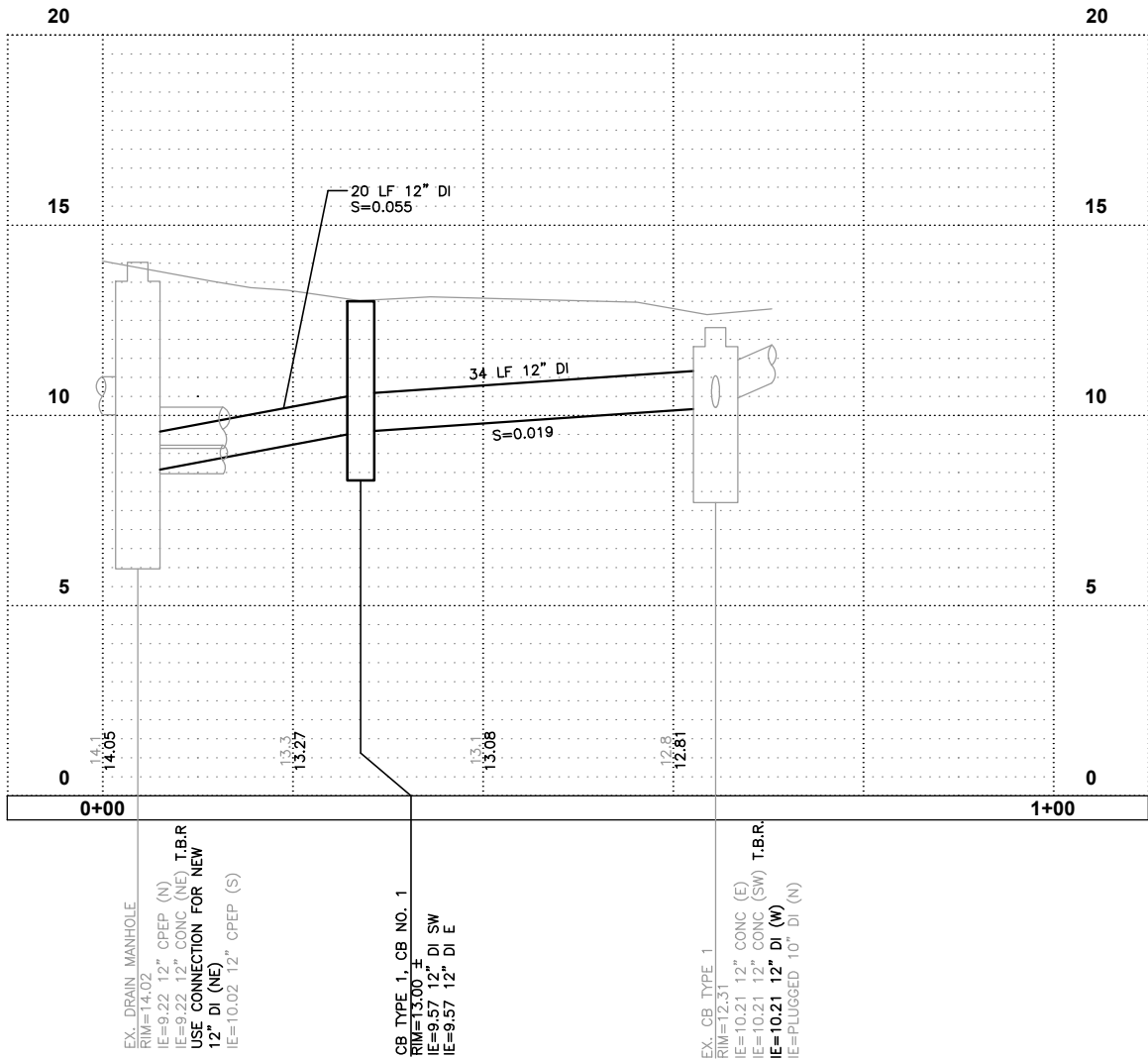
**PRELIMINARY SITE PLAN**

M:\MUKILTEO\18445 Big Gulch WWTP Office-Lab PreDesign\02 PLANSET\Civil\PLAN.dwg, 8/27/2018 12:08 PM, STEPHEN MOORE



 <b>Gray &amp; Osborne, Inc.</b> CONSULTING ENGINEERS 3710 18TH STREET NE, BLDG. B, SUITE 210 ARLINGTON, WA 98223 • (360) 434-5990				
DATE: MAR 2018	SCALE: NOTED	SEM	BPB	BPB
DRAWN: SEM	CHECKED: BPB	APPROVED: BPB		
PRELIMINARY NOT FOR CONSTRUCTION		REVISION	DATE	APPD
		No.		
				
<b>MUKILTEO WATER &amp; WASTEWATER DISTRICT</b> WASHINGTON SNOHOMISH COUNTY <b>BIG GULCH WWTF OFFICE AND LABORATORY PREDESIGN</b> PLAN				
SHEET: 1				
OF: 2				
JOB NO.: 18445				
DWG-PLAN				

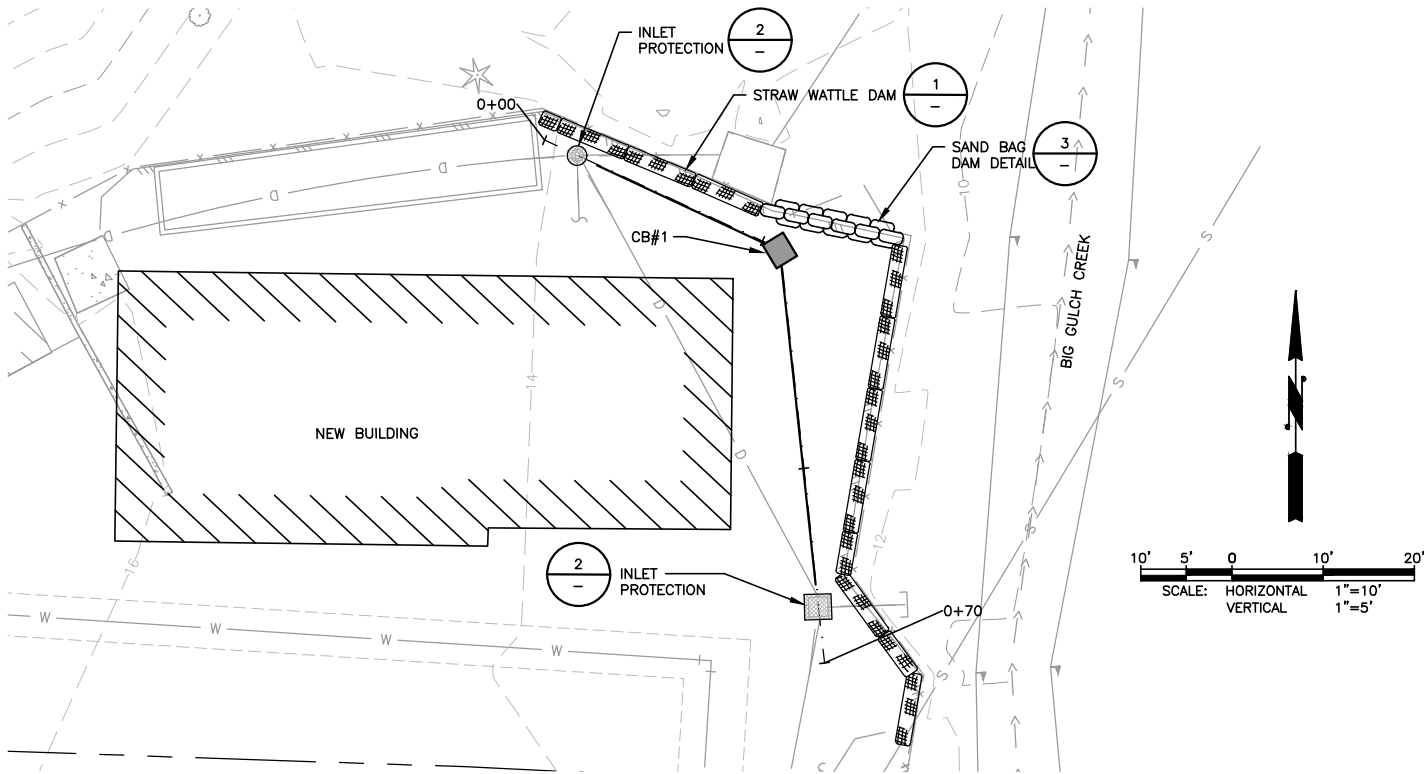
M:\MUKILTEO\18445 Big Gulch WWTP Office-Lab PreDesign\02 PLANSET\Civil\PLAN.dwg, 8/27/2018 12:08 PM, STEPHEN MOORE



EX. DRAIN MANHOLE  
RIM=14.02  
IE=9.22 12" CPEP (N)  
IE=9.22 12" CONC (NE) T.B.R.  
USE CONNECTION FOR NEW  
12" DI (NE)  
IE=10.02 12" CPEP (S)

CB TYPE 1, CB NO. 1  
RIM=13.00 ±  
IE=9.57 12" DI SW  
IE=9.57 12" DI E

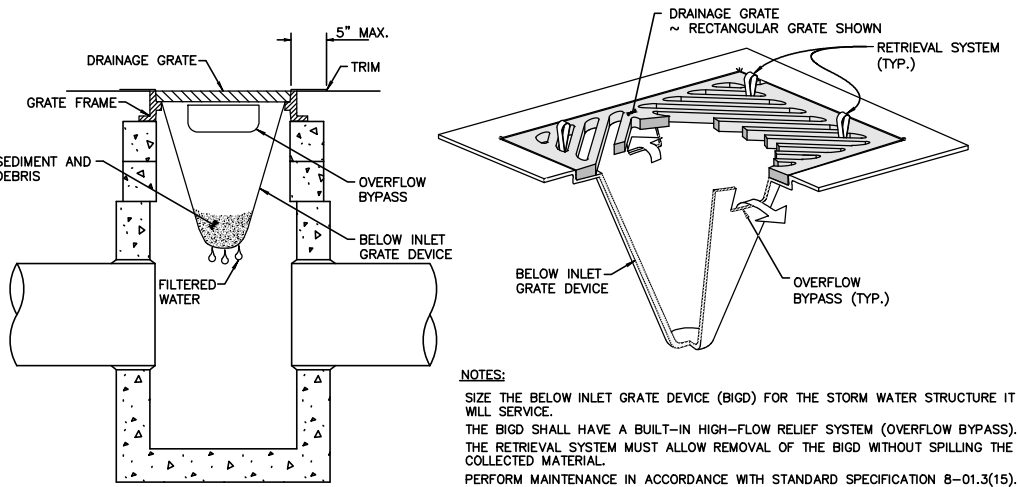
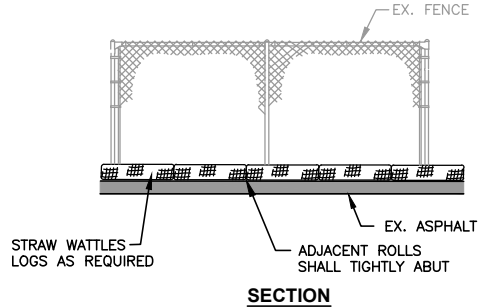
EX. CB TYPE 1  
RIM=12.31  
IE=10.21 12" CONC (E)  
IE=10.21 12" CONC (SW) T.B.R.  
IE=10.21 12" DI (W)  
IE=PLUGGED 10" DI (N)



1  
—  
STRAW WATTLE DAM  
NOT TO SCALE

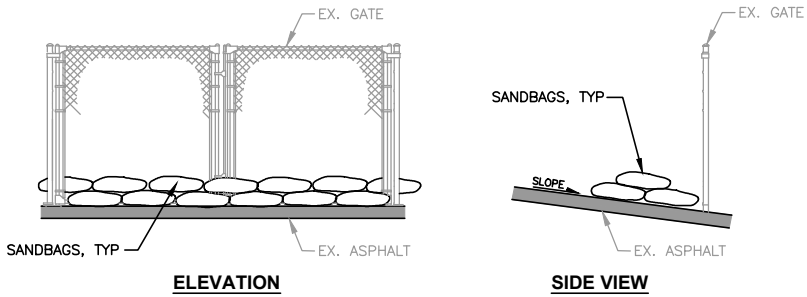
STRAW WATTLE NOTES:

1. STRAW WATTLES LOGS TO BE LOCATED AS INDICATED ON THE PLANS OR DIRECTED BY THE ENGINEER.
2. TEMPORARY SILTATION TO BE CONSTRUCTED BY PLACING STRAW WATTLES ON ASPHALT ADJACENT TO FENCE.
3. ALL TEMPORARY EROSION CONTROL STRUCTURES SHALL BE MAINTAINED IN SATISFACTORY CONDITION UNTIL CLEARING AND/OR CONSTRUCTION IS COMPLETED AND SURFACE RESTORATION HAS BEEN COMPLETED.
4. RETURN SILTATION CONTROL AREAS TO ORIGINAL GROUND CONDITIONS.



NOTES:  
SIZE THE BELOW INLET GRATE DEVICE (BIGD) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.  
THE BIGD SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).  
THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BIGD WITHOUT SPILLING THE COLLECTED MATERIAL.  
PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION 8-01.3(15).

2  
—  
CB INLET PROTECTION  
SCALE: NTS



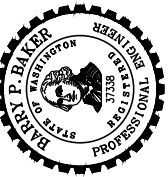
3  
—  
SAND BAG DAM DETAIL  
NOT TO SCALE

0 1" 2"  
TWO INCHES AT FULL SCALE.  
IF NOT, SCALE ACCORDINGLY

DATE: MAR 2018	SCALE: NOTED	SEM	BPB	BPB
DRAWN: SEM	CHECKED: BPB	APPROVED: BPB		

No.	REVISION	DATE	APPD

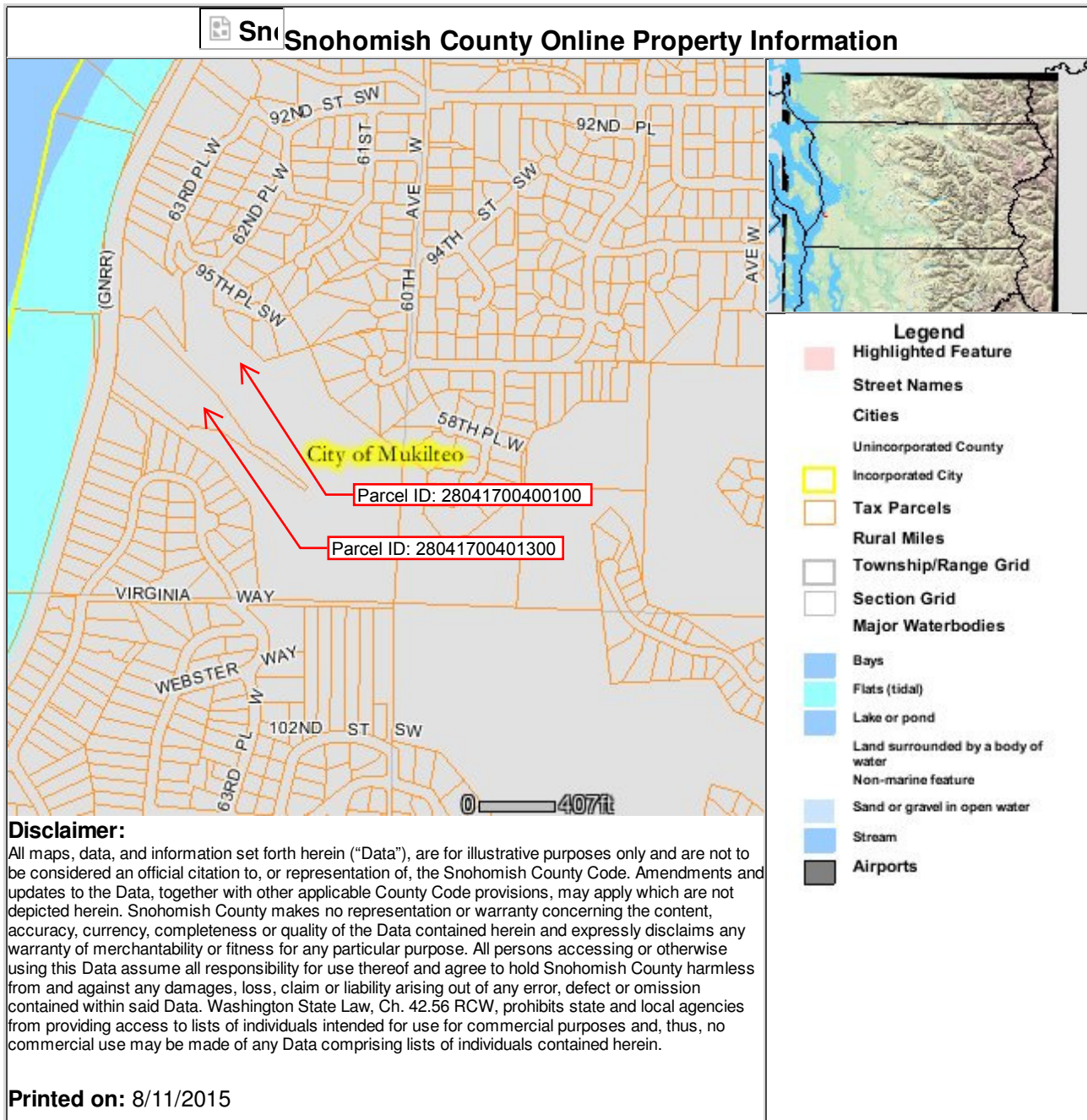
PRELIMINARY  
NOT FOR  
CONSTRUCTION





## **APPENDIX B**

### **SNOHOMISH COUNTY PARCEL INFORMATION**



[Property Search](#) > [Search Results](#) > Property Summary

## Property Account Summary

8/10/2018

Parcel Number	28041700401300	Property Address	9417 62ND PL SW , MUKILTEO, WA 98275
---------------	----------------	------------------	--------------------------------------

## General Information

Property Description	SEC 17 TWP 28 RGE 04A PTN GOVT LOTS 2 & 3 DAF - COM MOST SLY COR LOT 35 ASSESSOR'S PLAT OF OLYMPUS TERRACE TH S55*34 35W (PLAT BEARING S54*26 30W) ALG PROJ SE LN SD LOT 35 26.27FT TO INT THE C/L PROJ OF ARD AS SHOWN ON SD PLAT TH S03*23 11E 391.58FT TO S LN SD GOVT LOT 2 TH N34*46 31W 184.33FT TH S38*12 58W 350FT TO TPB TH N38*12 58E 350FT TH N34*46 31W 89.17FT TH S44*15 57W 96FT TH N80*26 03W 131.58FT TO ELY MGN BNRR R/W TH SLY ALG ELY MGN SD R/W TO AN INT WITH A LN TH BEARS N51*47 02W FR SD TPB TH S51*47 02E TO TPB TGW FDT -COM MOST SLY COR LOT 35 ASSESSOR'S PLAT OF OLYMPUS TERRACE TH S55*34 35W (PLAT BEARING S54*26 30W) ALG PROJ OF SE LN SDLOT 35 26.27FT TO INT C/L PROJ OF A RDSHOWN ON SD PLAT TH S03*23 11E 391.58FT TO S LN SD GOVT LOT 2 TH N34*46 31W 184.33FT TO TPB TH S38*12 58W 350FT TH S51*47 02E 440FT TH S79*41 08E 154.05FT TH S55*04 08E 545.88FT TH N51*54 26E 22.06FT TH N46*34 40W 137.17FT TH N52*02 18W 140.68FT TH N60*30 20W 96.61FT TH N35*10 55W 327.22FT TH N45*03 40W 333FT TH N43*29 23E 60.73FT TH N34*46 31W 120.12FT M/L TO TPB LESS COM AT MOST SLY COR LOT 35 TH S55*34 35W (PLAT BEARING S54*26 30W) ALG PROJ OF SE LN SDLOT 35 DIST 26.27FT TO INT OF C/L PROJ OF A RD AS SHOWN ON SD PLAT TH ALG MOST ELY LN OF THE PAR LD DESC IN TH CERTAIN LEASE AGREE UNDER AF 1294023 TH S03*28 11E 391.58FT TO S LN GOVT LOT 2 TH N34*46 31W 64.21FT TO TPB TH S43*29 23W 60.73FT TH N44*28 03W 206.347FT TH N44*15 57E 96FT TH S34*46 41E 209.29FT TPB & TERM OF DESC TGW PTN GOVT LOTS 2 & 3 DAF COM AT MOST SLY COR LOT 35 SDOLYMPUS TERRACE TH S55*34 35W (PLAT BEARING S54*26 30W) ALG PROJ OF SE LN SD LOT 35 DIST 26.27FT TO INT OF C/L PROJ OF A RD AS SHOWN ON SD PLAT TH ALG MOST ELY LN OF PAR LD DESC IN LEASE AGREE UNDER AF 1294023 TH S03*23 11E 391.58FT TAP ON S LN OF GOVT LOT 2 TH N34*46 31W 184.33FT TH S38*12 58W 350FT TH N51*47 02W 62.50FT TAP ON ELY MGN OFBNRR R/W SD PT ALSO BEING TPB TH S02*19 54W ALG SD R/W MGN DIST 30.86FT TH S51*47 02E 484.41FT TH N38*12 58E 25FT TH N51*47 02W 502.50FT TO TPB
Property Category	Land and Improvements
Status	Active, Locally Assessed
Tax Code Area	00667

## Property Characteristics

Use Code	484 Sewage Disposal
Unit of Measure	Acre(s)
Size (gross)	4.75

## Related Properties

No Related Properties Found

## Parties

Role	Percent	Name	Address
Taxpayer	100	MUKILTEO WATER & WASTEWATER DISTRICT	7824 MUKILTEO SPEEDWAY, MUKILTEO, WA 98275
Owner	100	MUKILTEO WATER & WASTEWATER DISTRICT	7824 MUKILTEO SPEEDWAY, MUKILTEO, WA 98275

## Property Values

Value Type	Tax Year 2018	Tax Year 2017	Tax Year 2016	Tax Year 2015	Tax Year 2014
Taxable Value Regular					
Exemption Amount Regular	\$2,240,700	\$1,929,400	\$1,617,000	\$1,474,700	\$1,473,600
Market Total	\$2,240,700	\$1,929,400	\$1,617,000	\$1,474,700	\$1,473,600
Assessed Value	\$2,240,700	\$1,929,400	\$1,617,000	\$1,474,700	\$1,473,600
Market Land	\$1,330,000	\$1,019,200	\$906,200	\$849,700	\$849,700

Market Improvement	\$910,700	\$910,200	\$710,800	\$625,000	\$623,900
Personal Property					

**Active Exemptions**

Government Property
---------------------

**Events**

Effective Date	Entry Date-Time	Type	Remarks
11/15/2016	11/15/2016 16:45:00	Taxpayer Changed	Party/Property Relationship by strsat
04/12/2011	04/12/2011 14:03:00	Owner Added	Party/Property Relationship by sasset
04/11/2011	04/12/2011 14:03:00	Owner Terminated	Party/Property Relationship by sasset

**Tax Balance**

No Available Tax Charges Information for this Property at the Moment.

[Installments Payable/Paid for Tax Year\(Enter 4-digit Year, then Click-Here\):](#) 2018

**Distribution of Current Taxes**

District	Rate	Amount	Voted Amount	Non-Voted Amount
TOTAL				

**Pending Property Values**

Pending Tax Year	Market Land Value	Market Improvement Value	Market Total Value	Current Use Land Value	Current Use Improvement	Current Use Total Value
2019	\$1,358,200.00	\$719,800.00	\$2,078,000.00	\$0.00	\$0.00	\$0.00

**Levy Rate History**

Tax Year	Total Levy Rate
2017	9.103714
2016	9.169138
2015	10.180942

**Real Property Structures**

Description	Type	Year Built	More Information
Office/Lab/Storage	Commercial	1991	<a href="#">View Detailed Structure Information</a>
Equipment Building	Commercial	1991	<a href="#">View Detailed Structure Information</a>
Sheds	Commercial	1991	<a href="#">View Detailed Structure Information</a>
Three Circular Roofs	Commercial	1991	<a href="#">View Detailed Structure Information</a>
Roofs Over Circulation Ponds	Commercial	1991	<a href="#">View Detailed Structure Information</a>

**Receipts**

Date	Receipt No.	Amount Applied to Parcel	Receipt Total
No Receipts Found			

**Sales History**

Sale Date	Entry Date	Recording Date	Recording Number	Sale Amount	Excise Number	Deed Type	Transfer Type	Grantor(Seller)	Grantee(Buyer)	Other Parcels
No Sales History Found										

**Property Maps**

Neighborhood Code	Township	Range	Section	Quarter	Parcel Map
5402000	28	04	17	SE	<a href="#">View parcel maps for this Township/Range/Section</a>

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 Version 4.0.3.0



## **APPENDIX C**

### **CITY OF MUKILTEO DEVIATION REQUEST**



11930 Cyrus Way, Mukilteo, WA 98275  
Phone: (425) 263-8000  
<http://mukilteowa.gov/>

## Application For Alternate Material, Design, or Method of Construction

Deviation Request Per Development Standards Section 1.5

**Project Name:** Big Gulch WWTP Office-Lab Building

**Project Address:** 9417 52nd Place W, Mukilteo, WA 98275

Owner		Petitioner/Applicant
Name	Mukilteo Water & Wastewater District Jim Voetberg, Manager	Gray & Osborne, Inc. Barry Baker, P.E., Consultant
Address	7824 Mukilteo Speedway	3710 168th Street NE, Suite B210
City, State Zip	Mukilteo, WA 98275	Arlington, WA 98223
Daytime Phone	(425) 355-3355	(360) 454-5490
E-Mail Address	JimV@mukilteowwd.org	bbaker@g-o.com

Any deviation request concerning a provision of the International Fire Code requires concurrence by the City of Mukilteo Fire Marshal. Documentation of concurrence by the Fire Marshal must be submitted with the request.

It is recognized that the need for and timing of a deviation request may not be predictable. Requests should be submitted as soon as the need becomes known. No deviation request will be considered until a permit application has been submitted. This is important for public notice and participation in the decision process.

The Public Works Director or designee reserves the right to direct or deny a deviation from the Mukilteo Development Standards at any time in the interest of public health, safety, and welfare.

**Written Request** (Submit plans, if necessary, to illustrate the request. Additional sheets or data may be attached.)

☒ **Attachments**

The deviation request is for a proposed office-lab building drainage requirements. Minimum

Requirement #5 of the Washington State Department of Ecology's 2014 Stormwater Management

Manual for Western Washington (Ecology Manual) analysis would require a flow dispersion trench be

constructed within just a few feet of Big Gulch Creek. An existing oil/water separator and discharge to

Big Gulch Creek is present on the site. All new impervious surfaces, including roof drains, can be routed

to the existing treatment system and outfall and not require construction adjacent to the creek.

**Justification/Findings of Equivalency/Code Sections** (Must demonstrate/show how request meets each criteria listed below. Attach additional sheets if necessary.)

In accordance with Section 1.5 of the City of Mukilteo Development Standards, the following information is being presented in support of a request for deviation. The information submitted includes supporting information demonstrating compliance with the following criteria:

1. The deviation will not adversely affect safety or operations: \_\_\_\_\_

The deviation will allow for continued operations and treatment at existing wastewater treatment plant and will reduce the need for staff to operate and maintain the stormwater facility on the banks of the creek.

2. The deviation will not adversely affect the implementation of the Comprehensive Plan adopted in accordance with State Law: \_\_\_\_\_

The deviation request is less impactful on the environment due to not needing to construction immediately adjacent to Big Gulch Creek.

3. The deviation conforms to the intent and purpose of the Mukilteo Municipal Code: \_\_\_\_\_

The intent of the stormwater code is to protect natural systems. The proposed deviation will not require any immediate or long-term work immediately adjacent to Big Gulch Creek.

4. The deviation produces a compensating or comparable result which is in the public interest: \_\_\_\_\_

Existing stormwater discharge from the site is conveyed to a oil/water separator prior to discharge through and existing pipe to Big Gulch Creek. The deviation will eliminate the need for additional construction and maintenance of a new facility that is within 50 feet of the existing stormwater discharge.

5. The deviation will not impact future expansion, development, or redevelopment: \_\_\_\_\_

The impervious areas and total stormwater runoff will be the same for the existing site conditions as the proposed site conditions. No new impervious area is required and no construction or maintenance activities will be required outside of the existing fenced facility.

6. Deviations from road standards must meet the objectives for fire protection and requires concurrence by the Fire Marshal (attach documentation): \_\_\_\_\_

NA - There are not changes to the access or road standards

7. The deviation considers maintenance costs in the design, and costs are not excessive or are borne and reliably performed by the applicant or property owner: \_\_\_\_\_

The deviation allows the existing stormwater treatment, conveyance and discharge to be maintained.

In addition to the criteria listed above, deviations from the stormwater Standards (called "Adjustments" in the Ecology Manual) demonstrates through findings of fact, compliance with the following criteria:

8. The deviation provides equivalent environmental protection, is clearly in the public interest, and will fully meet the objectives of safety, function, environmental protection and facility maintenance based upon sound engineering practices and principles: \_\_\_\_\_

Existing stormwater discharge from the site is conveyed to a oil/water separator prior to discharge through and existing pipe to Big Gulch Creek. The proposed project continues using this system to protect the environment. The elimination of work on the banks of Big Gulch Creek reduces the environmental impact.

9. There are special physical circumstances or conditions affecting the property such that the strict application of the provisions of this chapter would deprive the property owner of all reasonable economic use of the property, and every effort has been made to find alternative ways to meet the intent and requirements of the Ecology Manual and MMC 13.12.160: \_\_\_\_\_

The existing site is paved and enclosed in security fence. Strict application of the provisions would require a flow dispersion system outside of the fence and immediately adjacent to the creek.

10. The granting of the deviation will not be detrimental to the public health and welfare, will not be injurious to other properties in the vicinity and/or downstream of the property, and will not be injurious to the quality of the waters of the state: \_\_\_\_\_

The proposed deviation reduces the impact to the creek, public health and is all on property of the District.

The state waters will continue to be protected by routing the roof runoff through the existing treatment system.

11. The deviation provides the least possible deviation from the requirements: \_\_\_\_\_


The stormwater requirements are discussed in the Stormwater Site Plan attached and detailed how the deviation is the least possible deviation from a strict application of the Minimum Requirement #5.

12. The deviation must show how all Stormwater Minimum Requirements are being met: \_\_\_\_\_

The stormwater requirements are discussed in the Stormwater Site Plan attached and detailed how the deviation is the least possible deviation from a strict application of the Minimum Requirement #5. All other Stormwater Minimum requirements are met and detailed in the Stormwater Site Plan.



I certify that I am the owner or owner's agent and have the authority to request the above stated alternate materials, methods of construction, or modification in the Development Standards. I understand that this request is subject to review and may be approved or denied in part or in whole. The City of Mukilteo's decision will be in writing and will be specific to this request, unless otherwise noted, and is based solely on the facts included with this request.

Signature 	Title Consulting Engineer	Date 8/27/2018
Print Name Barry Baker		

**FOR STAFF USE ONLY**

- ☒ Proposed design complies with the intent of the provisions of the current Mukilteo Municipal Code
- ☒ The material or method proposed is equivalent to criteria listed in Development Standards Section 1.5

**DETERMINATION**

This request is: ☒ Granted ☐ Granted with Conditions of Approval ☐ Denied

CONDITIONS OF APPROVAL:

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Public Works Director or Designee

9/25/2018  
Date

July 11, 2018  
PanGEO Project No. 18-113

Mr. Barry Baker, P.E.  
**Gray & Osborne, Inc.**  
1130 Rainier Avenue South, Suite 300  
Seattle, WA 98144

Subject: Preliminary Geotechnical Report  
Proposed Office-Laboratory Building  
Big Gulch WWTF, Mukilteo, Washington

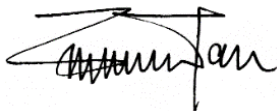
Dear Mr. Baker:

As requested, PanGEO, Inc. is pleased to present this preliminary geotechnical report for the proposed building to be constructed at the existing Big Gulch Wastewater Treatment Facility (WWTF) in Mukilteo, Washington. Design details of the proposed building are not available at this time. As such, we anticipate that additional geotechnical input will likely be needed during the final design phase of the project, or the preliminary recommendations outlined in this report may need to be modified.

In summary, the site is underlain by about 35 to 40 feet of soils and is prone to post-construction settlement and seismically-induced soil liquefaction. It is our opinion that the proposed building should be supported on piles.

Should you have any questions, please do not hesitate to call.

Sincerely,



Siew L. Tan, P.E.  
Principal Geotechnical Engineer

Encl.: Geotechnical Report

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## LIST OF ATTACHMENTS

- Figure 1      Vicinity Map  
Figure 2      Site and Exploration Plan

## Appendix A   Summary Boring Logs

- Figure A-1    Terms and Symbols for Boring and Test Pit Logs  
Figure A-2    Log of Test Boring PG-1  
Figure A-3    Log of Test Boring PG-2  
Log of previous test boring B-27 (ZZA)

## Appendix B   Laboratory Test Results

**PRELIMINARY GEOTECHNICAL REPORT  
PROPOSED OFFICE-LABORATORY BUILDING  
BIG GULCH WWTF  
MUKILTEO, WASHINGTON**

---

## **1.0 GENERAL**

This report presents the results of geotechnical studies that were undertaken to support the design of the proposed office-laboratory building to be constructed at the Big Gulch Wastewater Treatment Facility in Mukilteo, Washington. Our service scope included reviewing readily available geologic and geotechnical data, observing the drilling of two test borings at the site, and developing the conclusions and recommendations presented in this report.

## **2.0 SITE AND PROJECT DESCRIPTION**

The existing Big Gulch WWTF is located at 9417 62<sup>nd</sup> Place West, Mukilteo, WA 98275. The approximate location of the facility is shown in Figure 1. It generally borders Big Gulch Creek to the north and east, Puget Sound shoreline to the west, and a steep undeveloped slope to the south.

The area of proposed construction is located at the northwest corner of the WWTF. The area is paved with asphalt, and is being used as a storage area. We understand that the proposed building will be a two-story at-grade building. The approximate footprint of the proposed building is shown on the attached Figure 2, but may be subject to change. No other design details are available at this time.

The conclusions and recommendations in this report are based on our understanding of the proposed development, which is in turn based on the project information provided. If the above project description is incorrect, or the project information changes, we should be consulted to review the recommendations contained in this study and make modifications, if needed.

## **3.0 SUBSURFACE EXPLORATIONS**

### **3.1 CURRENT EXPLORATIONS**

On May 31, 2018, PanGEO completed two test borings (PG-1 and PG-2) at the approximate locations shown on Figure 2. The test borings were drilled by Boretect1 of Bellevue, Washington, using 6-inch diameter (outside) hollow stem augers. Both test borings were drilled to about 51½ feet below the existing ground surface. Soil samples were obtained from the borings at 2½- and 5-foot intervals in conjunction with Standard Penetration Test (SPT) sampling methods in general



accordance with ASTM test method D-1586, in which the samples are obtained using a 2-inch outside diameter split-spoon sampler. The sampler was driven into the soil a distance of 18 inches using a 140-pound weight falling a distance of 30 inches. The number of blows required for each 6-inch increment of sampler penetration was recorded. The number of blows required to achieve the last 12 inches of sample penetration is defined as the SPT N-value. The N-value provides an empirical measure of the relative density of cohesionless soil, or the relative consistency of fine-grained soils.

An engineer from PanGEO was present on a full time basis to observe the drilling, assist in sampling, and to describe and document the soil samples obtained from the borings. The soil samples were described and field classified in general accordance with the symbols and terms outlined in Figure A-1, and the summary boring logs are included as Figures A-2 and A-3.

Representative soil samples were submitted to laboratory for index testing. The tests include moisture contents, grain size distribution, and Atterberg Limits. The results are included in Appendix B of this report.

### **3.2 PREVIOUS EXPLORATION**

In addition to our test borings completed for the current study, we also reviewed readily available subsurface data completed for previous projects at the site. Specifically, we found one test boring (B-27) previously completed near the site. The approximate location of this test boring is shown in Figure 2, and the boring log is included in Appendix A, after the log for boring PG-2. This previous boring was drilled to a depth of about 29 feet.

## **4.0 SUBSURFACE CONDITIONS**

### **4.1 SOIL CONDITIONS**

The soil conditions encountered in the test borings completed at the site are quite consistent. For engineering purposes, the soils encountered in the test borings can be categorized into two engineering soil units (ESU). The following is a generalized description of the observed subsurface conditions:

**Asphalt:** Both borings PG-1 and PG-2 were drilled within the paved area, and encountered approximately 4 to 9 inches of asphalt.

**Engineering Soil Unit 1 (ESU):** Directly below the asphalt, the test borings encountered a thick layer of very loose to loose sand and soft silt. This soil unit was about 40-foot thick in PG-1 and about 35-foot thick in PG-2. The previous test boring B-27 was terminated at about 29 feet, within this soil unit, and hence the thickness of this soil unit at B-27 is not readily known. We interpret this soil unit as a combination of fill, alluvium deposited by the Big Gulch Creek, and landslide deposits originated from the upslope area.

**Engineering Soil Unit 2 (ESU-2):** Directly below ESU-1, PG-1 and PG-2 encountered dense to very dense sand with silt layers. This unit extended to at least the termination depths of PG-1 and PG-2 at about 51 ½ feet below the existing ground surface.

Our descriptions of subsurface conditions are based on the conditions encountered at the time of our exploration. Soil conditions between our exploration locations may vary from those encountered. The nature and extent of variations between our exploratory locations may not become evident until construction. If variations do appear, PanGEO should be requested to reevaluate the recommendations in this report and to modify or verify them in writing prior to proceeding with earthwork and construction.

## **4.2 GROUNDWATER**

Groundwater was encountered at about 7 feet deep in both test borings PG-1 and PG-2 at the time of drilling. In the previous test boring B-27, the measured groundwater was about 3 feet deep. We anticipate that the groundwater levels at the site to fluctuate seasonally, and may be influenced by the water level in the Big Gulch Creek, and potentially the tidal fluctuations in Puget Sound. During significant storm events, groundwater may be near the ground surface.

Because of shallow groundwater conditions at the site, the finished floor of the proposed building should be placed as high as practical, to avoid potential intrusion of groundwater into the building.

## **5.0 GEOTECHNICAL RECOMMENDATIONS**

### **5.1 SEISMIC DESIGN CONSIDERATIONS**

#### ***5.1.1 IBC Seismic Site Class***

The 2015 International Building Code (IBC) seismic design section provides a basis for seismic design of structures. Because the submerged Engineering Soil Unit 1 (upper 35 to 40 feet of the site soils) is prone to soil liquefaction (see additional discussions in Section 5.1.2 of this report), Site Class F should be assumed for the seismic design of the project. With Site Class F, a site-specific ground response analysis will be required unless the fundamental period of vibration of the building is less than 0.5 seconds. Based on the currently-proposed building height of two stories, we anticipate the building period of vibration to be less than 0.5 seconds, but should be verified by the structural engineer. As such, we do not anticipate the needs for a site-specific ground response analysis, and Site Class E may be used for the seismic design of the proposed building. However, if the building period exceeds 0.5 seconds, PanGEO should be contacted to perform a site-specific ground response analysis.

#### ***5.1.2 Liquefaction Potential and Seismic Settlement***

Liquefaction could occur when saturated soils are subjected to cyclic loading which can cause the pore water pressure to increase in the soils thereby reducing the inter-granular stresses. As the inter-granular stresses are reduced, the shearing resistance of the sand decreases. If pore pressures develop to the point where the effective stresses acting between the grains become zero, the soil particles will be in suspension and behave like a viscous fluid. Typically loose, saturated granular soils have the greatest potential for liquefaction, while more dense soil deposits with higher silt or clay contents have a lesser potential. Primary factors controlling the development of liquefaction include intensity and duration of strong ground motion, characteristics of subsurface soils, in-situ stress conditions and the depth to groundwater. Potential effects of soil liquefaction include temporary loss/reduction of bearing capacity and settlement.

For the levels of ground shaking consistent with 2015 IBC, it is our opinion that the potential for soil liquefaction at the site is high. Based on our analysis, we estimate that liquefaction-induced ground subsidence due from a seismic consistent with the 2015 IBC may be as much as a foot.

It is our opinion that conventional footings are not appropriate for the proposed development unless the risk of soil liquefaction is properly mitigated by means of soil densification such as

aggregate piers, compaction grouting, etc. Alternatively, a deep foundation system such as augercast piles can be utilized to transfer the building loads below the liquefiable layer.

## **5.2 FOUNDATION SUPPORT ALTERNATIVES**

### ***5.2.1 Conventional Footing with Ground Improvement***

Conventional footings may be utilized to support the proposed building provided that the liquefiable soil layer is adequately improved to meet the project performance criteria. Aggregate piers such as Geopiers® and stone columns are commonly used to densify sand, but the vibrations associated with its installation should be considered. Alternatively, it is our opinion that compaction grouting may be used to densify the sand. Compaction grouting involves injecting low-slump concrete at high pressure to density the targeted soil layer. The vibrations associated with compaction grouting is relatively minor. However, the cost for compaction grouting is likely significantly higher than aggregate piers, and may not be cost effective given the relatively small building footprint.

For a small lightweight two-story building, we anticipate that soil improvements to mitigate liquefaction settlement may need to extend to at least 15 to 20 feet below the ground surface. The design of compaction grouting and aggregate piers are typically performed by specialty contractors, based on settlement criteria provided by the structural engineer. PanGEO can provide additional input if needed.

Once the ground improvements are completed, conventional footings or a mat foundation may be constructed directly on the improved ground. The footings and mat foundation should be sized using the following parameters:

- Allowable Bearing Pressure – 4,000 psf
- Allowable Friction Coefficient – 0.35
- Allowable Passive Pressure – 250 pcf (main basement level)

These parameters may be increased by one-third for transient loads.

Soil improvements between footings should also be considered to improve the performance of the floor slabs.



### ***5.2.3 Augercast Piles***

Based on the size of the project and site access, it is our opinion that augercast piles are an appropriate option. Augercast piles are installed by drilling with a continuous flight hollow stem auger to the required depth, and pumping grout through the hollow stem of the auger as the auger is slowly withdrawn from the hole. After the auger is completely removed, steel reinforcement is placed in the grout-filled hole. The rate at which the auger is withdrawn must be consistent with the grout supply. If the auger is withdrawn too quickly, the pile will be under-grouted, resulting in “necking” of the pile. Necking can lead to contamination of the grout column from the caving or squeezing of the soil during the rapid withdrawal of the auger. The “necked” section of the pile would have a reduced load carrying capacity. Augercast piles may also have difficulty penetrating obstructions such as old foundations or boulders. However, obstructions encountered within about 10 feet of the surface could be readily removed with an excavator.

***Minimum Pile Embedment/Spacing*** – Pile tips should extend at least 10 feet into competent soils. The top of competent soils (Soil Unit 2) ranged from about 35 to 40 feet deep in our test borings. For planning purposes, a pile length of 50 feet should be assumed, based on the results of boring PG-1. We also recommend that a minimum horizontal pile spacing of three times the pile diameter (center-to-center) be maintained.

***Axial Capacity*** – We anticipate that 16- to 24-inch diameter piles will likely be used. We recommend that the following parameters be used to estimate the axial capacities of augercast piles. In the event of soil liquefaction, downdrag on the piles due to settlement of the liquefied soils should be considered in the sizing of piles.

#### **Scenario 1 – No Liquefaction**

- Allowable Passive Pressure – 350 pcf (within 5 feet of existing ground surface)
- Allowable Passive Pressure – 200 pcf (below 5 feet of existing ground surface)

#### **Scenario 2 – Liquefaction**

- Allowable Passive Pressure – 350 pcf (within 5 feet of existing ground surface)
- Allowable Passive Pressure – ignore (below 5 feet of existing ground surface)

***Lateral Resistance from Pile Caps and Grade Beams*** – Lateral loads acting on the structure will be resisted by a combination of passive earth pressure acting on the pile caps and grade beams as well as from the lateral resistance of the augercast piles. The following passive pressure against the pile caps and grade beams may be used for design:

***Lateral Pile Capacity*** - Lateral capacities of the augercast piles depends on a number of factors, including pile diameter, pile length, pile spacing and connection details. PanGEO is available to evaluate the lateral resistance of the augercast piles when the foundation design reaches a more advanced stage, with input from the structural engineer.

### **5.3 FLOORS SLABS**

The selection of floor types (i.e., conventional slab-on grade versus structural slab) largely depends of the desired level of seismic performance. During a strong seismic event and occurrence of soil liquefaction, we estimated that the liquefaction-induced settlement may be as much as one foot, and conventional slab-on-grade floor will likely crack and damage due to settlement. Alternatively, the floor should be designed as structural slab to span between pile caps.

Concrete slab-on-grade floors, if selected, may be supported on on-site soils compacted in-place to a firm and unyielding condition or on newly placed structural fill placed upon adequately compacted onsite soils. If the onsite soils cannot be adequately compacted, overexcavation and replacement with granular structural fill such as Gravel Borrow is recommended. The adequacy of the floor subgrade should be evaluated by PanGEO during construction.

In spaces where moisture may be sensitive, the concrete slabs on grade should be constructed on a minimum 6-inch thick capillary break. The capillary break material should consist of open-graded, free-draining, crushed rock compacted to a firm and unyielding condition. The capillary break material should have no more than 10 percent passing the No. 4 sieve and less than 5 percent by weight of the material passing the U.S. Standard No. 100 sieve.

We also recommend that a 10-mil polyethylene vapor barrier be placed below the entire slab on grade.

## **6.0 CONSRUCTION CONSIDERATIONS**

### **6.1 TEMPORARY DEWATERING**

The groundwater levels at the site are anticipated to fluctuate seasonally, and may be subjected to tidal influence and the water levels in the Big Gulch Creek. If the earthwork construction will be performed in the drier summer months, and assuming that the excavation will be no more than 4 to 5 feet deep, it is likely that construction dewatering will not be needed. However, during winter-spring months, the groundwater level maybe quite shallow and close to the existing ground surface. As such, if excavation will be performed in the wet seasons, construction dewatering may be

needed. It is our opinion that if water is present in the excavation, it is likely that it can be controlled using sumps and pumps.

## **6.2 TEMPORARY SLOPED EXCAVATIONS**

It is our understanding the lower finished floor of the proposed building will roughly matches the existing grade. As such, we assume that the excavation for the building construction will be no more than about 4 to 5 feet deep. Where space is available, temporary sloped cuts can be used to reduce the height, extent and cost of temporary shoring. For planning purposes, temporary excavations may be sloped as steep as 1½H:1V (Horizontal:Vertical).

Temporary excavations should be constructed in accordance with Part N of the WAC (Washington Administrative Code) 296-155. The contractor is responsible for maintaining safe excavation slopes and/or shoring.

Temporary excavations should be evaluated in the field during construction based on actual observed soil conditions. If seepage is encountered, excavation slope inclinations may need to be reduced. During wet weather, the cut slopes may need to be flattened to reduce potential erosion or should be covered with plastic sheeting.

## **6.3 STRUCTURAL FILL AND COMPACTION**

It is our opinion that on-site soils should not be used as structural fill. Imported structural fill should consist of Gravel Borrow or Crushed Surfacing Base Course as specified in WSDOT Standard Specifications, or an approved similar material.

Structural fill should be moisture conditioned to near its optimum moisture content, placed in loose, horizontal lifts less than 8 to 12 inches in thickness, and compacted to at least 95 percent of its maximum dry density as determined using ASTM D-1557 (Modified Proctor). The procedure to achieve proper density of a compacted fill depends on the size and type of compacting equipment, the number of passes, thickness of the lifts being compacted, and certain soil properties. If the excavation to be backfilled is constricted and limits the use of heavy equipment, smaller equipment can be used, but the lift thickness will need to be reduced to achieve the required relative compaction.

Generally, inadequately compacted soils are a result of poor construction technique or improper moisture content. Soils with high fines contents are particularly susceptible to becoming too wet and coarse-grained materials easily become too dry, for proper compaction. Silty or clayey soils

with a moisture content too high for adequate compaction should be dried as necessary, or moisture conditioned by mixing with drier materials, or other methods.

#### **6.4 WET WEATHER EARTHWORK RECOMMENDATIONS**

General recommendations relative to earthwork performed in wet weather or in wet conditions are presented below. The following procedures are best management practices recommended for use in wet weather construction:

- Earthwork should be performed in small areas to minimize subgrade exposure to wet weather. Excavation or the removal of unsuitable soil should be followed promptly by the placement and compaction of clean structural fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance.
- During wet weather, the allowable fines content of the structural fill should be reduced to no more than 5 percent by weight based on the portion passing the 0.75-inch sieve. The fines should be non-plastic.
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water.
- Geotextile silt fences should be installed at strategic locations around the site to control erosion and the movement of soil.
- Excavation slopes and soils stockpiled on site should be covered with plastic sheeting.

#### **6.5 EROSION AND DRAINAGE CONSIDERATIONS**

Surface runoff can be controlled during construction by careful grading practices. Typically, this includes the construction of shallow, upgrade perimeter ditches or low earthen berms in conjunction with silt fences to collect runoff and prevent water from entering excavations or to prevent runoff from the construction area leaving the immediate work site. Temporary erosion control may require the use of geotextile silt fences and hay bales on the downhill side of the project to prevent water from leaving the site and potential storm water detention to trap sand and silt before the water is discharged to a suitable outlet. All collected water should be directed under control to a positive and permanent discharge system.

Permanent control of surface water should be incorporated in the final grading design. Adequate surface gradients and drainage systems should be incorporated into the design such that surface runoff is collected and directed away from the structure to a suitable outlet. Potential issues



associated with erosion may also be reduced by establishing vegetation within disturbed areas immediately following grading operations.

## **7.0 CLOSURE**

We have prepared this report for Gray & Osborne and the project design team. Recommendations contained in this report are based on a site reconnaissance, a subsurface exploration program, review of pertinent subsurface information, and our understanding of the project. The study was performed using a mutually agreed-upon scope of services.

Variations in soil conditions may exist between the locations of the explorations and the actual conditions underlying the site. The nature and extent of soil variations may not be evident until construction occurs. If any soil conditions are encountered at the site that are different from those described in this report, we should be notified immediately to review the applicability of our recommendations. Additionally, we should also be notified to review the applicability of our recommendations if there are any changes in the project scope.

The scope of our work does not include services related to construction safety precautions. Our recommendations are not intended to direct the contractors' methods, techniques, sequences or procedures, except as specifically described in our report for consideration in design. Additionally, the scope of our services specifically excludes the assessment of environmental characteristics, particularly those involving hazardous substances. We are not mold consultants nor are our recommendations to be interpreted as being preventative of mold development. A mold specialist should be consulted for all mold-related issues.

This report has been prepared for planning and design purposes for specific application to the proposed project in accordance with the generally accepted standards of local practice at the time this report was written. No warranty, express or implied, is made.

This report may be used only by the client and for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both off and on-site), or other factors including advances in our understanding of applied science, may change over time and could materially affect our findings. Therefore, this report should not be relied upon after 24 months from its issuance. PanGEO should be notified if the project is delayed by more than 24 months from the date of this report so that we may review the applicability of our conclusions considering the time lapse.

It is the client's responsibility to see that all parties to this project, including the designer, contractor, subcontractors, etc., are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk. Any party other than the client who wishes to use this report shall notify PanGEO of such intended use and for permission to copy this report. Based on the intended use of the report, PanGEO may require that additional work be performed and that an updated report be reissued. Noncompliance with any of these requirements will release PanGEO from any liability resulting from the use this report.

Sincerely,

**PanGEO, Inc.**



Siew L Tan, P.E.  
Principal Geotechnical Engineer

## **8.0 REFERENCES**

International Code Council, 2015, *International Building Code (IBC)*, 2015.

WSDOT, 2018, *Standard Specifications for Road, Bridge and Municipal Construction, M 41-10*.

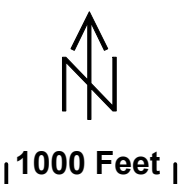
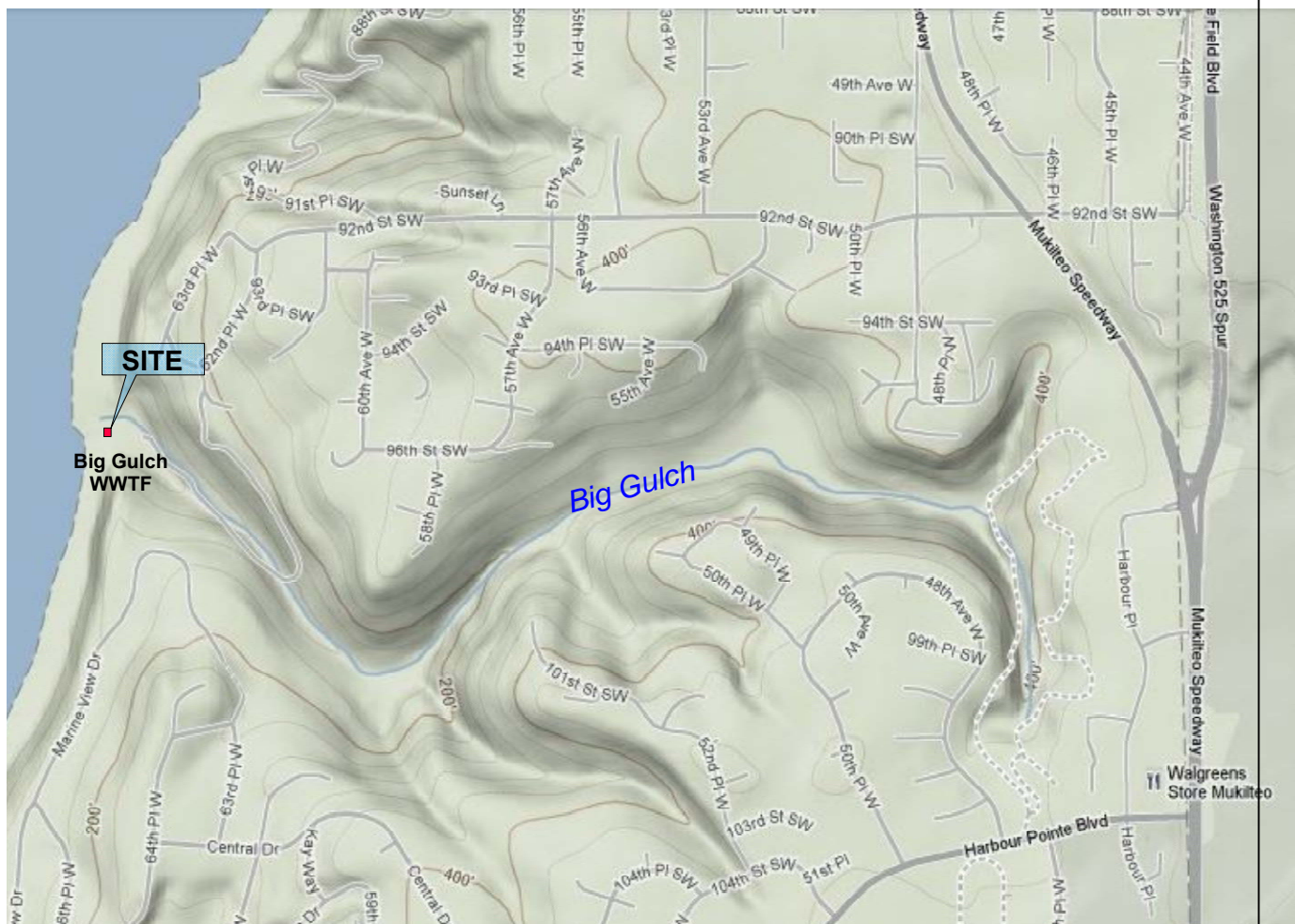


Image Source: Google Maps.



**Proposed Office &  
Laboratory Building  
Big Gulch WWTF  
Mukilteo, Washington**

#### VICINITY MAP

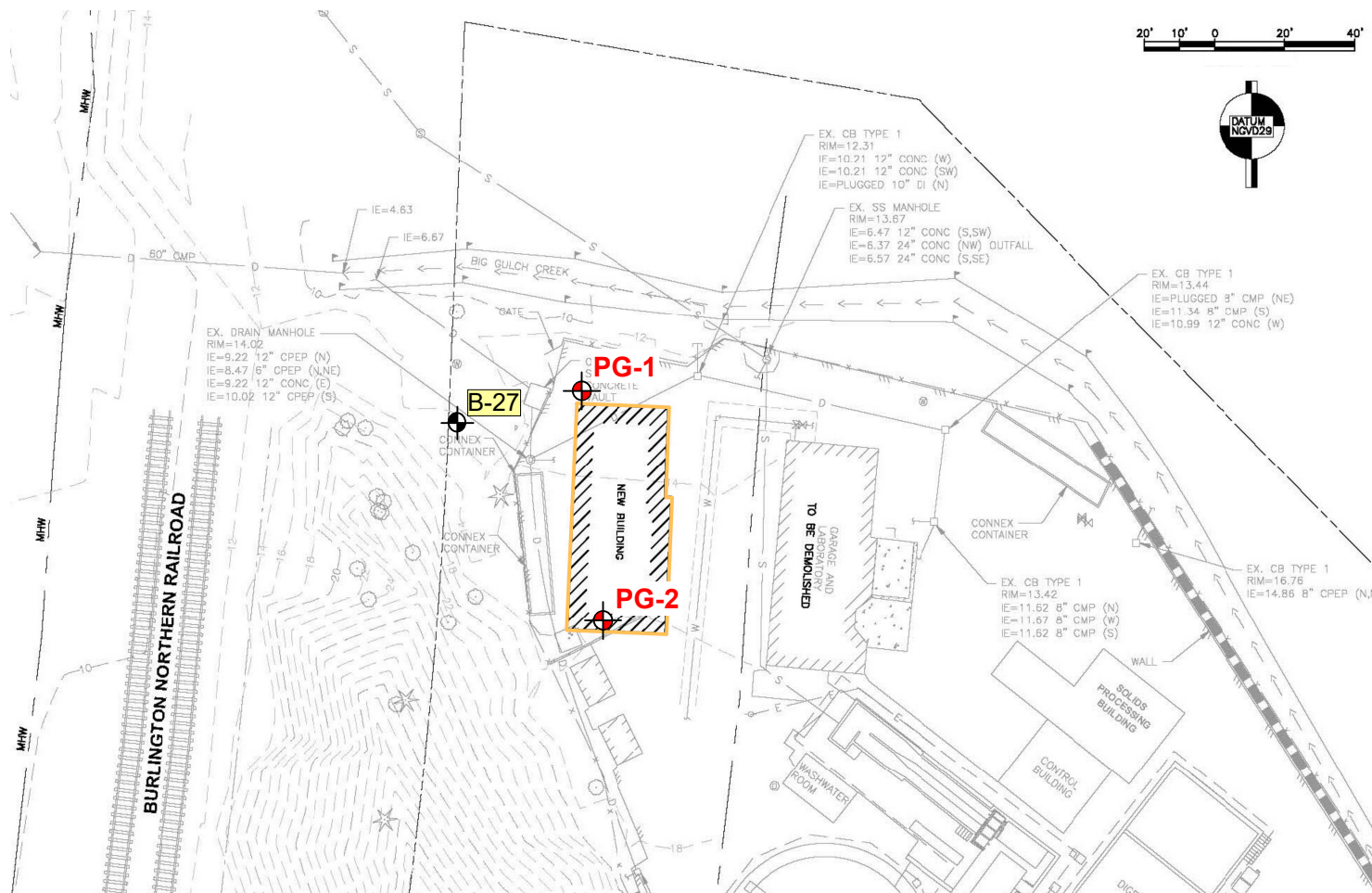
Project No.

**13-004**

Figure No.

**1**





**Proposed Office &  
Laboratory Building  
Big Gulch WWTF  
Mukilteo, WA**

**SITE AND EXPLORATION PLAN**

Project No. **18-113**

Figure No. **2**















**APPENDIX A**

**SUMMARY BORING LOGS**

## RELATIVE DENSITY / CONSISTENCY

SAND / GRAVEL			SILT / CLAY		
Density	SPT N-values	Approx. Relative Density (%)	Consistency	SPT N-values	Approx. Undrained Shear Strength (psf)
Very Loose	<4	<15	Very Soft	<2	<250
Loose	4 to 10	15 - 35	Soft	2 to 4	250 - 500
Med. Dense	10 to 30	35 - 65	Med. Stiff	4 to 8	500 - 1000
Dense	30 to 50	65 - 85	Stiff	8 to 15	1000 - 2000
Very Dense	>50	85 - 100	Very Stiff	15 to 30	2000 - 4000
			Hard	>30	>4000

## UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		GROUP DESCRIPTIONS	
Gravel 50% or more of the coarse fraction retained on the #4 sieve. Use dual symbols (eg. GP-GM) for 5% to 12% fines.	GRAVEL (<5% fines)		GW: Well-graded GRAVEL
	GRAVEL (>12% fines)		GP: Poorly-graded GRAVEL
Sand 50% or more of the coarse fraction passing the #4 sieve. Use dual symbols (eg. SP-SM) for 5% to 12% fines.	SAND (<5% fines)		GM: Silty GRAVEL
			GC: Clayey GRAVEL
	SAND (>12% fines)		SW: Well-graded SAND
			SP: Poorly-graded SAND
Silt and Clay 50% or more passing #200 sieve	Liquid Limit < 50		SM: Silty SAND
			SC: Clayey SAND
			ML: SILT
	Liquid Limit > 50		CL: Lean CLAY
			OL: Organic SILT or CLAY
			MH: Elastic SILT
			CH: Fat CLAY
Highly Organic Soils			OH: Organic SILT or CLAY
			PT: PEAT

- Notes:**
- Soil exploration logs contain material descriptions based on visual observation and field tests using a system modified from the Uniform Soil Classification System (USCS). Where necessary laboratory tests have been conducted (as noted in the "Other Tests" column), unit descriptions may include a classification. Please refer to the discussions in the report text for a more complete description of the subsurface conditions.
  - The graphic symbols given above are not inclusive of all symbols that may appear on the borehole logs. Other symbols may be used where field observations indicated mixed soil constituents or dual constituent materials.

## DESCRIPTIONS OF SOIL STRUCTURES

<b>Layered:</b> Units of material distinguished by color and/or composition from material units above and below	<b>Fissured:</b> Breaks along defined planes
<b>Laminated:</b> Layers of soil typically 0.05 to 1mm thick, max. 1 cm	<b>Slickensided:</b> Fracture planes that are polished or glossy
<b>Lens:</b> Layer of soil that pinches out laterally	<b>Blocky:</b> Angular soil lumps that resist breakdown
<b>Interlayered:</b> Alternating layers of differing soil material	<b>Disrupted:</b> Soil that is broken and mixed
<b>Pocket:</b> Erratic, discontinuous deposit of limited extent	<b>Scattered:</b> Less than one per foot
<b>Homogeneous:</b> Soil with uniform color and composition throughout	<b>Numerous:</b> More than one per foot
	<b>BCN:</b> Angle between bedding plane and a plane normal to core axis

## COMPONENT DEFINITIONS

COMPONENT	SIZE / SIEVE RANGE	COMPONENT	SIZE / SIEVE RANGE
Boulder:	> 12 inches	Sand	
Cobbles:	3 to 12 inches	Coarse Sand:	#4 to #10 sieve (4.5 to 2.0 mm)
Gravel		Medium Sand:	#10 to #40 sieve (2.0 to 0.42 mm)
Coarse Gravel:	3 to 3/4 inches	Fine Sand:	#40 to #200 sieve (0.42 to 0.074 mm)
Fine Gravel:	3/4 inches to #4 sieve	Silt	0.074 to 0.002 mm
		Clay	<0.002 mm








## TEST SYMBOLS

for In Situ and Laboratory Tests listed in "Other Tests" column.









ATT	Atterberg Limit Test
Comp	Compaction Tests
Con	Consolidation
DD	Dry Density
DS	Direct Shear
%F	Fines Content
GS	Grain Size
Perm	Permeability
PP	Pocket Penetrometer
R	R-value
SG	Specific Gravity
TV	Torvane
TXC	Triaxial Compression
UCC	Unconfined Compression

## SYMBOLS

Sample/In Situ test types and intervals

	2-inch OD Split Spoon, SPT (140-lb. hammer, 30" drop)
	3.25-inch OD Split Spoon (300-lb hammer, 30" drop)
	Non-standard penetration test (see boring log for details)
	Thin wall (Shelby) tube
	Grab
	Rock core
	Vane Shear

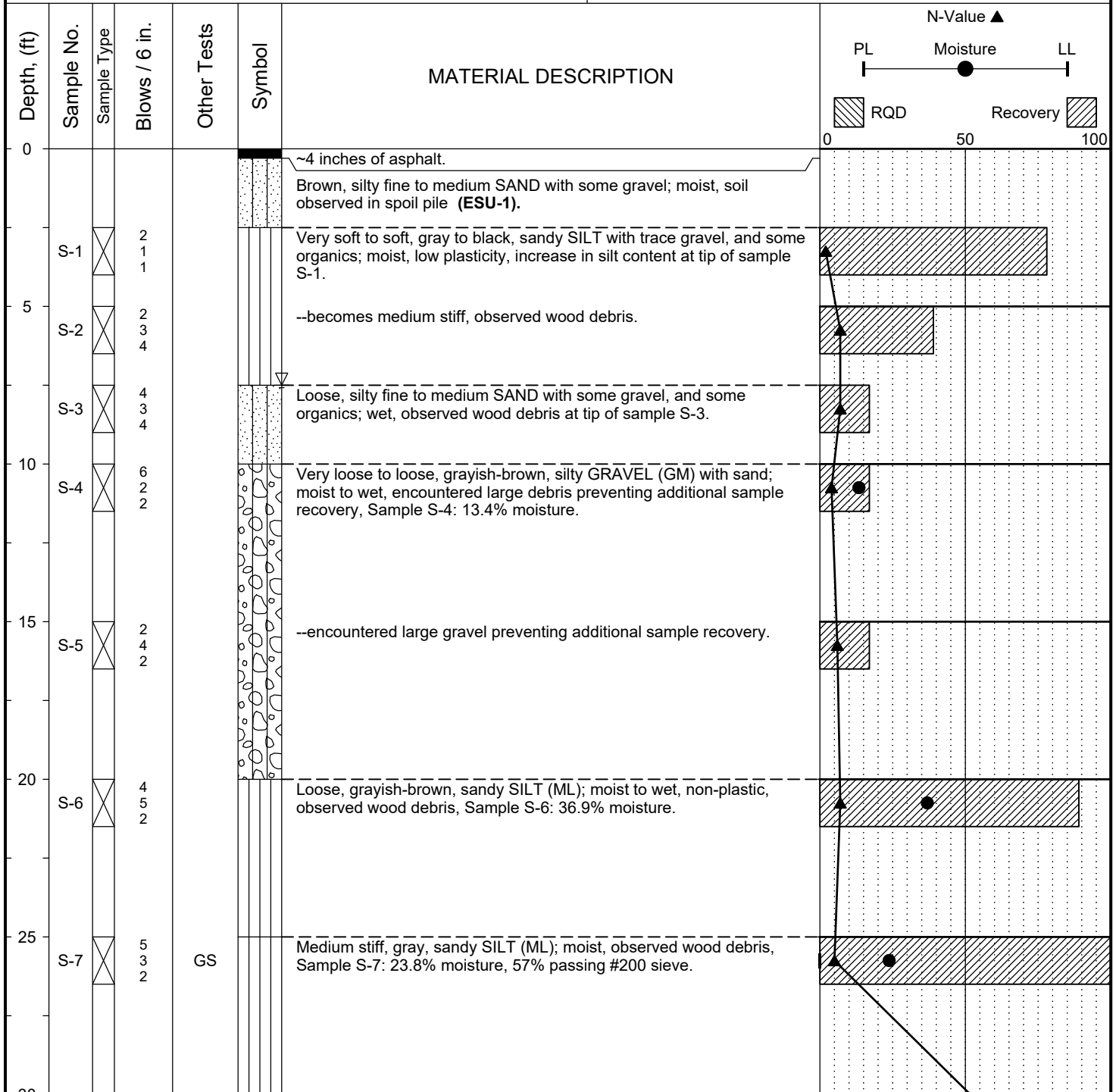
## MONITORING WELL

	Groundwater Level at time of drilling (ATD)
	Static Groundwater Level
	Cement / Concrete Seal
	Bentonite grout / seal
	Silica sand backfill
	Slotted tip
	Slough
	Bottom of Boring

## MOISTURE CONTENT

Dry	Dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water

Project:	Proposed Laboratory - Office Building	Surface Elevation:	~13 ft
Job Number:	18-113	Top of Casing Elev.:	Not Applicable
Location:	9417 62nd Place West, Mukilteo, Washington	Drilling Method:	HSA
Coordinates:	Northing: , Easting:	Sampling Method:	SPT



Completion Depth: 51.5ft  
 Date Borehole Started: 5/31/18  
 Date Borehole Completed: 5/31/18  
 Logged By: R. Ragudos  
 Drilling Company: Boretect1, Inc

Remarks: Standard Penetration Test (SPT) sampler driven with a 140 lb. safety hammer. Hammer operated with a rope and cathead mechanism. Boring drilled by Boretect1, Inc using a Track Mounted Drill Rig. This surface elevation is provided for relative information only and is not a substitution for a field survey.



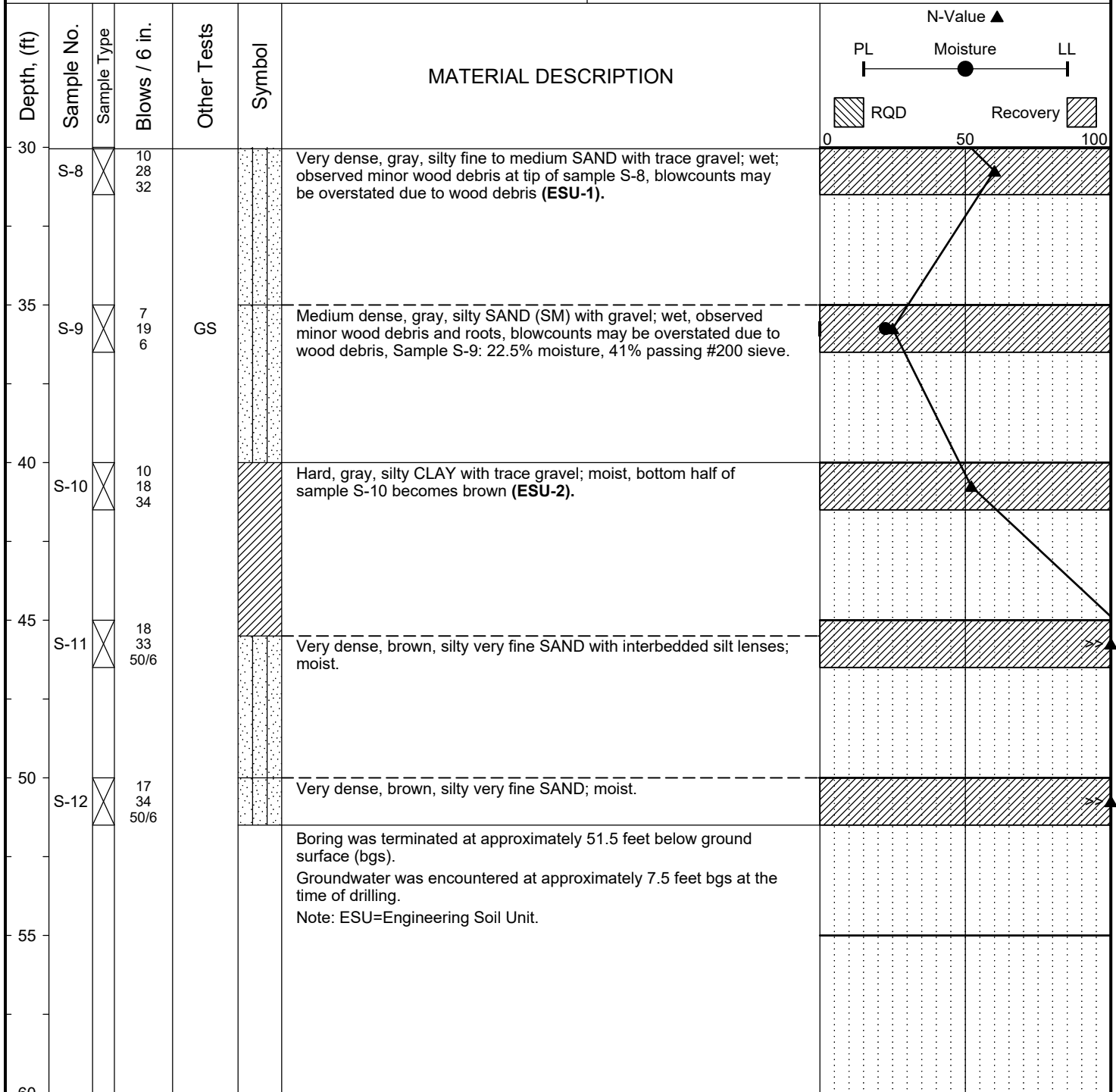
## LOG OF TEST BORING PG-1

Figure A-2

The stratification lines represent approximate boundaries. The transition may be gradual.



Project:	Proposed Laboratory - Office Building	Surface Elevation:	~13 ft
Job Number:	18-113	Top of Casing Elev.:	Not Applicable
Location:	9417 62nd Place West, Mukilteo, Washington	Drilling Method:	HSA
Coordinates:	Northing: , Easting:	Sampling Method:	SPT



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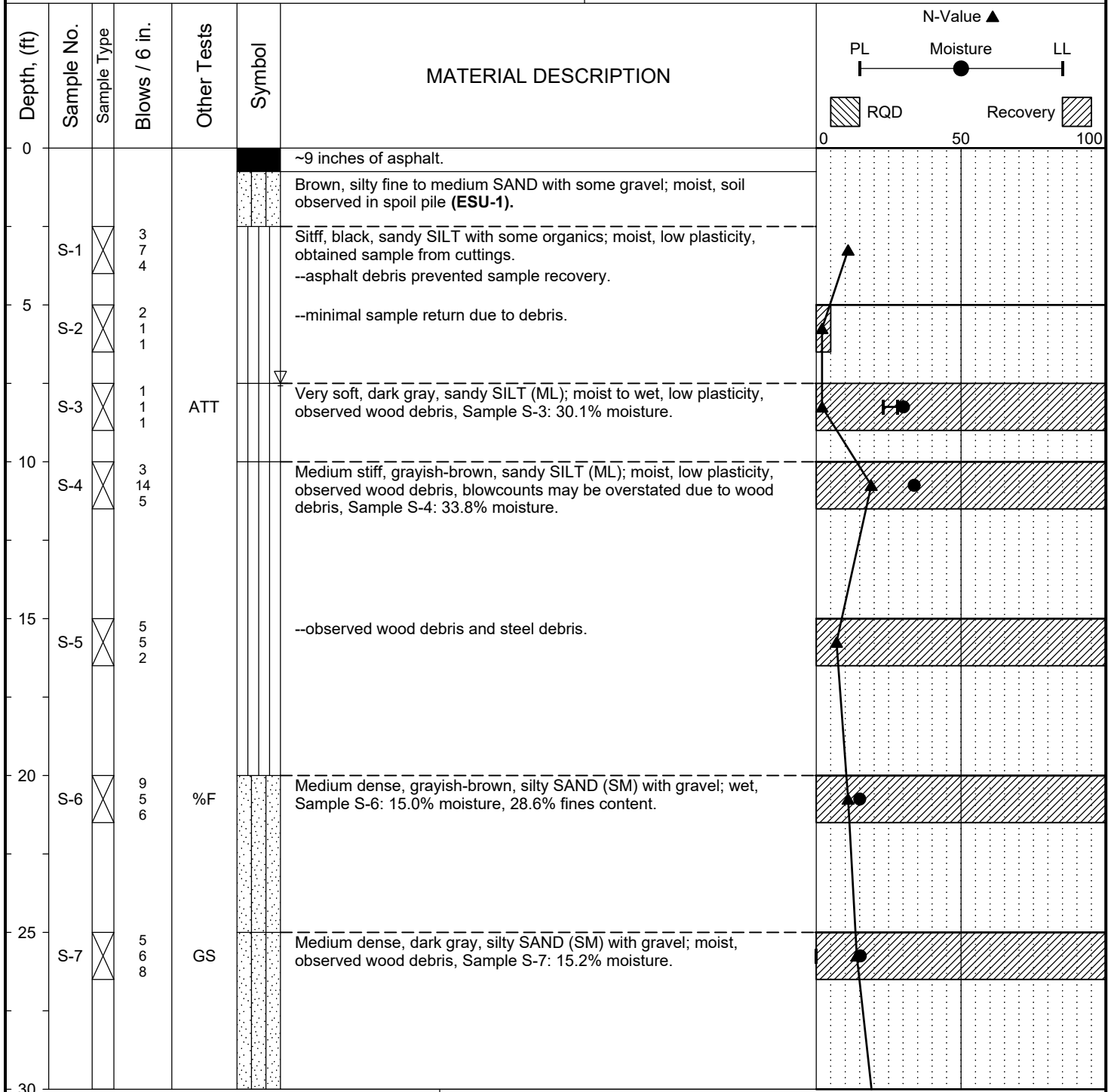


## LOG OF TEST BORING PG-1

Figure A-2

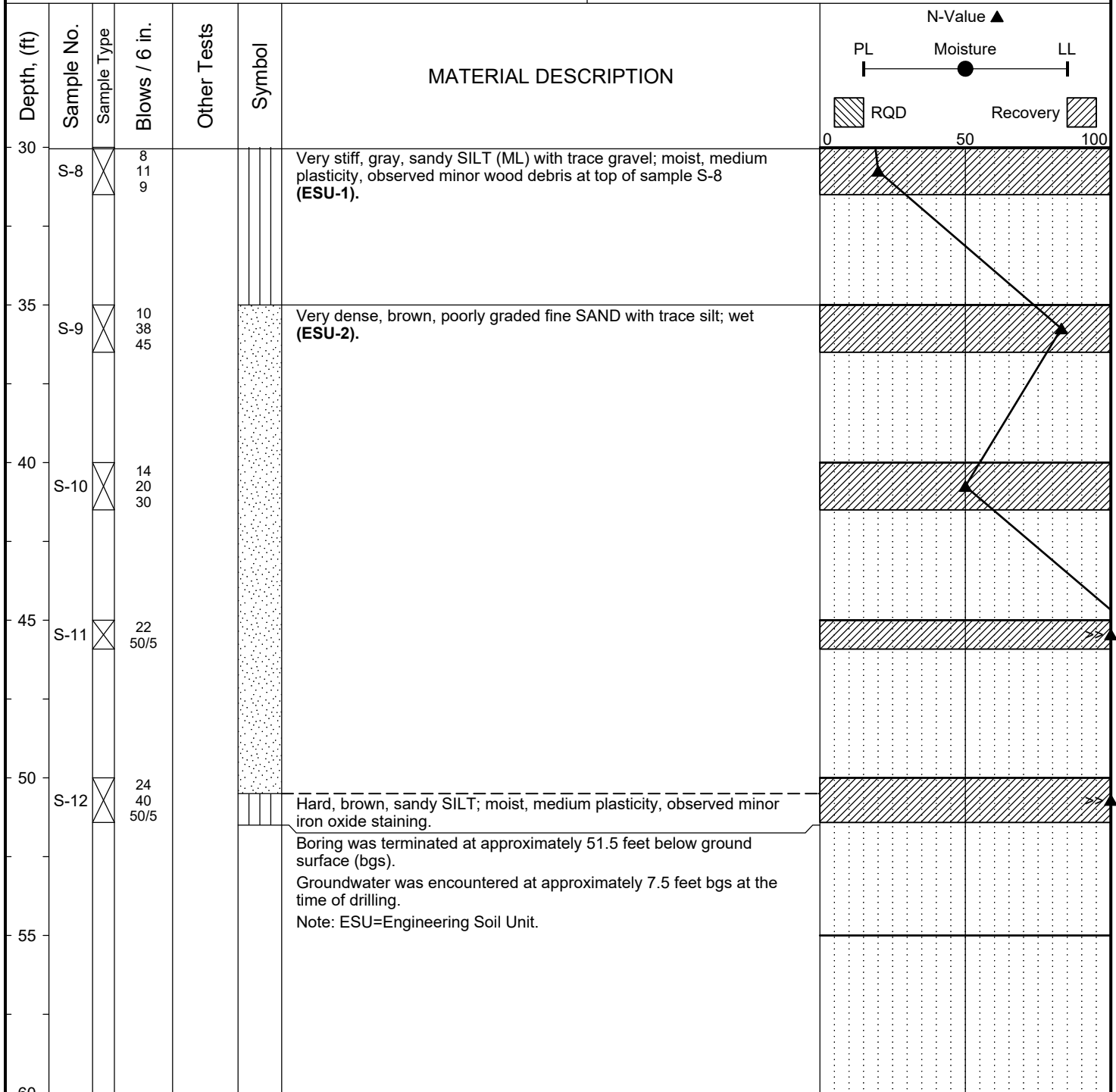
The stratification lines represent approximate boundaries. The transition may be gradual.

Project:	Proposed Laboratory - Office Building	Surface Elevation:	~16 ft
Job Number:	18-113	Top of Casing Elev.:	Not Applicable
Location:	9417 62nd Place West, Mukilteo, Washington	Drilling Method:	HSA
Coordinates:	Northing: , Easting:	Sampling Method:	SPT



Completion Depth:	51.5ft	Remarks: Standard Penetration Test (SPT) sampler driven with a 140 lb. safety hammer. Hammer operated with a rope and cathead mechanism. Boring drilled by Borettec1, Inc using a Track Mounted Drill Rig. This surface elevation is provided for relative information only and is not a substitution for a field survey.
Date Borehole Started:	5/31/18	
Date Borehole Completed:	5/31/18	
Logged By:	R. Ragudos	
Drilling Company:	Borettec1, Inc	

Project:	Proposed Laboratory - Office Building	Surface Elevation:	~16 ft
Job Number:	18-113	Top of Casing Elev.:	Not Applicable
Location:	9417 62nd Place West, Mukilteo, Washington	Drilling Method:	HSA
Coordinates:	Northing: , Easting:	Sampling Method:	SPT

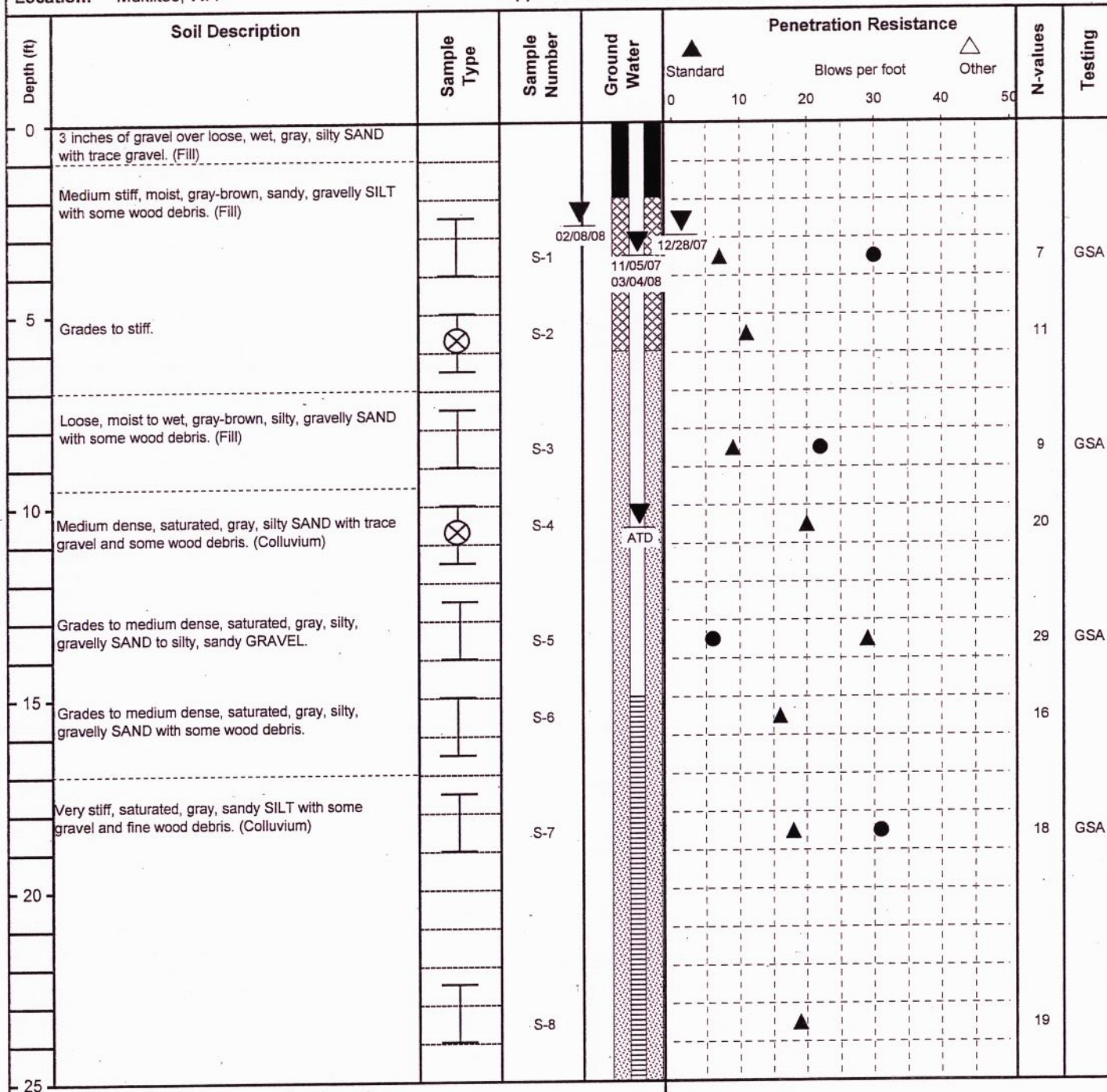


Completion Depth:	51.5ft	Remarks:	Standard Penetration Test (SPT) sampler driven with a 140 lb. safety hammer. Hammer operated with a rope and cathead mechanism. Boring drilled by Boretect1, Inc using a Track Mounted Drill Rig. This surface elevation is provided for relative information only and is not a substitution for a field survey.
Date Borehole Started:	5/31/18		
Date Borehole Completed:	5/31/18		
Logged By:	R. Ragudos		
Drilling Company:	Boretect1, Inc		

The stratification lines represent approximate boundaries. The transition may be gradual.

Location: Mukilteo, WA

Approximate Surface Elevation: 15.4 Feet



## Explanation



2-inch O.D. split spoon sample



3-inch I.D. Shelby tube sample



No Recovery



ATD

Groundwater level at time of drilling or date of measurement

## Monitoring Well Key



Clean Sand



Bentonite



Grout/Concrete

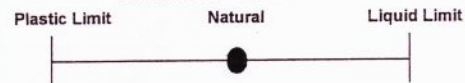


Screened Casing



Blank Casing

## Moisture Content



## Testing Key

GSA = Grain Size Analysis

200W = 200 Wash Analysis

Att. = Atterberg Limits

Consol. = Consolidation Test



Location: Mukilteo, WA

Approximate Surface Elevation: 15.4 Feet

Depth (ft)	Soil Description	Sample Type	Sample Number	Ground Water	Penetration Resistance					N-values	Testing
					Standard	Blows per foot			Other		
25	Very stiff, saturated, gray, sandy SILT with some gravel and fine wood debris.	I	S-9							23	
	Medium dense, saturated, gray, silty, gravelly SAND.										
30	Boring completed at 29 feet on 09/07/07. Groundwater observed at approximately 10.5 feet at time of drilling. Well ID: APQ 701 Groundwater measured at 3.6 feet on 11/05/07. Groundwater measured at 2.9 feet on 12/28/07. Groundwater measured at 2.7 feet on 02/08/08. Groundwater measured at 3.6 feet on 03/04/08.										
35											
40											
45											
50											

## Explanation



2-inch O.D. split spoon sample



3-inch I.D. Shelby tube sample



No Recovery



ATD

Groundwater level at time of drilling or date of measurement

## Monitoring Well Key



Clean Sand



Bentonite



Grout/Concrete



Screened Casing



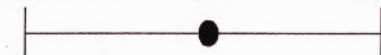
Blank Casing

## Moisture Content

Plastic Limit

Natural

Liquid Limit



## Testing Key

GSA = Grain Size Analysis

200W = 200 Wash Analysis

Att. = Atterberg Limits

Consol. = Consolidation Test

**APPENDIX B**

**LABORATORY TEST RESULTS**



# HWA GEOSCIENCES INC.

*Geotechnical & Pavement Engineering • Hydrogeology • Geoenvironmental • Inspection & Testing*

June 15, 2018

HWA Project No. 2012-022-23 Task 11900

**PanGEO Inc.**

3213 Eastlake Ave E., Suite B  
Seattle, Washington 98102

Attention: Mr. Romulos P. Ragudos Jr., E.I.T.

Subject: **Materials Laboratory Report**  
**Soil Index Testing**  
**Big Gulch WWTF**  
**PanGEO Project No. 18-113**

Dear Mr. Ragudos;

In accordance with your request, HWA GeoSciences Inc. (HWA) performed laboratory testing for the above referenced project. Herein we present the results of our laboratory analyses, which are summarized on the attached report. The laboratory testing program was performed in general accordance with your instructions and appropriate ASTM Standards as outlined below.

**SAMPLE DESCRIPTION:** The subject samples were delivered to our laboratory on June 11, 2018 by Courier. The samples were delivered in re-sealable plastic bags and were designated with exploration ID, sample number, and depth of sampling. The soil samples were classified using visual-manual methods the descriptions may be found on the attached Figure 1.

**MOISTURE CONTENT OF SOIL:** The moisture contents of the soil samples (percent by dry mass) were determined in general accordance with ASTM D 2216. The results are shown on Figure 1.

**PERCENTAGE FINER THAN #200 SIEVE:** The percentage of material finer than the #200 sieve was determined for a selected sample in general accordance with ASTM D1140. The soil was oven dried, and washed over a #200 sieve to determine the percentage of fines. The results are shown on Figure 2.

**PARTICLE SIZE ANALYSIS OF SOILS:** The particle size distribution of each specified sample was determined in general accordance with ASTM D6913. The results are plotted on the attached Particle Size Analysis of Soil Report, Figures 2 and 3, which also indicates the moisture content of the soil samples at the time of testing.

**LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS (ATTERBERG LIMITS):** One selected sample was tested using method ASTM D4318, multi-point method. The results are reported on the attached Liquid Limit, Plastic Limit, and Plasticity Index report, Figure 4.

21312 30<sup>th</sup> Drive SE  
Suite 110  
Bothell, WA 98021-7010  
Tel: 425.774.0106  
Fax: 425.774.2714  
[www.hwageo.com](http://www.hwageo.com)



**CLOSURE:** Experience has shown that test values on soil and other natural materials vary with each representative sample. As such, HWA has no knowledge as to the extent and quantity of material the tested samples may represent. HWA also makes no warranty as to how representative either the samples tested or the test results obtained are to actual field conditions. It is a well-established fact that sampling methods present varying degrees of disturbance that affect sample representativeness.

No copy should be made of this report except in its entirety.

We appreciate the opportunity to provide laboratory testing services on this project. Should you have any questions or comments, or if we may be of further service, please call.

HWA GEOSCIENCES INC.

Stephen Wright  
Materials Laboratory Manager

Steven E. Greene, L.G, L.E.G.  
Principal Engineering Geologist  
Vice President

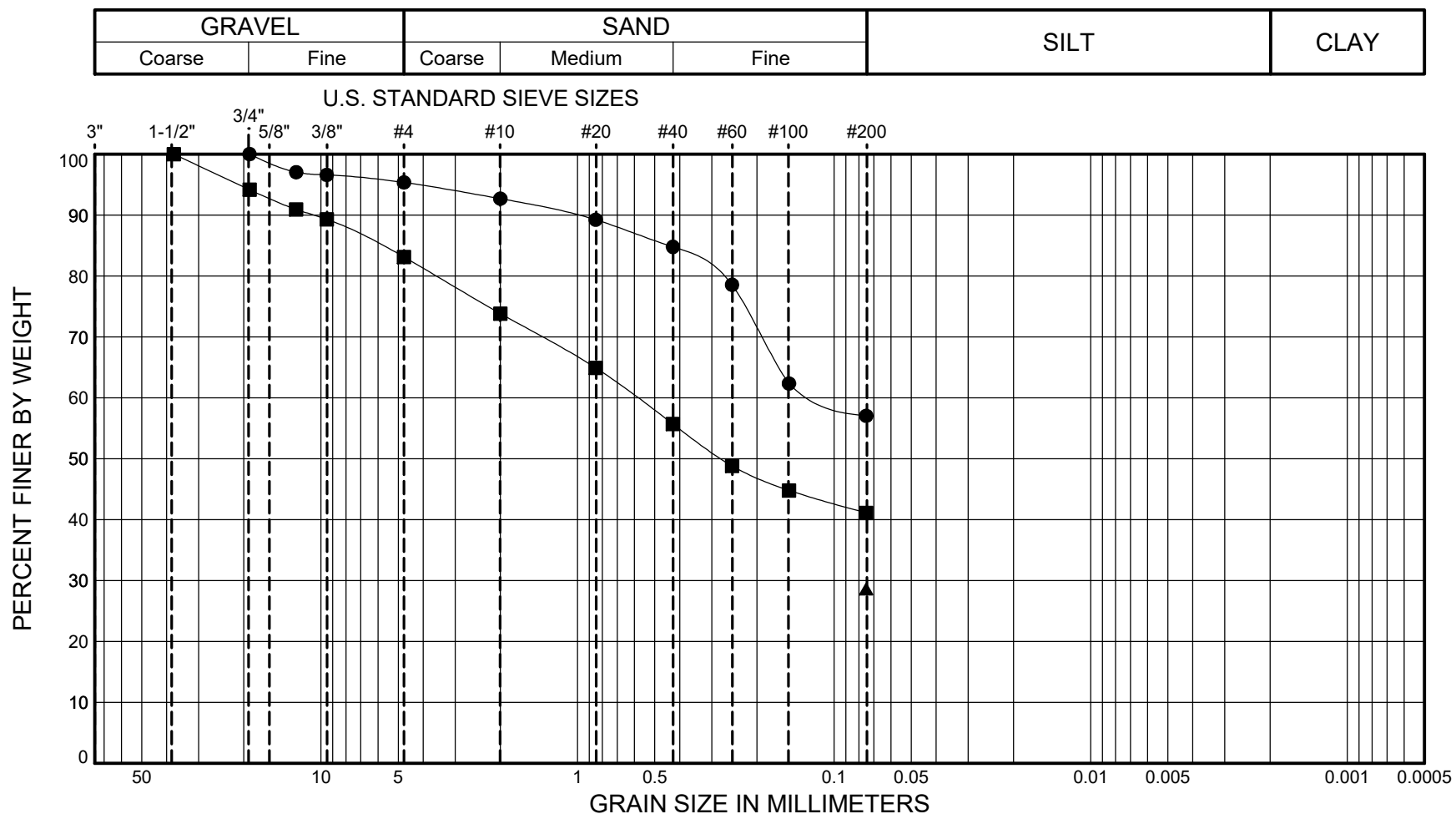
Attachments:

Figure 1	Summary of Material Properties
Figures 2-3	Particle Size Analysis of Soils
Figure 4	Liquid Limit, Plastic Limit and Plasticity Index of Soils



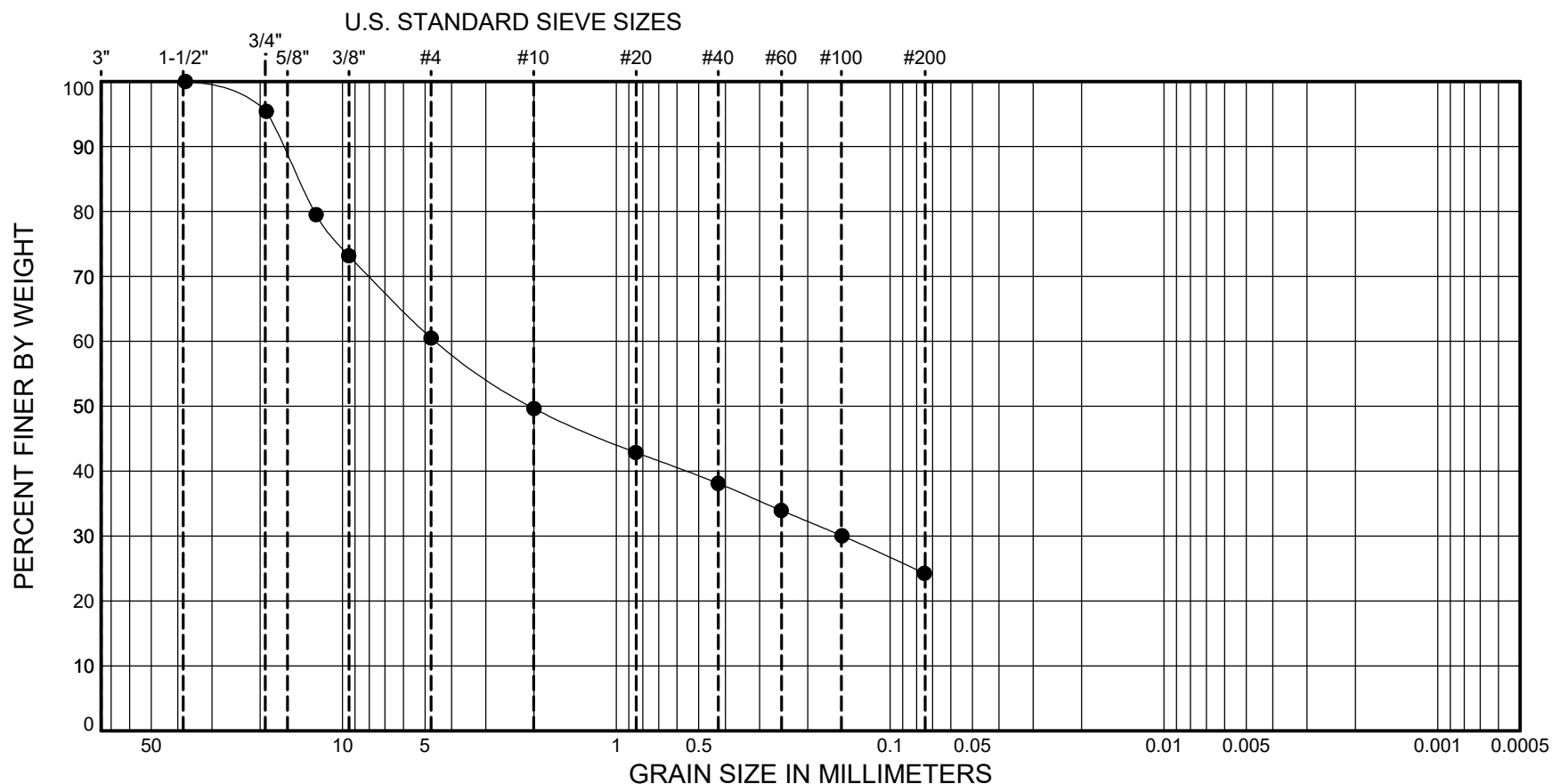
EXPLORATION DESIGNATION	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MOISTURE CONTENT (%)	ORGANIC CONTENT (%)	SPECIFIC GRAVITY	ATTERBERG LIMITS (%)			% GRAVEL	% SAND	% FINES	ASTM SOIL CLASSIFICATION	SAMPLE DESCRIPTION
						LL	PL	PI					
PG-1,S-4	10.0	11.5	13.4									GM	Grayish-brown, silty GRAVEL with sand
PG-1,S-6	20.0	21.5	36.9									ML	Grayish-brown, sandy SILT
PG-1,S-7	25.0	26.5	23.8						4.6	38.3	57.0	ML	Gray, sandy SILT
PG-1,S-9	35.0	36.5	22.5						16.9	42.0	41.1	SM	Gray, silty SAND with gravel
PG-2,S-3	7.5	9.0	30.1			28	23	5				ML	Dark gray, SILT
PG-2,S-4	10.0	11.5	33.8									ML	Grayish-brown, sandy SILT
PG-2,S-6	20.0	21.5	15.0								28.6	SM	Grayish-brown, silty SAND with gravel
PG-2,S-7	25.0	26.5	15.2						39.5	36.2	24.2	GM	Dark gray, silty GRAVEL with sand

Notes: 1. This table summarizes information presented elsewhere in the report and should be used in conjunction with the report test, other graphs and tables, and the exploration logs.  
2. The soil classifications in this table are based on ASTM D2487 and D2488 as applicable.

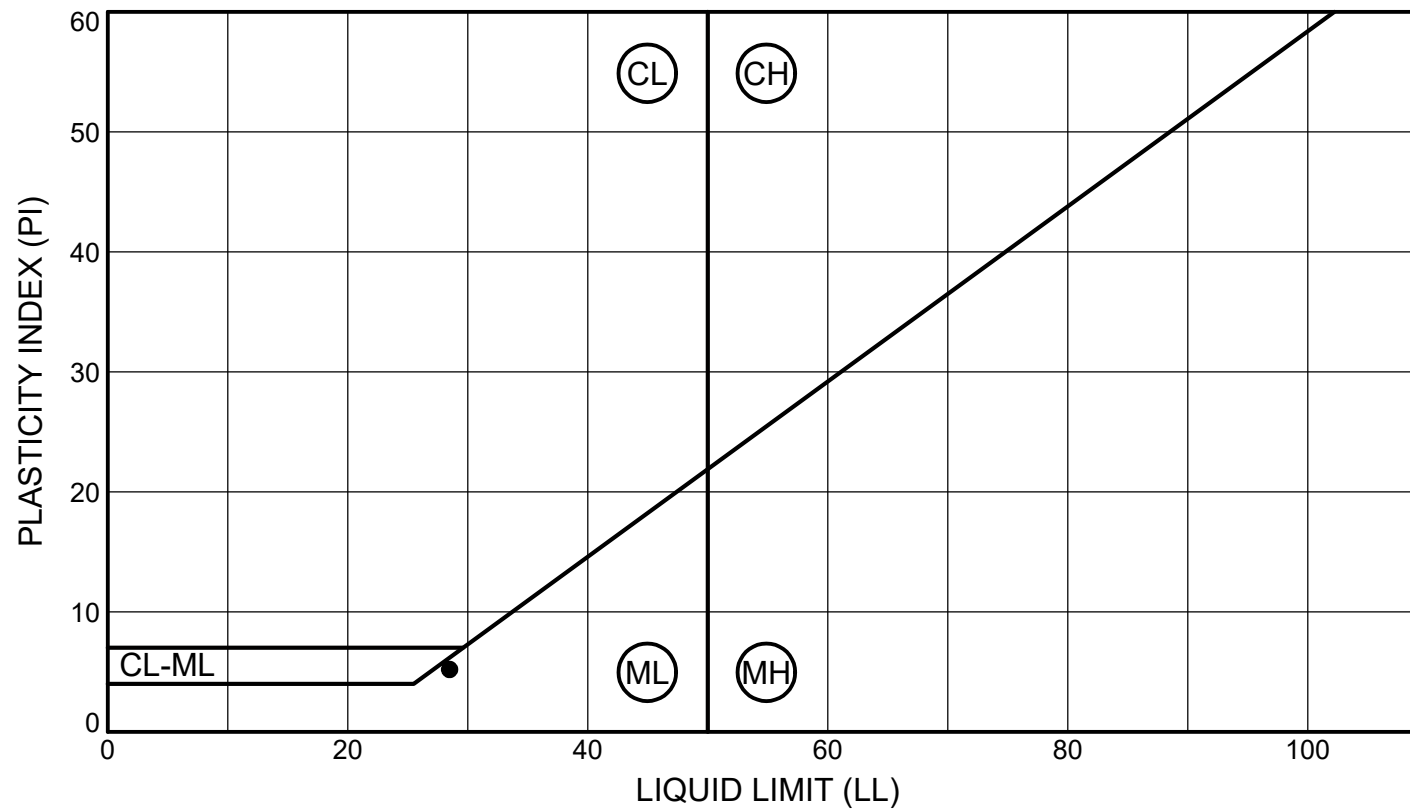


SYMBOL	SAMPLE		DEPTH ( ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	PG-1	S-7	25.0 - 26.5	(ML) Gray, sandy SILT	24				4.6	38.3	57.0
■	PG-1	S-9	35.0 - 36.5	(SM) Gray, silty SAND with gravel	23				16.9	42.0	41.1
▲	PG-2	S-6	20.0 - 21.5	(SM) Grayish-brown, silty SAND with gravel	15						28.6

GRAVEL		SAND			SILT	CLAY
Coarse	Fine	Coarse	Medium	Fine		



SYMBOL	SAMPLE		DEPTH ( ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	PG-2	S-7	25.0 - 26.5	(GM) Dark gray, silty GRAVEL with sand	15				39.5	36.2	24.2



SYMBOL	SAMPLE		DEPTH (ft)	CLASSIFICATION	% MC	LL	PL	PI	% Fines
●	PG-2	S-3	7.5 - 9.0	(ML) Dark gray, SILT	30	28	23	5	





Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance

9505 19th Avenue S.E.  
Suite 106  
Everett, Washington 98208  
**(425) 337-3174**  
Fax (425) 337-3045

## **CRITICAL AREA STUDY**

**FOR**

### ***BIG GULCH WASTEWATER TREATMENT FACILITY*** ***MUKILTEO, WA***

*Wetland Resources, Inc. Project #18057*

Prepared By  
Wetland Resources, Inc.  
9505 19th Avenue SE, Suite 106  
Everett, WA 98208  
(425) 337-3174

Prepared For  
Mukilteo Water & Wastewater District  
Attn. Rick Matthews  
7824 Mukilteo Speedway  
Mukilteo, WA 98275

July 17, 2018

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## 1.0 INTRODUCTION

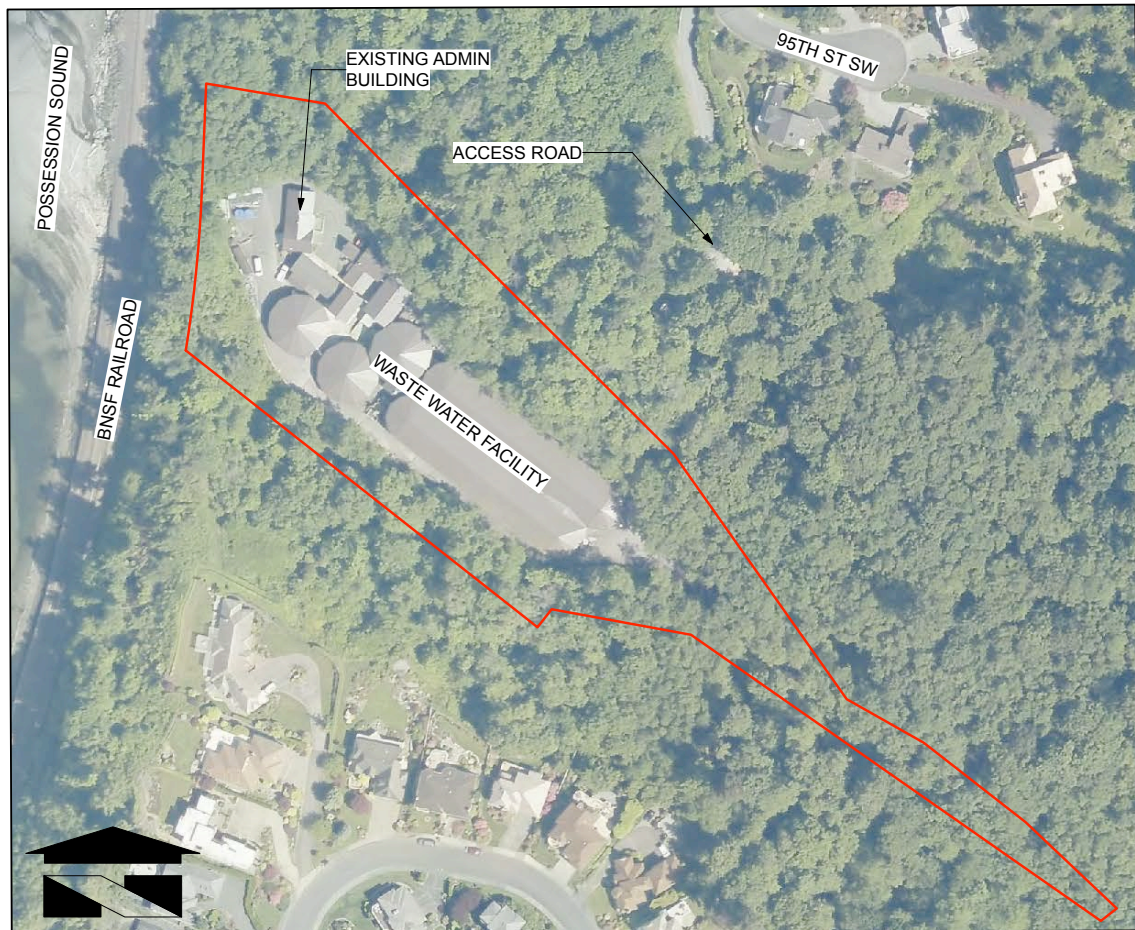
*Wetland Resources, Inc.* conducted a site investigation on March 1, 2018, to identify wetlands and streams on the site of Mukilteo Water and Wastewater's Big Gulch Wastewater Treatment Facility. The 4.75-acre property is located at 9417 62<sup>nd</sup> Pl SW in the city of Mukilteo, WA. The property is comprised of one tax parcel (28041700401300) and is further located as a portion of Section 17, Township 28N, Range 04E, W.M. The investigation area was limited to the west side of the site, near the location of the proposed new administrative and laboratory building.

### 1.1 SITE DESCRIPTION

The subject site is accessible via an access road south of 95<sup>th</sup> Pl SW. The existing Big Gulch Wastewater Treatment Facility (WWTF) is located in the center of the western side of the site. Surrounding land use is composed of single-family residential, the Big Gulch Trail System, and Puget Sound. The BNSF railroad borders the subject property to the west. Paine Field is located approximately 1.5 miles east of the subject property.

The WWTF is located within a ravine to the east of Puget Sound. The central area of the site, which contains the existing development, slopes gently to the west/northwest. The north side of the site has a southerly aspect and the south side of the site slopes down to the north. Several areas of steep slopes are present on the subject property. Big Gulch Creek runs along the northern boundary of the parcel. Per Mukilteo Municipal Code (MMC) 17.52C, this stream is a Type 3 stream and receives a 150-foot buffer. Puget Sound is a Shoreline of the State, and the area of the subject parcel that is within 200 feet of the sound is within Shoreline Jurisdiction. The Shoreline Use Designation for this site is Urban Conservancy.

Two wetlands, Wetland A and Wetland B, were identified within the investigation area. As required by the City of Mukilteo, the wetlands were classified using the *Washington State Department of Ecology's Wetland Rating System for Western Washington 2014 Update*. Wetland A is classified as Category III wetland, with habitat score of 6. Wetland B is classified as a Category IV wetland, with a habitat score of 6. Per MMC 17.52B, Category III wetlands with a 6 habitat points score receive a 165-foot buffers. Category IV wetlands typically receive standard 40-foot protective buffers.



**Figure 1:** Aerial view of the subject property.

## 1.2 PROJECT DESCRIPTION

Mukilteo Water and Wastewater district is proposing to replace an existing administration/lab building with a new building. The current administration/lab building to be demolished is a one-story building with a footprint of 1,960 square feet. The new administration/lab building will be a two-story building with the same footprint of 1,960 square feet. The proposed replacement building will be constructed to the west of the current building, over an area of existing asphalt. The proposed location of the replacement building is within a wetland and stream buffer, as well as within Shoreline Jurisdiction.

This project is necessary for two reasons. The existing administration building currently is in need of repair, and is too small to accommodate the administrative and lab functions required to run the WWTF. Also, as part of the WWTF operations, biosolids are hauled from the site. Due to site constraints, large tractor-trailer vehicles do not have enough space to turn around on the site. By removing the existing lab building from its current location and constructing a new



building to the west, the facility will be able to provide a sufficient turning radius for these vehicles.

### **1.3 EXISTING NONCONFORMING USE WITHIN A BUFFER**

The existing WWTF development is located within the buffer of Wetlands A and B and Big Gulch Creek. Per MMC 17B.52B.070.M, where a legally established, nonconforming use of a buffer exists, proposed actions in the buffer may be permitted as long as they do not increase the degree of nonconformity. The proposed replacement building will be constructed over an area of existing asphalt. As this area is already developed, this project will not increase the extent of nonconforming use, impervious surface on the site, or impact any areas that are not currently developed. No impact will occur to any wetlands, streams, or areas of vegetated buffer on the site. A detailed functions and values analysis is provided in Section 4 of this report.

Since the proposed replacement building will be located within the limits of the nonconforming use, and will not impact any buffer vegetation or the on-site wetlands or stream, no mitigation is required or proposed.

## **2.0 WETLAND DETERMINATION REPORT**

### **2.1 PUBLICLY AVAILABLE DATA**

Prior to conducting the site investigation, public resource information was reviewed to gather background information on the subject property and the surrounding area in regards to wetlands, streams, and other critical areas. These sources included the following:

#### *USDA/NRCS Web Soil Survey*

One soil map unit is mapped on the subject parcel: Alderwood-Everett gravelly sandy loam, 25 to 70 percent slopes. This soil type is not considered hydric (wetland) soil. A hydric component, Norma loam, occurs in depressions.

#### *USFWS National Wetlands Inventory (NWI)*

According to NWI, a riverine system is mapped along the northern boundary of the subject property that outlets to Puget Sound (the shoreline of which is classified as an estuarine wetland). NWI does not display any other features on or within close proximity to the subject property.

#### *Snohomish County PDS Map Portal*

PDS Map Portal maps Big Gulch Creek (fish habitat) along the northern boundary of the subject property, showing an unknown/untyped tributary to Big Gulch Creek in the north-central region of the subject property. The shoreline of Puget Sound is mapped as a Shoreline of Statewide Significance and as an estuarine and marine wetland. A modeled wetland is shown in the northwest corner of the subject property. No other features are shown on or in the vicinity of the subject property.

#### *City of Mukilteo Streams and Watersheds Map*

This resource depicts Big Gulch Creek in the same location as PDS Map Portal.

#### *DNR Forest Practices Application Mapping Tool (FPAMT)*

FPAMT displays a stream in approximately the same location as PDS Map Portal shows Big Gulch Creek. However, FPAMT shows that the stream is fish bearing for approximately 470 feet east of Puget Sound, until a water break, where the stream is classified as a Type N.

#### *WDFW Priority Habitat and Species (PHS) Interactive Map*

The PHS map shows the presence of resident cutthroat trout and Coho salmon in Big Gulch Creek. It also shows Puget Sound and its shoreline as estuarine and marine wetland, serving as habitat for geoduck, panalid shrimp, and Dungeness crab.

#### *WDFW Salmonscape Interactive Mapping System*

Salmonscape further confirms the presence of the Big Gulch Creek on-site, noting that it has documented presence of Coho salmon. Salmonscape also shows 3 ephemeral tributaries flowing south to north, into Big Gulch Creek.

## **2.2 FIELD DETERMINATION METHODOLOGY**

Ordinary High Water Mark (OHWM) boundaries of lakes, streams, and marine waters are determined through use of methodology presented in The Washington State Department of Ecology document *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al 2016).

Wetland conditions were evaluated using routine methodology described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, (referred as 2010 Regional Supplement). Our findings are consistent with these manuals.

The following criteria descriptions were used in the boundary determination:

- 1.) Examination of the site for hydrophytic vegetation (species present and percent cover);
- 2.) Examination of the site for hydric soils;
- 3.) Determining the presence of wetland hydrology

### **2.2.1 Hydrophytic Vegetation Criteria**

The manuals define hydrophytic vegetation as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. One of the most common indicators for hydrophytic vegetation is when more

than 50 percent of a plant community consists of species rated “Facultative” and wetter on lists of plant species that occur in wetlands.

### **2.2.2 Soils Criteria and Mapped Description**

The manuals define hydric soils as those that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Field indicators are used for determining whether a given soil meets the definition for hydric soils.

According to NRCS Web Soil Survey, the soil map unit Alderwood-Everett gravelly sandy loam, 25 to 70 percent slopes is predicted to occur. This soil type is not considered hydric (wetland) soil. A hydric component, Norma loam, occurs in depressions.

### **2.2.3 Hydrology Criteria**

The 2010 Regional Supplement defines wetland hydrology as “areas that are inundated (flooded or ponded) or the water table is less than or equal to 12 inches below the soil surface for 14 or more consecutive days during the growing season at a minimum frequency of 5 years in 10.” During the early growing season, wetland hydrology determinations are made based on physical observation of surface water, a high water table, or saturation in the upper 12 inches. Outside of the early growing season, wetland hydrology determinations are made based on physical evidence of recent inundation or saturation (i.e. water marks, surface soil cracks, water-stained leaves).

Based on the results of the site investigation, two wetlands were identified on the subject property. The wetlands were rated pursuant to the *Washington State Wetland Rating System for Western Washington (updated 2014)*.

## **2.3 BOUNDARY DETERMINATION FINDINGS**

### **2.3.1 Wetland A**

Cowardin Classification: Palustrine, Forested, Broad-leaved Deciduous, Seasonally flooded

HGM Classification: Depressional

Department of Ecology Rating: Category III, habitat score 6

City of Mukilteo Standard Buffer: 165-feet

Wetland A is a depressional wetland located to the north of the wastewater facilities, on the north side of Big Gulch Creek. This wetland extends off-site to the north. Vegetation within Wetland A includes red alder (*Alnus rubra*; FAC), western red cedar (*Thuja plicata*; FAC), Oso-berry (*Oemleria cerasiformis*; FAC), red osier dogwood (*Cornus sericea*; FACW), salmonberry (*Rubus spectabilis*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), piggyback plant (*Tolmeia menziesii*; FAC), sword fern (*Polystichum munitum*; FACU), and ivy (*Hedera helix*; FACU). The dominant species rate “facultative” or wetter, indicating that a hydrophytic vegetative community is present in the areas mapped as wetland.

Typical wetland soils are a Munsell color of very dark grayish brown (2.5Y 3/2) and a silty loam texture in the upper layer. The sublayer is generally dark gray (10YR 4/1) silt loam with light yellowish brown (10YR 6/4) redoximorphic features. These soils meet the F3 (Depleted Matrix) hydric soil indicator. Soils were saturated at 9 inches below the surface during the March 2018 site visit.

Field observations indicate that the area mapped as wetland is flooded, ponded, or saturated long enough during the growing season to develop anaerobic conditions in the upper part of the soils. The vegetation, soil, and hydrologic criteria are all met for this wetland.

### **2.3.2 Wetland B**

Cowardin Classification: Palustrine, Forested, Broad-leaved Deciduous, Saturated Only

HGM Classification: Slope

Department of Ecology Rating: Category IV, habitat score 6

City of Mukilteo Standard Buffer: 40-feet

The delineation of Wetland B was conducted by others prior to the WRI site investigation. Wetland flagging was still present on-site, and WRI reviewed the boundary and concurs with the previous delineation. This wetland is located on the south side of the property on a hillside, and appears to extend off-site to the south. Vegetation within Wetland B includes red alder (*Alnus rubra*; FAC), salmonberry (*Rubus spectabilis*; FAC), and piggyback plant (*Tolmeia menziesii*; FAC). The dominant species rate “facultative” or wetter, indicating that a hydrophytic vegetative community is present in the areas mapped as wetland.

Soils in Wetland B are generally very dark gray (10YR 3/1) sandy clay loam in the upper layer. The sublayer is generally dark grayish brown (10YR 4/2) silt loam containing redoximorphic features. These soils meet the F3 (Depleted Matrix) hydric soil indicator. Soils were saturated and seeps on the hillside were observed during the March 2018 site visit.

Field observations indicate that the area mapped as wetland is flooded, ponded, or saturated long enough during the growing season to develop anaerobic conditions in the upper part of the soils. The vegetation, soil, and hydrologic criteria are all met for this wetland.

### **2.3.3 Non-wetland Areas**

Dominant vegetation in the non-wetland areas adjacent to the wetlands is represented by big leaf maple (*Acer macrophyllum*; FACU), Oso-berry (*Oemleria cerasiformis*; FAC), oceanspray (*Holodiscus discolor*; FACU), salal (*Gaultheria shallon*; FACU), and sword fern (*Polystichum munitum*; FACU).

Typical soils in the area mapped as non-wetland have a Munsell color of very dark grayish brown (10YR 3/2), with a sandy loam texture, from 0 to 16 inches below the soil surface. No redoximorphic features were present within the soil profile. Soils sampled in the area mapped as non-wetland do not appear to be flooded, ponded, or saturated long enough during the growing season to develop anaerobic conditions in the upper part, and therefore do not appear to meet wetland soils criteria.



Given that the dominant vegetative community is not hydrophytic, direct hydrologic indicators are lacking, and hydric soils are absent in these areas, it appears that areas mapped as non-wetland do not meet criteria for wetlands.

#### **2.3.4 Big Gulch Creek**

Big Gulch Creek flows from east to west, along the north side of the site. It flows through a culvert under the railroad and into the sound. This stream is a documented salmonid stream, and is a Type 3 stream per MMC. 17.52C. Type 3 streams receive a 150-foot buffer.

#### **2.3.5 Puget Sound**

Puget Sound is located just off-site to the west. This waterbody is classified as a Shoreline of the State. The area of the subject parcel that is within 200 feet of the sound is within Shoreline Jurisdiction. The Shoreline Use Designation for this site is Urban Conservancy.

### **3.0 WILDLIFE**

Avian species expected to use the subject site include: American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), House finch (*Carpodacus mexicanus*), Black-capped chickadee (*Poecile atricapillus*), Dark-eyed junco (*Junco hyemalis*), Bushtit (*Psaltiriparus minimus*), Northern flicker (*Colaptes auratus*), Hairy woodpecker (*Picoides villosus*), Downy woodpecker (*Dendrocopos villosus*), Red-breasted nuthatch (*Sitta canadensis*), Brown creeper (*Certhia americana*), Varied thrush (*Ixoreus naevius*), Rufous hummingbird (*Selasphorus rufus*), Western tanager (*Piranga ludoviciana*), Glaucous-winged gull (*Larus glaucescens*), Rock pigeon (*Columba livia*), Belted king fisher (*Megaceryle alcyon*), Bald eagle (*Haliaeetus leucocephalus*), and Red-tailed hawk (*Buteo jamaicensis*).

Mammals expected to use this site include: Virginia opossum (*Didelphis virginiana*), shrews (*Sorex spp.*), eastern gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), and eastern cottontail rabbits (*Sylvilagus floridanus*). Other wildlife expected to use this site include: pacific tree frog (*Hyla regilla*), northwestern salamander (*Ambystoma gracile*), and rough-skinned newt (*Taricha granulosa*).

Salmonid fish species documented in Big Gulch Creek include: resident coastal cutthroat (*Oncorhynchus clarki*) and Coho salmon (*Oncorhynchus kisutch*).

These lists are not meant to be all-inclusive and may omit species that currently utilize or could utilize the site.

## **4.0 FUNCTIONS AND VALUES ANALYSIS**

### **4.1 METHODOLOGY**

The methodology for this functions and values assessment is based on professional opinion developed through past field analyses and interpretation. This assessment pertains specifically to the on-site wetland and buffers, but is typical for assessments of similar systems common to Western Washington.

#### **4.1.1 Wetland Functional Components**

Wetlands in Western Washington perform a variety of ecosystem functions. Included among the most important functions provided by wetlands are stormwater control, water quality improvement, fish and wildlife habitat, aesthetic value, recreational opportunities and education. The most commonly assessed functions and their descriptions are listed below.

##### *Hydrologic Functions*

Wetlands often function as natural water storage areas during periods of precipitation and flooding. By storing water that otherwise might be channeled into open flow systems, wetlands can attenuate or modify potentially damaging effects of storm events, reducing erosion and peak flows to downstream systems. Additionally, the soils underlying wetlands are often less permeable, providing long-term storage of stormwater or floodflow and controlling baseflows of downstream systems. Stormwater storage capacity and floodflow attenuation are generally a function of the size of the wetland and their topographic characteristics.

##### *Water Quality*

Surface water quality improvement is an additional important wetland function. Surface runoff during periods of precipitation increases the potential for sediments and pollutants to enter surface water. Wetlands improve water quality by acting as filters as water passes through them, trapping sediments and pollutants from surface water. Ponded areas within depressional wetlands also allow sediments to drop out of suspension, thereby increasing water quality. The size of wetlands and the vegetation structure within them are some of the limiting factors of this function.

##### *Wildlife Habitat*

Wetlands have potential to provide diverse habitat for aquatic, terrestrial, and avian species for nesting, rearing, resting, cover, and foraging. Wildlife species are commonly dependent upon a variety of intermingled habitat types, including wetlands, adjacent uplands, large bodies of water, and movement corridors between them. Human intrusion, including development within and adjacent to wetlands, and impacts to movement corridors are the most limiting factors for wildlife habitat functions.

#### **4.1.2 Buffer Functional Components**

##### *Water Quality*

Vegetated wetland buffers obstruct water flow, thereby decreasing water velocity, allowing infiltration into the soil, and reducing soil erosion potential.

##### *Hydrologic functions*

Wetland buffers help to moderate water level fluctuations. Buffer vegetation impedes the flow of runoff, increases the humus content of soil (greater adsorption capacity), and preserves soil composition as intense rainfall hits the ground.

##### *Wildlife Habitat*

Many birds, mammals, and amphibians use wetland buffers for some part of their life needs. Their use of these sites is dependent on the valuable edge habitat found at the wetland/upland border.

### **4.2 FUNCTIONS AND VALUES ASSESSMENT – EXISTING CONDITIONS**

#### **4.2.1 Wetland A**

##### *Hydrologic Function*

Wetland A is a depressional wetland along the north site of Big Gulch Creek. In general, depressional wetlands help control flood events by slowing and storing precipitation and runoff. This wetland helps control flood events by collecting and temporarily storing hydrology from the surrounding area during storm events, slowing water as it moves toward Big Gulch Creek. This wetland provides a moderate value for this function.

##### *Water Quality*

This wetland provides water quality benefits as water collects in the depressional area, helping settle any contaminants. The fairly dense shrubs and herbaceous plants assist in filtering sediment from stormwater and in improving water quality as water moves through the system and toward Big Gulch Creek. This wetland provides a moderate value for this function.

##### *Wildlife Habitat*

Wetland A is a forested wetland, with multi-level understory. This wetland contains multiple hydroperiods and habitat features, including snags and downed logs. The vegetation within the wetland provides resources such as food, water, thermal cover and hiding cover in close proximity, which wildlife species need to thrive. However, the adjacent development and the urbanized nature of the surrounding area, limit the habitat functions this wetland provides for wildlife. This wetland provides a moderate value for this function.

#### **4.2.2 Wetland B**

##### *Hydrologic Function*

Wetland B is a slope wetland along the southern side of the site. In general, slope wetlands provide limited water storage. However, since this wetland is densely vegetated, it helps control flood events by slowing precipitation and runoff from the surrounding area during storm events.

##### *Water Quality*

This wetland provides water quality benefits as water moves through the wetland. The shrubs and herbaceous plants within the wetland assist in filtering sediment from stormwater, improving water quality as water moves through the wetland. However, the sloped nature of this wetland limits this function.

##### *Wildlife Habitat*

Wetland B is a forested wetland, with multi-level understory. This wetland contains multiple hydroperiods and habitat features, including snags and downed logs. The vegetation within the wetland provides resources such as food, water, thermal cover and hiding cover in close proximity, which wildlife species need to thrive. However, adjacent development and urbanized nature of the surrounding area limits the functions this wetland can provide for wildlife. This wetland provides a moderate level of value for this function.

#### **4.2.3 Buffers**

The forested buffer areas contain multiple vegetation strata in the understory and are dominated by native species. These buffer areas moderate stormwater runoff and reduce soil erosion potential. They provide opportunity for perching, refuge, and availability of native food sources benefits wildlife utilizing the site. Overall these areas provide a moderate to high level of buffer functions.

The developed areas within the buffer do not currently provide water quality benefits, storm water infiltration, support native vegetation, or wildlife habitat. These areas that contain existing development do not presently contribute to the health or functions of the wetland or stream.

#### **4.3 POST-DEVELOPMENT FUNCTIONS AND VALUES**

No impacts to the on-site wetlands or Big Gulch Creek are proposed. The on-site wetlands will continue to provide the same level of functions post-construction as they currently provide.

The new lab/administration building will be constructed over an area that is currently asphalt, which does not provide water quality, hydrological, or wildlife functions. The total area of development (nonconforming use) within the wetland and stream buffers will remain the same. No impacts to vegetation within the buffer areas are proposed. The proposed project will maintain the existing buffer functions and values and will not reduce the protections currently provided to the on-site wetlands and stream.

## 5.0 USE OF THIS REPORT

This Critical Area Study is supplied to the Mukilteo Water & Wastewater District as a means of determining on-site critical area conditions, as required by the City of Mukilteo. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to wetlands are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report, and any implied representation or warranty is disclaimed.

*Wetland Resources, Inc.*



Meryl Kamowski  
*Senior Ecologist*



## 6.0 REFERENCES

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## APPENDIX A: WETLAND RATING FORMS AND FIGURES

Wetland name or number Wetland A

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A - 18057 MWWD Date of site visit: 3/1/18

Rated by MK Trained by Ecology? ☒ Yes ☐ No Date of training 03/2015

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes? ☐ Y ☒ N

**NOTE: Form is not complete without the figures requested** (*figures can be combined*).

Source of base aerial photo/map ESRI World Imagery

**OVERALL WETLAND CATEGORY III** (based on functions ☒ or special characteristics ☐)

### 1. Category of wetland based on FUNCTIONS

           Category I – Total score = 23 - 27

           Category II – Total score = 20 - 22

☒ Category III – Total score = 16 - 19

           Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L	H M <input type="checkbox"/> L	
Landscape Potential	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L	<input checked="" type="checkbox"/> H M L	H <input type="checkbox"/> M <input checked="" type="checkbox"/> L	
Value	H M <input type="checkbox"/> L	H M <input type="checkbox"/> L	<input checked="" type="checkbox"/> H M L	
Score Based on Ratings	5	6	6	<b>17</b>

Score for each  
function based  
on three  
ratings  
(order of ratings  
is not  
important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number **Wetland A**

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number **Wetland A**

## HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

**NO** – **Saltwater Tidal Fringe (Estuarine)**

**YES** – **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

**NO** – go to 3

**YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

– The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

– At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

– The wetland is on a slope (*slope can be very gradual*),

– The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

– The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

**NOTE:** Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

– The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

– The overbank flooding occurs at least once every 2 years.



Wetland name or number Wetland A

**NO** – go to 6

**YES** – The wetland class is **Riverine**

**NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

**NO** – go to 7

**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

**NO** – go to 8

**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated		HGM class to use in rating
Slope + Riverine	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number Wetland A

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
<b>D 1.1. Characteristics of surface water outflows from the wetland:</b> <input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 <input type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 <input checked="" type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	<b>1</b>	
<b>D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4</b>	<b>No = 0</b>	<b>0</b>
<b>D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</b> <input checked="" type="checkbox"/> Wetland has persistent, ungrazed, plants > 95% of area points = 5 <input type="checkbox"/> Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 <input type="checkbox"/> Wetland has persistent, ungrazed plants > 1/10 of area points = 1 <input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0	<b>5</b>	
<b>D 1.4. Characteristics of seasonal ponding or inundation:</b> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> <input type="checkbox"/> Area seasonally ponded is > 1/2 total area of wetland points = 4 <input type="checkbox"/> Area seasonally ponded is > 1/4 total area of wetland points = 2 <input checked="" type="checkbox"/> Area seasonally ponded is < 1/4 total area of wetland points = 0	<b>0</b>	
<b>Total for D 1</b> Add the points in the boxes above		<b>6</b>

**Rating of Site Potential** If score is: 12-16 = H ✓ 6-11 = M 0-5 = L Record the rating on the first page

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
<b>D 2.1. Does the wetland unit receive stormwater discharges?</b>	Yes = 1 No = 0	<b>1</b>
<b>D 2.2. Is &gt; 10% of the area within 150 ft of the wetland in land uses that generate pollutants?</b>	Yes = 1 No = 0	<b>1</b>
<b>D 2.3. Are there septic systems within 250 ft of the wetland?</b>	Yes = 1 No = 0	<b>0</b>
<b>D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?</b> Source _____	Yes = 1 No = 0	<b>0</b>
<b>Total for D 2</b> Add the points in the boxes above		<b>2</b>

**Rating of Landscape Potential** If score is: 3 or 4 = H ✓ 1 or 2 = M 0 = L Record the rating on the first page

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
<b>D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?</b>	Yes = 1 No = 0	<b>0</b>
<b>D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?</b>	Yes = 1 No = 0	<b>0</b>
<b>D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?</b>	Yes = 2 No = 0	<b>0</b>
<b>Total for D 3</b> Add the points in the boxes above		<b>0</b>

**Rating of Value** If score is: 2-4 = H 1 = M ✓ 0 = L Record the rating on the first page

--	--	--

Wetland name or number Wetland A**DEPRESSIONAL AND FLATS WETLANDS****Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?

D 4.1. Characteristics of surface water outflows from the wetland:

- |   |            |          |
|---|------------|----------|
| <input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet)                      | points = 4 | <b>0</b> |
| <input type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet      | points = 2 |          |
| <input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch                | points = 1 |          |
| <input checked="" type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing | points = 0 |          |

D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.

- |  |            |          |
|--|------------|----------|
| <input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet         | points = 7 | <b>3</b> |
| <input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet        | points = 5 |          |
| <input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 |          |
| <input type="checkbox"/> The wetland is a "headwater" wetland  | points = 3 |          |
| <input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water        | points = 1 |          |
| <input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in)  | points = 0 |          |

D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.

- |   |            |          |
|---|------------|----------|
| <input type="checkbox"/> The area of the basin is less than 10 times the area of the unit         | points = 5 | <b>3</b> |
| <input checked="" type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit | points = 3 |          |
| <input type="checkbox"/> The area of the basin is more than 100 times the area of the unit        | points = 0 |          |
| <input type="checkbox"/> Entire wetland is in the Flats class                                     | points = 5 |          |

Total for D 4

Add the points in the boxes above

**6****Rating of Site Potential** If score is: 12-16 = H ✓ 6-11 = M 0-5 = L

Record the rating on the first page

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?

D 5.1. Does the wetland receive stormwater discharges?

Yes = 1 No = 0

**1**

D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?

Yes = 1 No = 0

**1**

D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?

Yes = 1 No = 0

**1**

Total for D 5

Add the points in the boxes above

**3****Rating of Landscape Potential** If score is: ✓ 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?

D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):

- |  |            |          |
|--|------------|----------|
| <input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit.   | points = 2 | <b>0</b> |
| <input type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient.   | points = 1 |          |
| <input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin.   | points = 1 |          |
| <input type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ | points = 0 |          |
| <input checked="" type="checkbox"/> There are no problems with flooding downstream of the wetland.   | points = 0 |          |

D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2 No = 0

**0**

Total for D 6

Add the points in the boxes above

**0****Rating of Value** If score is: 2-4 = H 1 = M ✓ 0 = L

Record the rating on the first page

Wetland name or number Wetland A**These questions apply to wetlands of all HGM classes.****HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat**H 1.0. Does the site have the potential to provide habitat?**

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- |  |  |          |
|--|--|----------|
| <input type="checkbox"/> Aquatic bed   | 4 structures or more: points = 4                                       | <b>1</b> |
| <input type="checkbox"/> Emergent  | 3 structures: points = 2   |          |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)   | <span style="border: 1px solid black;">2 structures: points = 1</span> |          |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover)  | 1 structure: points = 0  |          |
| <i>If the unit has a Forested class, check if:</i>   |  |          |
| <input checked="" type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon |  |          |

**H 1.2. Hydroperiods**

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- |  |   |          |
|--|---|----------|
| <input type="checkbox"/> Permanently flooded or inundated                                    | 4 or more types present: points = 3                                       | <b>1</b> |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated                          | 3 types present: points = 2   |          |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | <span style="border: 1px solid black;">2 types present: points = 1</span> |          |
| <input checked="" type="checkbox"/> Saturated only   | 1 type present: points = 0  |          |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland |   |          |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland           |   |          |
| <input type="checkbox"/> <b>Lake Fringe wetland</b>  | <b>2 points</b>   |          |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     | <b>2 points</b>   |          |

**H 1.3. Richness of plant species**

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: > 19 species

points = 2

5 - 19 species

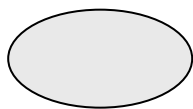
points = 1

< 5 species

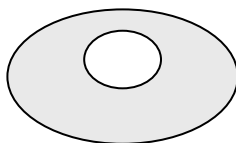
points = 0

**H 1.4. Interspersion of habitats**

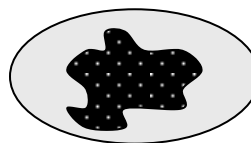
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



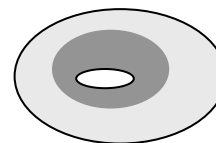
None = 0 points



**Low = 1 point**

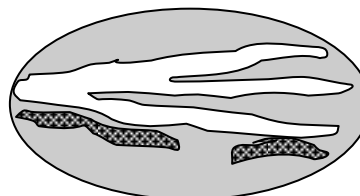
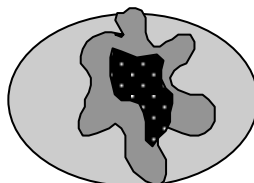
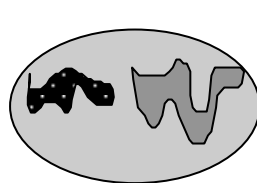


**Moderate = 2 points**



**0**

All three diagrams in this row are **HIGH** = 3points



Wetland name or number Wetland A

<b>H 1.5. Special habitat features:</b> Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input checked="" type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present ( <i>cut shrubs or trees that have not yet weathered where wood is exposed</i> ) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated ( <i>structures for egg-laying by amphibians</i> ) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants ( <i>see H 1.1 for list of strata</i> )		<b>3</b>
Total for H 1	Add the points in the boxes above	<b>6</b>

**Rating of Site Potential** If score is: 15-18 = H 7-14 = M ☒ 0-6 = L

Record the rating on the first page

<b>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</b>		
<b>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</b> <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>6</u> = <u>6</u> % If total accessible habitat is: <input type="checkbox"/> > 1/3 (33.3%) of 1 km Polygon points = 3 <input type="checkbox"/> 20-33% of 1 km Polygon points = 2 <input type="checkbox"/> 10-19% of 1 km Polygon points = 1 <input checked="" type="checkbox"/> < 10% of 1 km Polygon points = 0		<b>0</b>
<b>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</b> <i>Calculate:</i> % undisturbed habitat <u>1</u> + [(% moderate and low intensity land uses)/2] <u>28</u> = <u>29</u> % <input type="checkbox"/> Undisturbed habitat > 50% of Polygon points = 3 <input checked="" type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2 <input type="checkbox"/> Undisturbed habitat 10-50% and > 3 patches points = 1 <input type="checkbox"/> Undisturbed habitat < 10% of 1 km Polygon points = 0		<b>2</b>
<b>H 2.3. Land use intensity in 1 km Polygon: If</b> <input type="checkbox"/> > 50% of 1 km Polygon is high intensity land use points = (- 2) <input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0		<b>0</b>
Total for H 2	Add the points in the boxes above	<b>2</b>

**Rating of Landscape Potential** If score is: 4-6 = H ☒ 1-3 = M < 1 = L

Record the rating on the first page

<b>H 3.0. Is the habitat provided by the site valuable to society?</b>		
<b>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></b> Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan <input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 <input type="checkbox"/> Site does not meet any of the criteria above points = 0		<b>2</b>

**Rating of Value** If score is: ☒ 2 = H 1 = M 0 = L

Record the rating on the first page



Wetland name or number **Wetland A**

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha ) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- ☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ☒ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- ☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.



Wetland name or number Wetland A

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <p><input type="checkbox"/> <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</p> <p><input type="checkbox"/> <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</p> <p style="text-align: right;">Yes = <b>Category I</b>      No = <b>Not a forested wetland for this section</b></p>	<b>Cat. I</b>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</p> <p><input type="checkbox"/> The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</p> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>      No = <b>Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1. Does the wetland meet all of the following three conditions?</b></p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</p> <p><input type="checkbox"/> At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</p> <p style="text-align: right;">Yes = <b>Category I</b>      No = <b>Category II</b></p>	<b>Cat. I</b>       <b>Cat. II</b>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109</p> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>      No = <b>not an interdunal wetland for rating</b></p> <p><b>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?</b> Yes = <b>Category I</b>      No – Go to <b>SC 6.2</b></p> <p><b>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</b> Yes = <b>Category II</b>      No – Go to <b>SC 6.3</b></p> <p><b>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?</b> Yes = <b>Category III</b>      No = <b>Category IV</b></p>	<b>Cat I</b>       <b>Cat. II</b>    <b>Cat. III</b>    <b>Cat. IV</b>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<b>N/A</b>






Wetland name or number \_\_\_\_\_

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MWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 1- WETLAND A

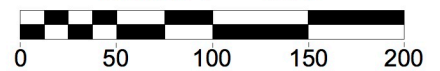


**LEGEND**

-  FORESTED VEGETATION
-  SATURATED ONLY
-  SEASONALLY FLOODED
-  150' FROM WL BOUNDARY
-  PERENNIAL STREAM



Scale 1" = 100'



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9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
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Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

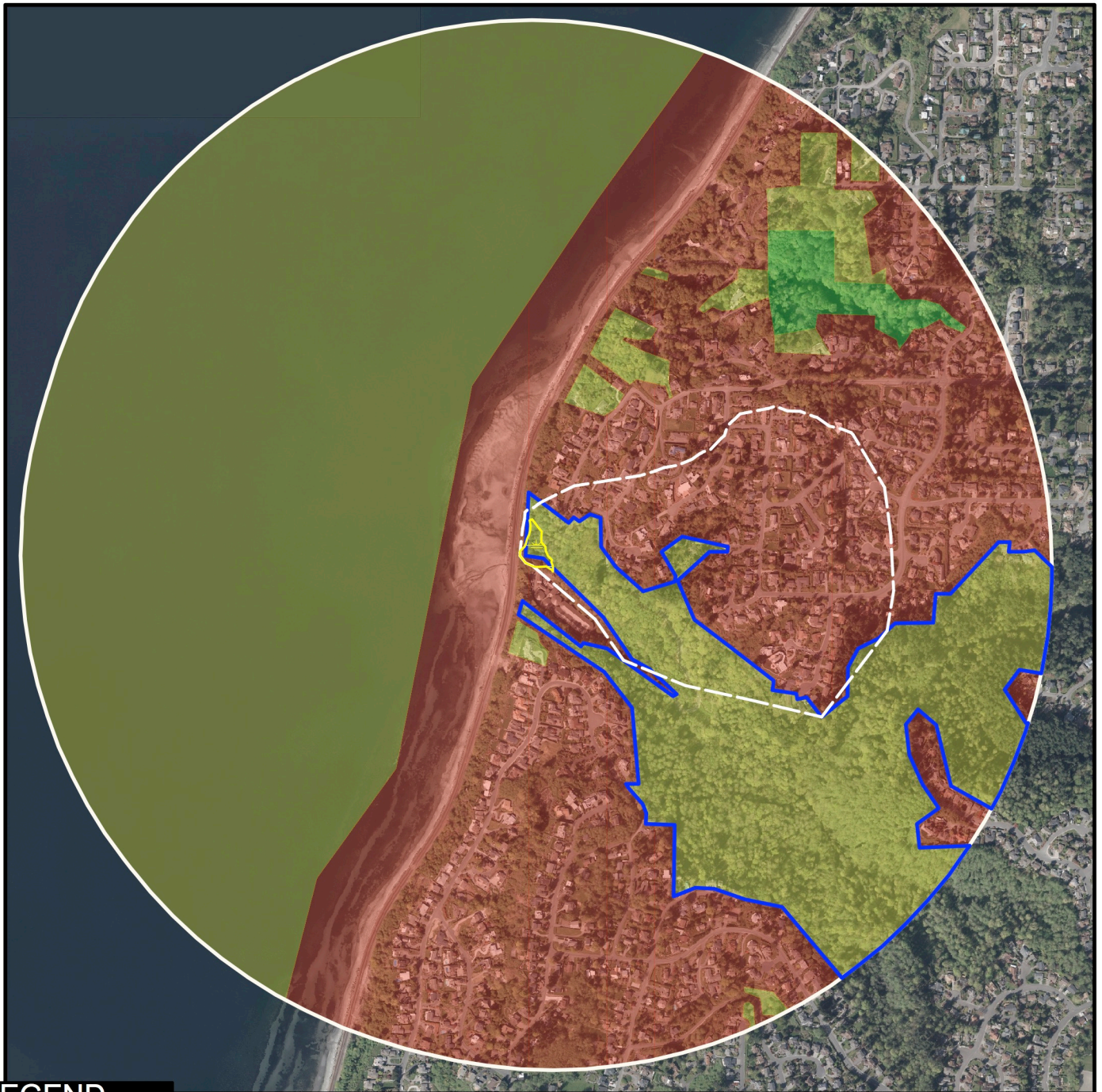
**WETLAND RATING  
Wetland A**

Mukilteo Water & Wastewater District  
Attn: Rick Matthews  
7824 Mukilteo Speedway  
Mukilteo, WA 98275

Figure A-1  
WRI Job # 18057  
Rated by: MK



MWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 2- WETLAND A

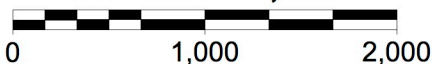


**LEGEND**

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN



Scale 1" = 1,000'



**CONTRIBUTING BASIN  
AREA RELATIVE TO  
WETLAND UNIT IS 93:1**

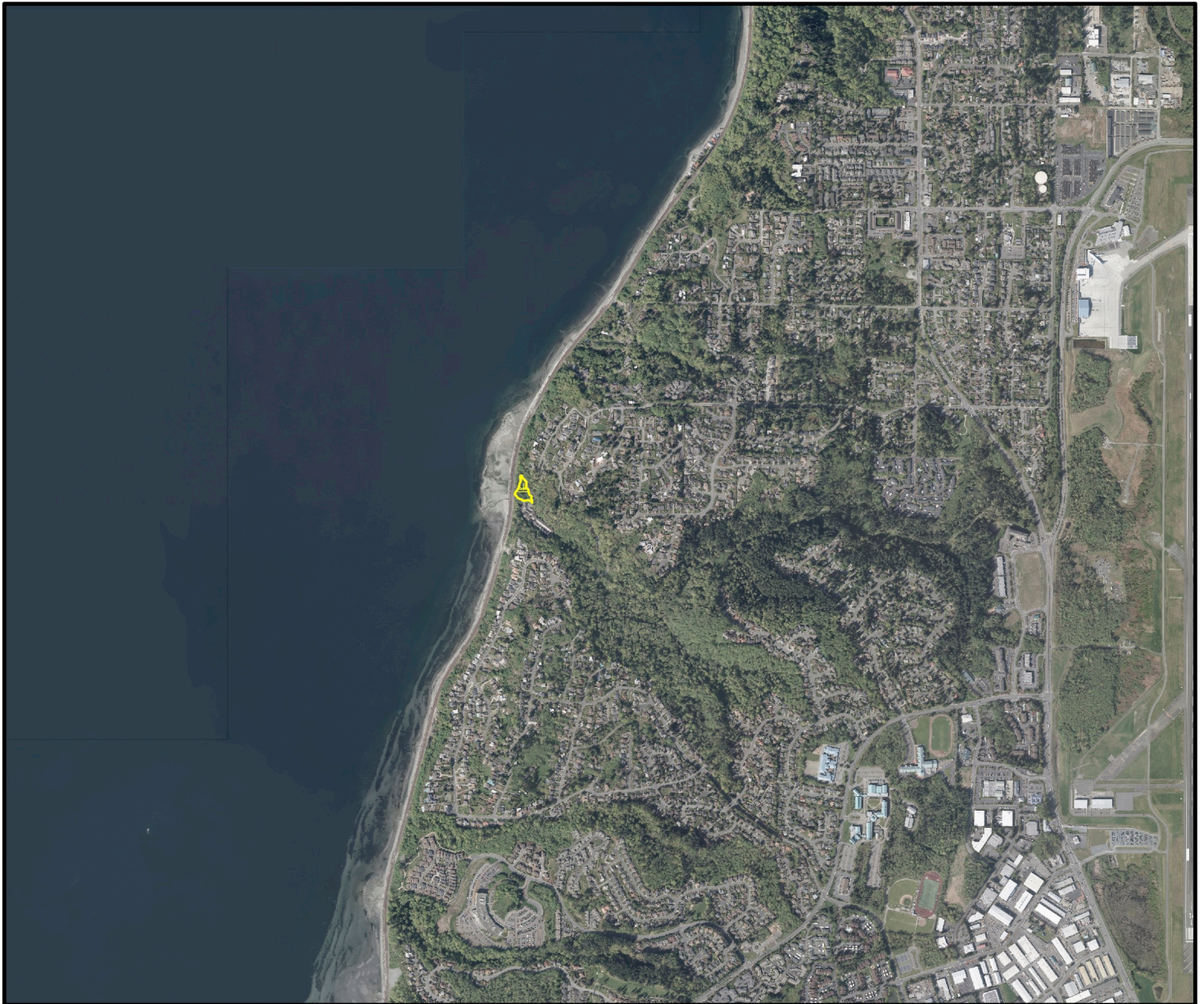
*Wetland Resources, Inc.*  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
Phone: (425) 337-3174  
Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

**WETLAND RATING  
Wetland A**

Mukilteo Water & Wastewater District  
Attn: Rick Matthews  
7824 Mukilteo Speedway Mukilteo, WA 98275  
Figure A-2  
WRI Job # 18057  
Rated by: MK



MWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 3- WETLAND A



**LEGEND**



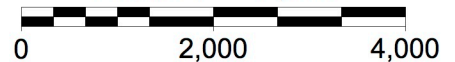
WETLAND



AQUATIC RESOURCES  
ON THE 303(d) LIST



**Scale 1" = 2,000'**



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**WETLAND RATING  
Wetland A**

Mukilteo Water & Wastewater District

Attn: Rick Matthews

7824 Mukilteo Speedway

Mukilteo, WA 98275

Figure A-3

WRI Job # 18057

Rated by: MK



# MWWWD - WWTF LAB-ADMIN BLDG

## WETLAND RATING FIGURE 4- WETLAND A

### WRIA 8: Cedar-Sammamish

The following table lists overview information for water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area ([WRIA](#)). Please use links (where available) for more information on a project.

#### Counties

- [King](#)
- [Snohomish](#)



Waterbody Name	Pollutants	Status**	TMDL Lead
<a href="#">Ballinger Lake</a>	Total Phosphorus	Approved by EPA	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Bear-Evans Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
	Dissolved Oxygen Temperature	Approved by EPA	
<a href="#">Cottage Lake</a>	Total Phosphorus	Approved by EPA Has an implementation plan	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Issaquah Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Little Bear Creek</a> Tributaries:  Trout Stream Great Dane Creek Cutthroat Creek	Fecal Coliform	Approved by EPA	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">North Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Pipers Creek</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Sammamish River</a>	Dissolved Oxygen Temperature	Field work starts summer 2015	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Swamp Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036

\*\* **Status** will be listed as one of the following: Approved by EPA, Under Development or Implementation

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 9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
 Phone: (425) 337-3174  
 Fax: (425) 337-3045  
 Email: [mailbox@wetlandresources.com](mailto:mailbox@wetlandresources.com)

### WETLAND RATING Wetland A

Mukilteo Water & Wastewater District  
 Attn: Rick Matthews  
 7824 Mukilteo Speedway  
 Mukilteo, WA 98275

Figure A-4  
 WRI Job # 18057  
 Rated by: MK

Wetland name or number Wetland B

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B - 18057 MWWD Date of site visit: 3/1/18

Rated by MK Trained by Ecology? ☒ Yes ☐ No Date of training 3/2015

HGM Class used for rating SLOPE Wetland has multiple HGM classes? ☐ Y ☒ N

**NOTE: Form is not complete without the figures requested** (*figures can be combined*).

Source of base aerial photo/map ESRI World Imagery

**OVERALL WETLAND CATEGORY III** (based on functions ☒ or special characteristics ☐)

### 1. Category of wetland based on FUNCTIONS

           Category I – Total score = 23 - 27

           Category II – Total score = 20 - 22

☒ Category III – Total score = 16 - 19

           Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
Circle the appropriate ratings										
Site Potential	H	M	<input type="checkbox"/> L	H	<input checked="" type="checkbox"/> M	L	H	M	<input type="checkbox"/> L	
Landscape Potential	H	<input checked="" type="checkbox"/> M	L	H	<input checked="" type="checkbox"/> M	L	H	<input checked="" type="checkbox"/> M	L	
Value	H	M	<input type="checkbox"/> L	H	M	<input type="checkbox"/> L	<input checked="" type="checkbox"/> H	M	L	
Score Based on Ratings	4			5			6			TOTAL
										15

Score for each  
function based  
on three  
ratings  
(order of ratings  
is not  
important)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

Wetland name or number **Wetland B**

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	A1
Hydroperiods	H 1.2	A1
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	A5
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	A5
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	A1
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	A2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	A3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	A4



## HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

**NO** – **Saltwater Tidal Fringe (Estuarine)**

**YES** – **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

**NO** – go to 3

**YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

✓ The wetland is on a slope (*slope can be very gradual*),

✓ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

✓ The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

**NOTE:** Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

\_\_\_ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

\_\_\_ The overbank flooding occurs at least once every 2 years.

Wetland name or number **Wetland B**

NO – go to 6

**YES** – The wetland class is **Riverine**

**NOTE:** The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

**YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number Wetland B

### **SLOPE WETLANDS**

#### **Water Quality Functions** - Indicators that the site functions to improve water quality

<b>S 1.0. Does the site have the potential to improve water quality?</b>		
<b>S 1.1. Characteristics of the average slope of the wetland: (<i>a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance</i>)</b> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Slope is 1% or less  <input type="checkbox"/> Slope is &gt; 1%-2%  <input type="checkbox"/> Slope is &gt; 2%-5%  <input checked="" type="checkbox"/> Slope is greater than 5%         </div> <div>           points = 3            points = 2            points = 1            points = 0         </div> </div>		<b>0</b>
<b>S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions):</b> Yes = 3 No = 0		<b>0</b>
<b>S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:</b> Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Dense, uncut, herbaceous plants &gt; 90% of the wetland area  <input checked="" type="checkbox"/> Dense, uncut, herbaceous plants &gt; ½ of area  <input type="checkbox"/> Dense, woody, plants &gt; ½ of area  <input type="checkbox"/> Dense, uncut, herbaceous plants &gt; ¼ of area  <input type="checkbox"/> Does not meet any of the criteria above for plants         </div> <div>           points = 6            points = 3            points = 2            points = 1            points = 0         </div> </div>		<b>3</b>
<b>Total for S 1</b> <span style="float: right;">Add the points in the boxes above</span>		<b>3</b>

**Rating of Site Potential** If score is: 12 = H 6-11 = M ✓ 0-5 = L

*Record the rating on the first page*

<b>S 2.0. Does the landscape have the potential to support the water quality function of the site?</b>	
<b>S 2.1. Is &gt; 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?</b> <div style="text-align: right;">Yes = 1 No = 0</div>	<b>1</b>
<b>S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?</b> Other sources _____ Yes = 1 No = 0	<b>0</b>
<b>Total for S 2</b> <span style="float: right;">Add the points in the boxes above</span>	<b>1</b>

**Rating of Landscape Potential** If score is: ✓ 1-2 = M 0 = L

*Record the rating on the first page*

<b>S 3.0. Is the water quality improvement provided by the site valuable to society?</b>	
<b>S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?</b> <div style="text-align: right;">Yes = 1 No = 0</div>	<b>0</b>
<b>S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i></b> <div style="text-align: right;">Yes = 1 No = 0</div>	<b>0</b>
<b>S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i></b> <div style="text-align: right;">Yes = 2 No = 0</div>	<b>0</b>
<b>Total for S 3</b> <span style="float: right;">Add the points in the boxes above</span>	<b>0</b>

**Rating of Value** If score is: 2-4 = H 1 = M ✓ 0 = L

*Record the rating on the first page*

Wetland name or number Wetland B

### SLOPE WETLANDS

#### Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually  $> \frac{1}{8}$  in), or dense enough, to remain erect during surface flows.*

- ☒ Dense, uncut, **rigid** plants cover > 90% of the area of the wetland  
☐ All other conditions

points = 1  
points = 0

**1**

**Rating of Site Potential** If score is: ☒ **1 = M** ☐ **0 = L**

*Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?

Yes = ☒ **1** No = ☐ **0**

**1**

**Rating of Landscape Potential** If score is: ☒ **1 = M** ☐ **0 = L**

*Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

- ☐ The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2  
☐ Surface flooding problems are in a sub-basin farther down-gradient points = 1  
☒ No flooding problems anywhere downstream points = 0

**0**

S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = ☒ **2** No = ☐ **0**

**0**

Total for S 6

Add the points in the boxes above

**0**

**Rating of Value** If score is: ☐ **2-4 = H** ☐ **1 = M** ☒ **0 = L**

*Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

**H 1.0. Does the site have the potential to provide habitat?**

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- |  |   |
|--|---|
| <input type="checkbox"/> Aquatic bed<br><input type="checkbox"/> Emergent<br><input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)<br><input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover)<br><i>If the unit has a Forested class, check if:</i><br><input checked="" type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon | 4 structures or more: points = 4<br>3 structures: points = 2<br><div style="border: 1px solid black; padding: 2px;">2 structures: points = 1</div><br>1 structure: points = 0 |
|--|---|

**1**

**H 1.2. Hydroperiods**

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- |  |   |
|--|---|
| <input type="checkbox"/> Permanently flooded or inundated<br><input type="checkbox"/> Seasonally flooded or inundated<br><input type="checkbox"/> Occasionally flooded or inundated<br><input checked="" type="checkbox"/> Saturated only<br><input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland<br><input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland<br><input type="checkbox"/> <b>Lake Fringe wetland</b><br><input type="checkbox"/> <b>Freshwater tidal wetland</b> | 4 or more types present: points = 3<br>3 types present: points = 2<br>2 types present: points = 1<br><div style="border: 1px solid black; padding: 2px;">1 type present: points = 0</div><br><br><br><b>2 points</b><br><b>2 points</b> |
|--|---|

**0**

**H 1.3. Richness of plant species**

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

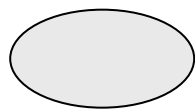
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

- |   |  |
|---|--|
| If you counted: > 19 species<br><div style="border: 1px solid black; padding: 2px;">5 - 19 species</div><br>< 5 species | points = 2<br><div style="border: 1px solid black; padding: 2px;">points = 1</div><br>points = 0 |
|---|--|

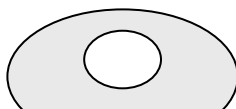
**1**

**H 1.4. Interspersion of habitats**

Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



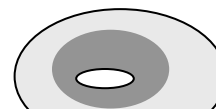
**None = 0 points**



Low = 1 point

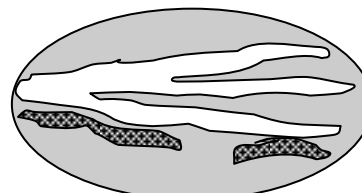
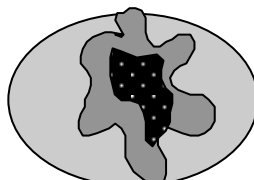
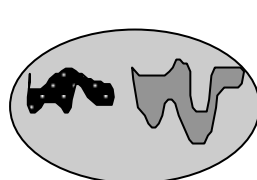


**Moderate = 2 points**



**1**

All three diagrams in this row are **HIGH** = 3points





Wetland name or number **Wetland B**

<b>H 1.5. Special habitat features:</b> Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present ( <i>cut shrubs or trees that have not yet weathered where wood is exposed</i> ) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated ( <i>structures for egg-laying by amphibians</i> ) <input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants ( <i>see H 1.1 for list of strata</i> )		<b>3</b>
Total for H 1	Add the points in the boxes above	<b>6</b>

**Rating of Site Potential** If score is: 15-18 = H 7-14 = M ☒ 0-6 = L

*Record the rating on the first page*

<b>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</b>		
<b>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</b> <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>8</u> = <u>8</u> % If total accessible habitat is: <input type="checkbox"/> > 1/3 (33.3%) of 1 km Polygon points = 3 <input type="checkbox"/> 20-33% of 1 km Polygon points = 2 <input type="checkbox"/> 10-19% of 1 km Polygon points = 1 <input checked="" type="checkbox"/> < 10% of 1 km Polygon points = 0		<b>0</b>
<b>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</b> <i>Calculate:</i> % undisturbed habitat <u>1</u> + [(% moderate and low intensity land uses)/2] <u>26</u> = <u>27</u> % <input type="checkbox"/> Undisturbed habitat > 50% of Polygon points = 3 <input checked="" type="checkbox"/> Undisturbed habitat 10-50% and in 1-3 patches points = 2 <input type="checkbox"/> Undisturbed habitat 10-50% and > 3 patches points = 1 <input type="checkbox"/> Undisturbed habitat < 10% of 1 km Polygon points = 0		<b>2</b>
<b>H 2.3. Land use intensity in 1 km Polygon: If</b> <input type="checkbox"/> > 50% of 1 km Polygon is high intensity land use points = (- 2) <input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0		<b>0</b>
Total for H 2	Add the points in the boxes above	<b>2</b>

**Rating of Landscape Potential** If score is: 4-6 = H ☒ 1-3 = M < 1 = L

*Record the rating on the first page*

<b>H 3.0. Is the habitat provided by the site valuable to society?</b>		
<b>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></b> Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan <input type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 <input type="checkbox"/> Site does not meet any of the criteria above points = 0		<b>2</b>

**Rating of Value** If score is: ☒ 2 = H 1 = M 0 = L

*Record the rating on the first page*

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- ☐ **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha ) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- ☐ **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ☒ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- ☒ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- ☐ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- ☐ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ☒ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

## CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt      Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? <div style="text-align: right;">Yes = <b>Category I</b>      No - Go to <b>SC 1.2</b></div>	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) <input type="checkbox"/> At least ⅓ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. <input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <div style="text-align: right;">Yes = <b>Category I</b>      No = <b>Category II</b></div>	Cat. I       Cat. II
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;">Yes – Go to <b>SC 2.2</b>      No – Go to <b>SC 2.3</b></div> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;">Yes = <b>Category I</b>      No = <b>Not a WHCV</b></div> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> <div style="text-align: right;">Yes – Contact WNHP/WDNR and go to <b>SC 2.4</b>      No = <b>Not a WHCV</b></div> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <div style="text-align: right;">Yes = <b>Category I</b>      No = <b>Not a WHCV</b></div>	Cat. I
<b>SC 3.0. Bogs</b> Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <div style="text-align: right;">Yes – Go to <b>SC 3.3</b>      No – Go to <b>SC 3.2</b></div> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <div style="text-align: right;">Yes – Go to <b>SC 3.3</b>      No = <b>Is not a bog</b></div> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? <div style="text-align: right;">Yes = <b>Is a Category I bog</b>      No – Go to <b>SC 3.4</b></div> <p><b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? <div style="text-align: right;">Yes = <b>Is a Category I bog</b>      No = <b>Is not a bog</b></div>	Cat. I



Wetland name or number \_\_\_\_\_





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MWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 1- WETLAND B

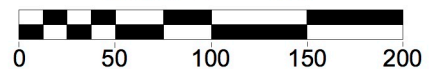


**LEGEND**

-  FORESTED VEGETATION
-  SATURATED ONLY
-  150' FROM WL BOUNDARY
-  PERENNIAL STREAM



Scale 1" = 100'



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9505 19th Avenue S.E. Suite 106 Everett, Washington 98208

Phone: (425) 337-3174

Fax: (425) 337-3045

Email: mailbox@wetlandresources.com

**WETLAND RATING  
Wetland B**

Mukilteo Water & Wastewater District

Attn: Rick Matthews

7824 Mukilteo Speedway

Mukilteo, WA 98275

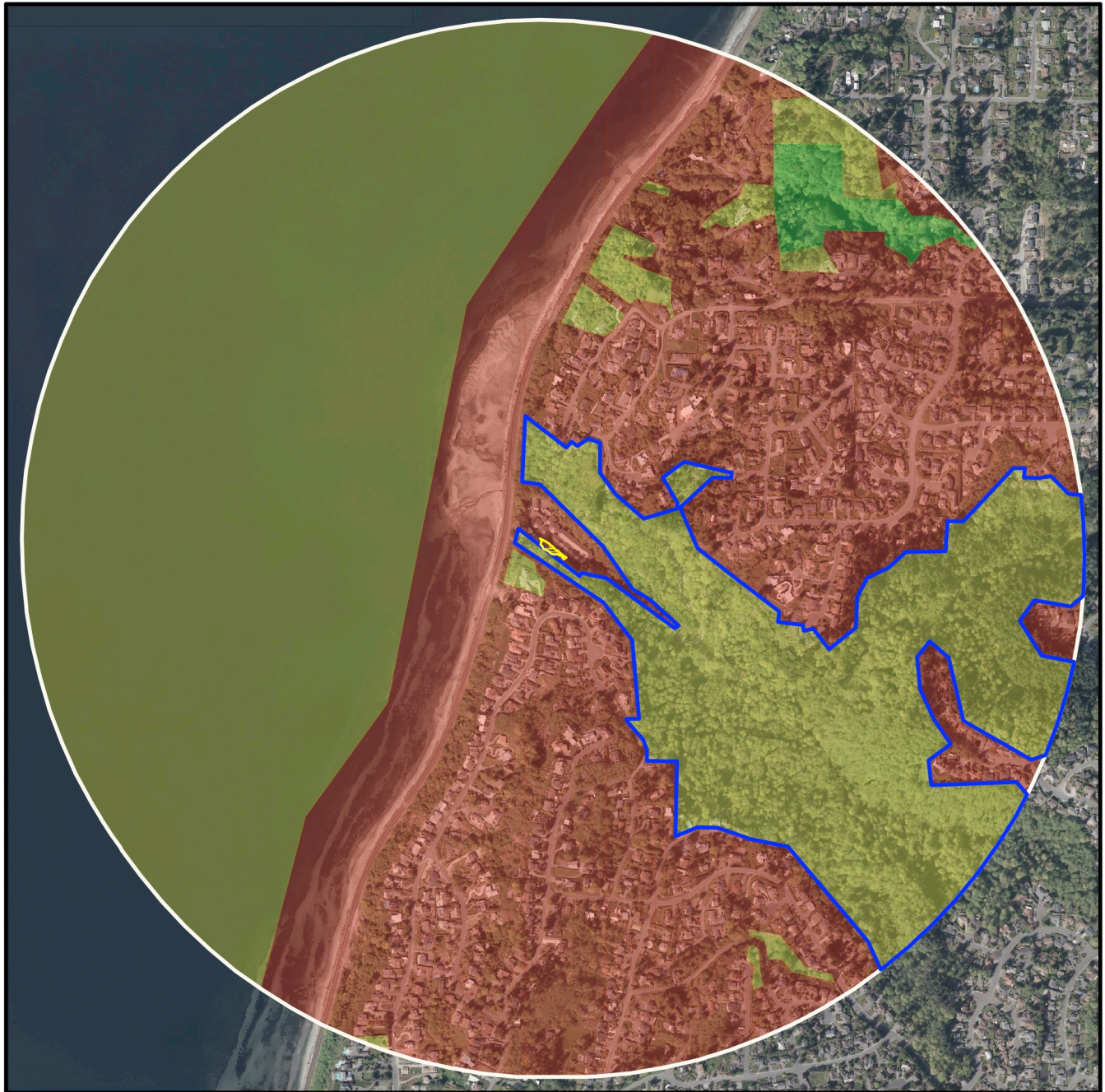
Figure B-1

WRI Job # 18057


Rated by: MK



MWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 2- WETLAND B

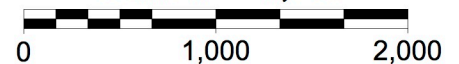


**LEGEND**

-  RELATIVELY UNDISTURBED
-  LOW/MOD. INTENSITY
-  HIGH INTENSITY
-  ACCESSIBLE HABITAT
-  WETLAND
-  1 KM FROM WETLAND



Scale 1" = 1,000'



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Wetland B**

Mukilteo Water & Wastewater District

Attn: Rick Matthews

7824 Mukilteo Speedway

Mukilteo, WA 98275

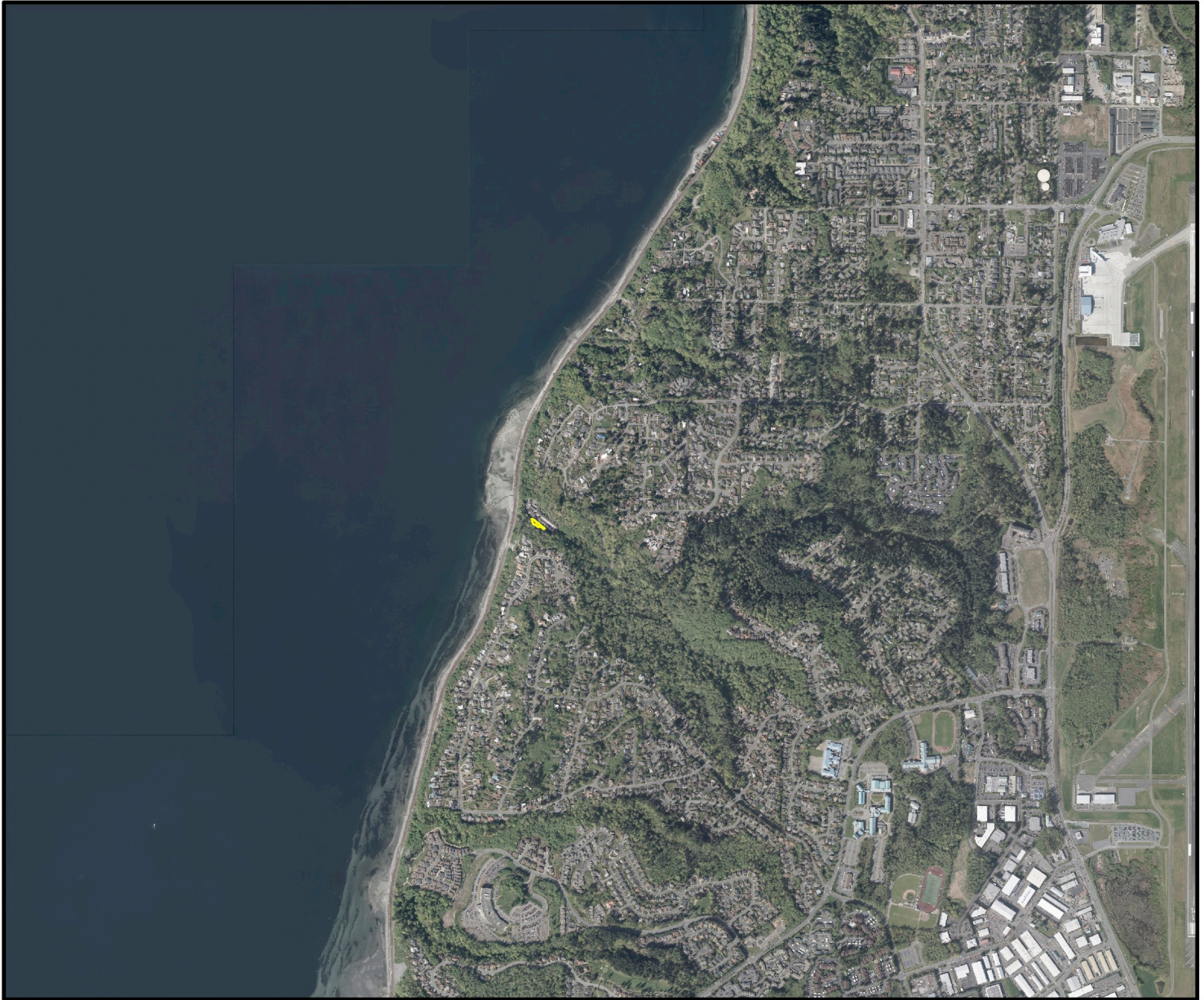
Figure B-2

WRI Job # 18057

Rated by: MK



MWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 3- WETLAND B



**LEGEND**



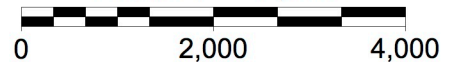
WETLAND



AQUATIC RESOURCES  
ON THE 303(d) LIST



Scale 1" = 2,000'



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Email: mailbox@wetlandresources.com

**WETLAND RATING  
Wetland B**

Mukilteo Water & Wastewater District

Attn: Rick Matthews

7824 Mukilteo Speedway

Mukilteo, WA 98275

Figure B-3

WRI Job # 18057

Rated by: MK



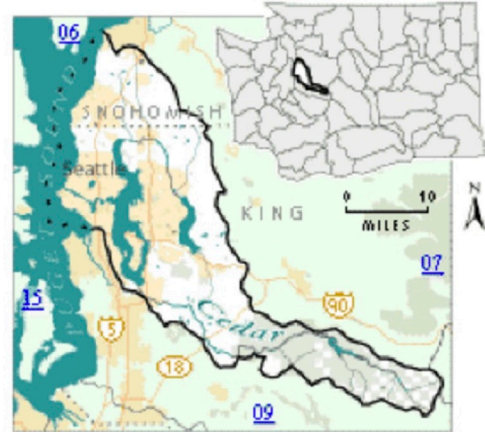
MWWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 4- WETLAND B

**WRIA 8: Cedar-Sammamish**

The following table lists overview information for water quality improvement projects (including total maximum daily loads, or TMDLs) for this water resource inventory area ([WRIA](#)). Please use links (where available) for more information on a project.

**Counties**

- [King](#)
- [Snohomish](#)



Waterbody Name	Pollutants	Status**	TMDL Lead
<a href="#">Ballinger Lake</a>	Total Phosphorus	Approved by EPA	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Bear-Evans Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
	Dissolved Oxygen Temperature	Approved by EPA	
<a href="#">Cottage Lake</a>	Total Phosphorus	Approved by EPA Has an implementation plan	<a href="#">Tricia Shoblom</a> 425-649-7288
<a href="#">Issaquah Creek Basin</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Little Bear Creek</a> Tributaries:  Trout Stream Great Dane Creek Cutthroat Creek	Fecal Coliform	Approved by EPA	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">North Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Pipers Creek</a>	Fecal Coliform	Approved by EPA	<a href="#">Joan Nolan</a> 425-649-4425
<a href="#">Sammamish River</a>	Dissolved Oxygen Temperature	Field work starts summer 2015	<a href="#">Ralph Svrjcek</a> 425-649-7036
<a href="#">Swamp Creek</a>	Fecal Coliform	Approved by EPA Has an implementation plan	<a href="#">Ralph Svrjcek</a> 425-649-7036

\*\* **Status** will be listed as one of the following: Approved by EPA, Under Development or Implementation

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Email: [mailbox@wetlandresources.com](mailto:mailbox@wetlandresources.com)

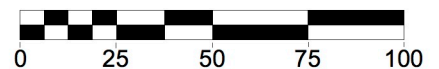
**WETLAND RATING  
Wetland B**





Mukilteo Water & Wastewater District  
Attn: Rick Matthews  
7824 Mukilteo Speedway Mukilteo, WA 98275  
Figure B-4  
WRI Job # 18057  
Rated by: MK

MWWD - WWTF LAB-ADMIN BLDG  
WETLAND RATING FIGURE 5- WETLAND B



Scale 1" = 50'



LEGEND	
	WETLAND
	DENSE WOODY
	DENSE UNCUT HERBACEOUS
	DENSE UNCUT RIGID

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Email: mailbox@wetlandresources.com

**WETLAND RATING**  
**Wetland B**

Mukilteo Water & Wastewater District  
Attn: Rick Matthews  
7824 Mukilteo Speedway  
Mukilteo, WA 98275

Figure B-5  
WRI Job # 18057  
Rated by: MK



## APPENDIX B: WETLAND DETERMINATION DATA SHEETS



# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Big Gulch WWTF City/County: City of Mukilteo Sampling Date: 3/1/18  
 Applicant/Owner: Mukilteo Water & Wastewater District State: WA Sampling Point: S1 (in Wet A)  
 Investigator(s): MK, EC Section, Township, Range: S17, 28N, 04E, W.M.  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): LRR-A Lat: 47.911 Long: -122.313 Datum: NAD83  
 Soil Map Unit Name: Alderwood-Everett gravelly sandy loams, 25 to 70 percent slopes NWI classification: PFOC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: In Wetland A (north of stream). The period prior to the site investigation (December 2017, January-February 2018) was wetter than normal, based on WETS table analysis.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m <sup>2</sup> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Alnus rubra</u>	<u>85</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>85</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: 3m<sup>2</sup>)</b>				
1. <u>Rubus spectabilis</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Oemleria cerasiformis</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
<u>85</u> = Total Cover				
<b>Herb Stratum (Plot size: 1m<sup>2</sup>)</b>				
1. <u>Tolmeia menziesii</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>60</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: 3m<sup>2</sup>)</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>% Bare Ground in Herb Stratum <u>40</u></b>				

Remarks:

## SOIL

Sampling Point: S1 (in Wet A)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-10	2.5Y 3/2	100					Silty Loam	
10-16	10YR 4/1	85	10YR 4/6	15	C	M	Silty Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)  <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--	--

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (2 or more required)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)			
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 9" (includes capillary fringe)			<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Big Gulch WWTF City/County: City of Mukilteo Sampling Date: 3/1/18  
 Applicant/Owner: Mukilteo Water & Wastewater District State: WA Sampling Point: S2  
 Investigator(s): MK, EC Section, Township, Range: S17, 28N, 04E, W.M.  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): LRR-A Lat: 47.911 Long: -122.313 Datum: NAD83  
 Soil Map Unit Name: Alderwood-Everett gravelly sandy loams, 25 to 70 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Outside Wetland A (north of stream). The period prior to the site investigation (December 2017, January-February 2018) was wetter than normal, based on WETS table analysis.	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m <sup>2</sup> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>Acer macrophyllum</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species <u>155</u> x 4 = <u>620</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>155</u> (A) <u>620</u> (B)  Prevalence Index = B/A = <u>4</u>
<u>50</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 3m <sup>2</sup> )				
1. <u>Oemleria cerasiformis</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Holodiscus discolor</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>60</u> = Total Cover				
Herb Stratum (Plot size: 1m <sup>2</sup> )				
1. <u>Polystichum munitum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Gaultheria shallon</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>45</u> = Total Cover				
Woody Vine Stratum (Plot size: 3m <sup>2</sup> )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				



## SOIL

Sampling Point: S2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-16	10YR 3/2	100					Sandy Loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)  <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
--	--

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> ) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>MLRA 1, 2, 4A, and 4B</b> ) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LRR A</b> ) <input type="checkbox"/> Frost-Heave Hummocks (D7)	
<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

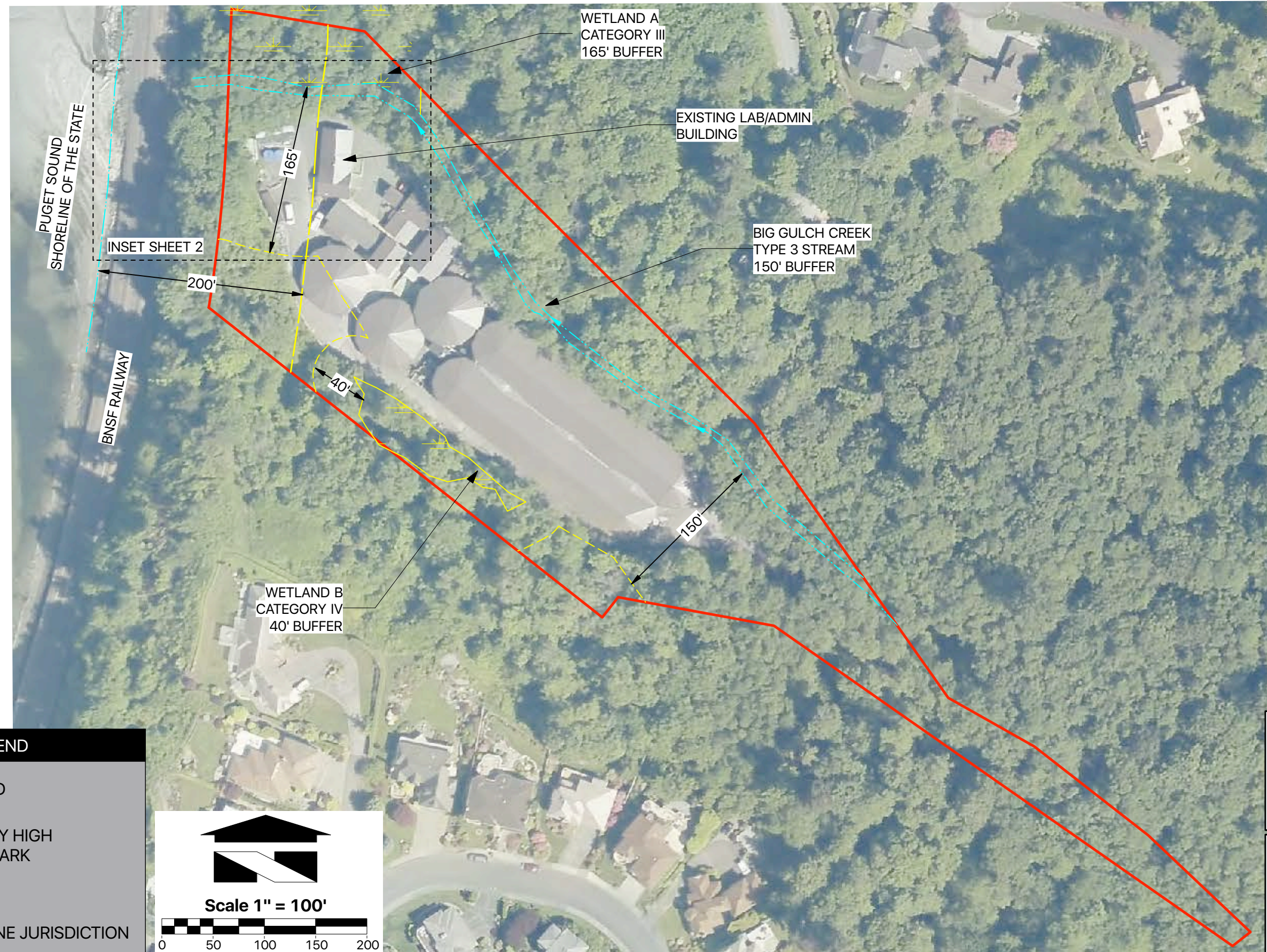
## APPENDIX C: CRITICAL AREAS STUDY MAPS







# CRITICAL AREA STUDY - EXISTING CONDITIONS

## MWWD - Big Gulch WWTF

PORTION OF SECTION 17, TOWNSHIP 28N, RANGE 04E, W.M.



### LEGEND

-  WETLAND
-  ORDINARY HIGH WATER MARK
-  BUFFER
-  SHORELINE JURISDICTION

**Wetland Resources, Inc.**  
Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance  
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208  
Phone: (425) 337-3174  
Fax: (425) 337-3045  
Email: mailbox@wetlandresources.com

Critical Area Study - Existing Conditions  
**MWWD - Big Gulch WWTF**  
City of Mukilteo

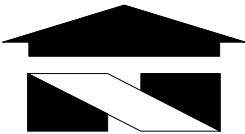
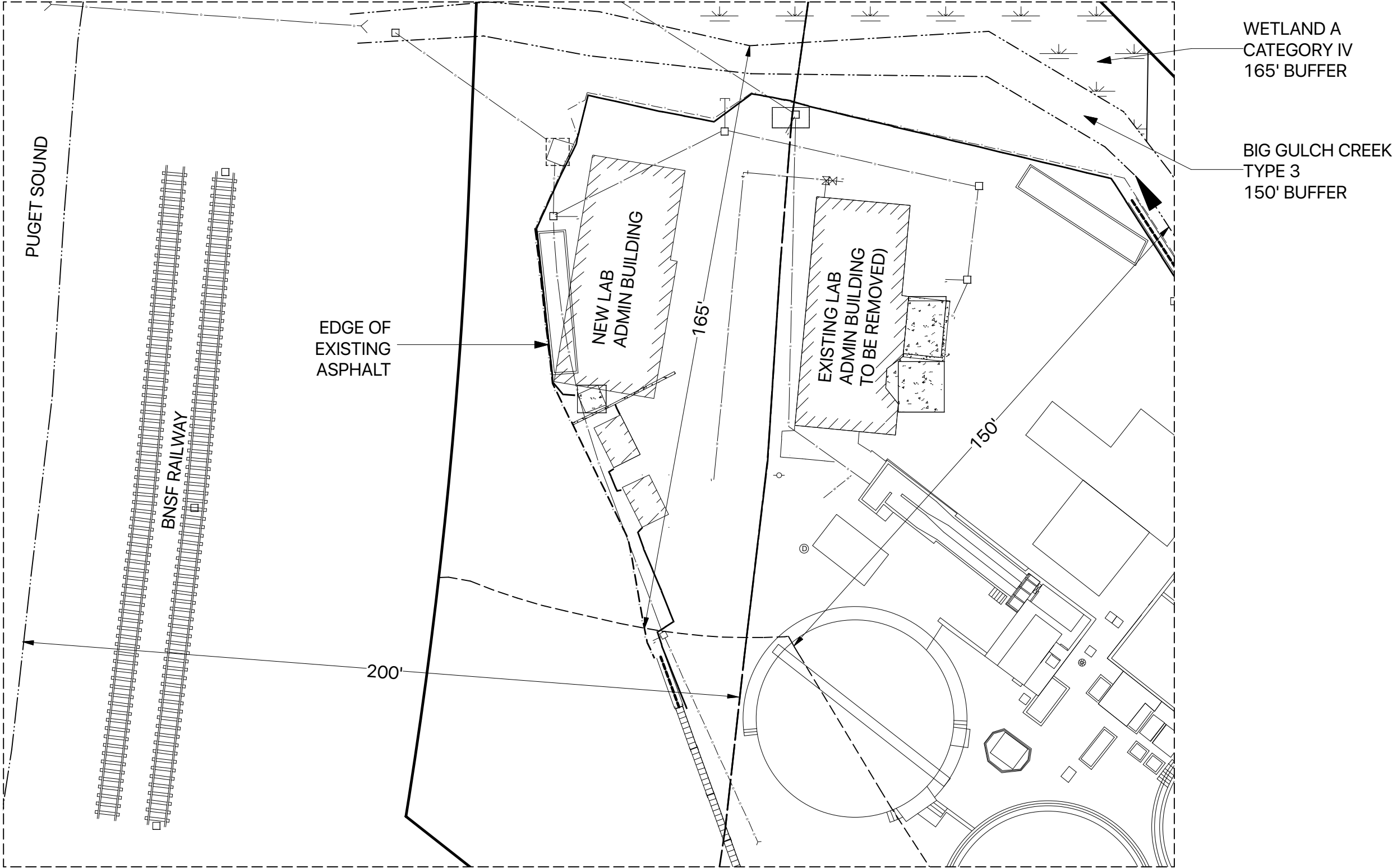
Mukilteo Water & Wastewater District  
Attn: Rick Mathhews  
7824 Mukilteo Speedway  
Mukilteo, WA 98275

Sheet 1/2  
WRI#: 18057  
Drawn by: MK  
7.17.2018

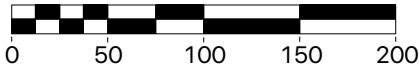


**CRITICAL AREA STUDY - PROPOSED DEVELOPMENT**  
***MWWD - Big Gulch WWTF***

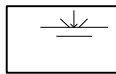

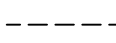
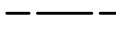
PORTION OF SECTION 17, TOWNSHIP 28N, RANGE 04E, W.M.



Scale 1" = 100'



**LEGEND**

-  WETLAND
-  ORDINARY HIGH  
WATER MARK
-  BUFFER
-  SHORELINE JURISDICTION

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Critical Area Study - Proposed Development  
***MWWD - Big Gulch WWTF***  
City of Mukilteo

Mukilteo Water & Wastewater District  
Attn: Rick Mathhews  
7824 Mukilteo Speedway  
Mukilteo, WA 98275

Sheet 2/2  
WRI#: 18057  
Drawn by: MK  
7.17.2018

# MMC Regulations Relevant to the MWWD Administration/Laboratory Building

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## **Project Description**

1. Demolition of the current administrative/laboratory Building
2. Build new two story administrative/laboratory building with the exact building footprint in a different location.
3. No disturbance to any critical areas is being proposed.

## **Chapter 17B.08 Definitions**

“Essential public facility” or “EPF” means a facility that is typically difficult to site, such as an airport, a state education facility, a state or regional transportation facility as defined in RCW 47.06.140, a state or local correctional facility, a solid waste handling facility, or an in-patient facility, including substance abuse facilities, mental health facilities, group homes, and secure community transition facilities as defined in RCW 71.09.020. The term “essential public facility” includes all facilities listed in RCW 36.70A.200, all facilities that appear on the list maintained by the State Office of Financial Management pursuant to RCW 36.70A.200(4), and all facilities listed as essential public facilities in the Mukilteo comprehensive plan.

The MWWD Sewer Treatment Facility would be classified as an (EPF) (MMC 17B.08).

## **Chapter 17B.12 Shoreline Designations**

- C. Urban Conservancy. Applies to those areas south of the urban waterfront designation and within two hundred feet of the OHWM. The following zoning districts fall within the urban conservancy environment:
1. Residential Zones. RD-7.5, RD-8.4, RD-12.5, RD12.5(S), MRD, MR-PRD.
  2. Heavy Industry Zone. HI (MWWD sewer treatment plant).
  3. Open Space Zone. OS.



Regulation	
<b>Chapter 17B.16 Permitted Uses</b>	
EPFs require a “C and SUP” (Conditional Use Permit and Special Use Permit) (MMC 17B.16.040).	
<b>RESPONSE:</b> The Mukilteo Water and Wastewater District (MWWD) submitted a Shoreline Substantial Development Conditional Use Permit Application, Special Use Permit and a Shoreline Conditional Use Permit for an Essential Public Facilities on August 29, 2018; the application became complete on October 1, 2018.	
<b>17B.16.050 Development regulations for archaeological/historical</b>	
B.	Significant archeological and historic resources shall be permanently preserved for study, education, and public observation. When the city of Mukilteo determines (in consultation with the State Office of Archeology and Historic Preservation and appropriate Tribes) that a site has significant archeological, cultural, scientific, or historical value, a substantial development permit (which would pose a threat to the site) shall not be issued. The city may require that development be postponed in such areas to allow investigation of or public acquisition and/or retrieval and preservation of significant artifacts.
E.	Archeological sites located both in and outside the shoreline jurisdiction are subject to Chapter 27.44 RCW (Indian Graves and Records) and Chapter 27.53 RCW (Archeological Sites and Records) and shall comply with Chapter 2548 WAC as well as provisions in this SMP.
F.	Access to identified historical or archeological resources shall be designed and managed so as to give maximum protection to the resource and the surrounding environment.
G.	Identified archeological or historical resources shall be considered in park, open space, public access and site planning, with access to such areas designed and manages so as to give maximum protections to the resource and surround environment.
H.	Interpretive signs and displays for archeological or historical features shall be provided where appropriate.
<b>RESPONSE:</b> A Cultural Resource Assessment was prepared by Northwest Archaeological Associates/SWCA (for a project adjacent to the proposed). The assessment did not identify any landmarks or historic sites. State Archeologist Rob Whitman, Ph.D. reviewed and concurred with the findings of the 2011 Cultural Resource Assessment report. If cultural resources are encountered during construction, the applicant shall cease work immediately and contact the City and the Department of Archeological and Historic Preservation.	
<b>17B.16.060 Development regulations for land subdivision</b>	
B.	All Environmental Designations.
<b>RESPONSE:</b> Along with the Essential Public Facility, Shoreline Substantial Development Conditional Use Permit and Special Use Permit for the development of the Mukilteo Wastewater Treatment Facility administration/laboratory building a Shoreline Conditional Use Permit is required.	

<b>17B.16.100 Development regulations for essential public facilities.</b>
A. Essential public facilities and transportation facilities of statewide significance are necessary and important in the provision of public systems and services. The city of Mukilteo already hosts or borders on a number of essential public facilities, including but not limited to, the following:
1. The Mukilteo Lighthouse and Fog Horn;
2. The Washington State Ferries Mukilteo/Clinton Ferry Terminal;
3. The Sound Transit Mukilteo Station;
4. The Port of Everett Rail Barge Facility;
5. The Snohomish County mental health evaluation facility;
6. Snohomish County Paine Field Airport;
7. Burlington Northern Railroad Tracks;
8. State Route 525;
9. State Route 526; and
10. The Mukilteo water and wastewater district's Big Gulch wastewater treatment facility and its outfall.
<b>RESPONSE:</b> The Mukilteo Water and Wastewater District's Big Gulch Wastewater Treatment Facility administrative/laboratory building is covered by this permit package as it includes and/or affects the following Essential Public Facilities listed above: The Mukilteo Water and Wastewater District's Big Gulch Wastewater Sewer Treatment Facility and its outfall.
C. Requirements for Siting or Expansion of Local Essential Public Facilities.
1. A special use permit shall be required as provided in this section before any local essential public facility (other than a secure community transition facility as defined in RCW 71.09.020) may be located or expanded within the city of Mukilteo, regardless of the zoning district in which such facility is or is proposed to be located.
<b>RESPONSE:</b> MWWD Sewer Treatment Facility is classified as an Essential Public Facility and requires a Conditional Use/Special Use Permit subject to a public hearing to be held by the Mukilteo Hearing Examiner.
2. A complete application for a special use permit for a local essential public facility shall include all items set forth under the general application, site/building plans, civil/engineering, and environmental categories in Table 2 adopted by Section 17B.13.040, with the exception of a plat map. The planning director shall develop a supplemental application form which addresses and provides sufficient information to judge the application's compliance with each of the approval criteria set forth in subsection D of this section.
<b>RESPONSE:</b> N/A; The project is located within the Heavy Industrial (HI) zoning district which is an industrial designation per the 2015 Comprehensive Plan.

<p>3. A special use permit for a local essential public facility shall be processed as a Type II permit under the process set forth in Table 4 adopted by Section 17B.13.070. Notice of the application and the required public hearing shall be given as provided in Section 17B.13.090 and 17B.13.100. Notices shall be posted on site, posted at the city's designated posting places, advertised in the city's official newspaper, and mailed to property owners within three hundred feet.</p>
<p><b>RESPONSE:</b> The Notice of Application was issued on October 12, 2018 and circulated for a 30 day comment period per the Mukilteo Municipal Code which included the advertising date in the Everett Herald (October 12, 2018) (<i>Shawna, what other date did the notice appear in the Herald?</i>); one on site notice was posted; notices were posted at the City's designated posting locations; and all parties of record and property owners within 380 feet of the property were notified. (MMC only requires noticing within 300 feet of the property)</p> <p>Public hearing notices were mailed on November 23, 2018 in accordance with Mukilteo Municipal Code.</p>
<p>4. A special use permit for a local essential public facility shall be approved upon a determination that:</p>
<p>a. The project sponsor has demonstrated a need for the project, as supported by a detailed written analysis of the projected service population, an inventory of existing and planned comparable facilities, and the projected demand for the type of facility proposed;</p>
<p><b>RESPONSE:</b> The location of the existing administration/laboratory building inhibits the operations of transporting biosolids away from the Big Gulch WWTF. Future increase in wastewater flows will required modifications to the biosolids system to accommodate increased biosolids volume. With inadequate space to maneuver biosolids hauling vehicles now, the problem will only exacerbate in the future.</p>
<p>b. The project sponsor has reasonably investigated alternative sites, as evidenced by a detailed explanation of site selection methodology, as verified by the city and reviewed by associated jurisdictions and agencies;</p>
<p><b>RESPONSE:</b> The Sewer Treatment Facility was built in 1991 and treats sewage generated from residents and businesses within the City of Mukilteo and Snohomish County including Paine Field Airport. The property is located at the lower end of Big Gulch and abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north. Public access is prohibited onto the property. The proposed project will not generate additional demand for public service providers such as police and fire responders.</p>
<p>c. Only water-dependent essential public facilities shall be allowed over water;</p>
<p><b>RESPONSE:</b> N/A - The applicant is not proposing an over water structures.</p>
<p>d. Necessary infrastructure is or will be made available to ensure safe transportation access and transportation concurrency;</p>
<p><b>RESPONSE:</b> N/A – no new infrastructure will be required for the proposed administrative/laboratory building.</p>
<p>e. Necessary infrastructure is or will be made available to ensure that public safety responders have capacity to handle increased calls or expenses that will occur as the result of the facility;</p>
<p><b>RESPONSE:</b> The current access road is sufficient for public safety responders. The proposed project will not generate additional demand for public service providers such as police and fire responders.</p>

f. The project sponsor has the ability to pay for all capital costs associated with on-site and off-site improvements;
<b>RESPONSE:</b> The MWW District has identified this project in its comprehensive plan and the project is identified in the District's capital budget for permitting/design in 2018 and construction in 2019. Funding for the project will come from the District's Capital Fund reserves.
g. The facility will not unreasonably increase noise levels in residential areas, especially at night;
<b>RESPONSE:</b> Noise from construction equipment will be generated at the project site during construction. There will be no change in the current noise levels once the building is completed.
h. Visual screening will be provided that will mitigate the visual impacts from streets and adjoining properties;
<b>RESPONSE:</b> The property cannot be seen from the street or the adjoin properties. The property is located at the lower end of Big Gulch. The property abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north.
i. The local essential public facility is not located in any residential zoning district identified in Table 17B.16.040, except as provided in this subsection. If the land on which a local essential public facility is proposed is located in any such residential zoning district, the applicant must demonstrate to the hearing examiner that there is no other feasible location for the facility and that the exclusion of the facility from the residential districts of the city would preclude the siting of all similar facilities anywhere within the city. If the applicant is able to make such a demonstration, the hearing examiner shall authorize the essential public facility to be located in the residential zoning district;
<b>RESPONSE:</b> The property is located in the Heavy Industrial (HI) zone and is located at the lower end of Big Gulch. The property abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north.
j. The local essential public facility meets all provisions of this code for development within the zoning district in which it is proposed to be located, including but not limited to the bulk regulations of Chapter 17B.20, except as provided in this subsection. If a local essential public facility does not meet all such provisions, the applicant must demonstrate that compliance with such provisions would preclude the siting of all similar facilities anywhere within the city. If the applicant is able to make such a demonstration, the hearing examiner shall authorize the essential public facility to deviate from the provisions of this code to the minimum extent necessary to avoid preclusion; and
<b>RESPONSE:</b> The existing MWWD Sewer Treatment Facility meets the requirements of Chapter 17B.20. The proposed administrative/laboratory building does not meet the 200 foot shoreline setback requirement. The applicant is requesting approval of a Conditional Use Permit by the Hearing Examiner for the location of the building as the existing building location inhibits the operations of transporting biosolids away from the Big Gulch WWTF. Future increase in wastewater flows will required modifications to the biosolids system to accommodate increased biosolids volume. With inadequate space to maneuver biosolids hauling vehicles now, the problem will only exacerbate in the future.

k. Any and all probable significant adverse environmental impacts are mitigated.
<b>RESPONSE:</b> No new environmental impacts are proposed as the MWWDD Sewer Treat Facility disturbed area is located within the buffer of the existing wetland. No mitigation is required as all work will be within the disturbed area.
5. If the hearing examiner determines that any one or more of the decision criteria set forth in subsection (C)(4) of this section is not met by the proposal, the hearing examiner shall impose such reasonable conditions on approval of the special use permit as may be necessary in order to enable the facility to meet the decision criteria.
<b>RESPONSE:</b> Staff feels the applicant has meet all requirements of subsection (C)(4).
6. The decision criteria set forth in subsection (C)(4) of this section shall not be applied in such a manner as to preclude the siting or expansion of any local essential public facility in the city of Mukilteo. In the event that a local essential public facility cannot, by the imposition of reasonable conditions of approval, be made to meet the decision criteria set forth in subsection (C)(4) of this section on the preferred site described in the proposal, the hearing examiner shall either:
a. Require the local essential public facility to be located on one of the investigated alternative sites, if the proposal can be reasonably conditioned to meet the decision criteria at the alternative site; or
<b>RESPONSE:</b> The project will also meet the permit requirements of local, state, and federal agencies with jurisdiction over shoreline areas.
b. Approve the siting or expansion of the local essential public facility at the preferred site with such reasonable conditions of approval as may be imposed to mitigate the impacts of the proposal to the maximum extent practicable, if there is no available alternative site on which the decision criteria can be met.
<b>RESPONSE:</b> N/A
<b>17B.16.170 Development regulations for utility uses.</b>
A. On-site utility features serving a primary use, such as water, sewer or gas line to a structure are “accessory utilities” and are considered a part of the primary use. These utilities shall be located outside the two-hundred-foot shoreline jurisdiction unless it is not feasible to serve the site otherwise.
B. All utilities within the shoreline jurisdiction shall be installed underground or under structures. Utilities should be located in existing rights-of-way and utility corridors and jointly shared utility corridors or road rights-of-way whenever possible.
C. In-water utilities or infrastructure shall be allowed below the ordinary high water mark (OHWM) only if no other feasible alternatives exist and only if a biological assessment based on a federal or state nexus determines that the proposed utilities will not create a significant environmental impact. A habitat management plan and mitigation may be required.
D. Utility facilities shall be located in or near to existing public right-of-way corridors unless no alternative exists.
E. Utility production and processing facilities, such as power plants and sewage treatment plants, or part of those facilities that are non-water-oriented shall not be allowed in shoreline areas unless it can be demonstrated that no other feasible option is available.
F. Development of utilities and facilities that may require periodic maintenance or that cause significant environmental impacts shall be discouraged, except where other alternatives are not feasible, or where access roads exist. When permitted, those facilities shall include



adequate provisions to protect against significant environmental impacts to the shoreline or upland critical area.
G. Unless no feasible alternative location exists, utilities shall be prohibited in wetlands, estuaries, geotechnical hazard areas, critical fish and wildlife habitat areas, their required buffers and other unique and critical areas.
<b>RESPONSE:</b> The proposed administrative/laboratory building does not meet the 200 foot shoreline setback requirement. The applicant is requesting approval of a Conditional Use Permit by the Hearing Examiner for the location of the building as the existing building location inhibits the operations of transporting biosolids away from the Big Gulch WWTF. Future increase in wastewater flows will required modifications to the biosolids system to accommodate increased biosolids volume. With inadequate space to maneuver biosolids hauling vehicles now, the problem will only exacerbate in the future.
B. Minor Exemptions. The following activities will be exempt from the regulations set forth in this section:
1. Access improvements to the shoreline.
2. Riparian vegetation enhancement/replanting and maintenance.
3. Eelgrass transplant.
4. Underwater improvements covered by a marine park master plan approved by the city of Mukilteo as well as permitted by WDFW.
5. Public access is shown to be incompatible due to reasons of safety, security, or impact to the shoreline environment. This exemption may only be used if it can be shown that there is no alternative to provide public access elsewhere along the shoreline or by providing viewing platforms, separation of uses through site planning and design and/or restricting hours of public access.
<b>RESPONSE:</b> N/A

<b>17B.16.230 Development regulations for industrial uses.</b>	
No industrial uses are allowed within the shoreline jurisdiction with the exception of the Mukilteo water and waste water plant, sewer outfalls, and stormwater outfalls. Development regulations for these uses are covered under the utilities section of this chapter.	
<b>RESPONSE:</b> The proposal is for the MWWD Sewer Treatment Facility new administrative/laboratory building.	
<b>Chapter 17B.18 Shoreline Modification Regulations</b>	
<b>17B.18.020 Permitted modifications</b>	
<b>Modification    Urban Conservancy</b>	
Utilities	C
P	= Permitted Use
<b>17B.18.030 Upland clearing, grading, and fill—Landward of the OHWM.</b>	
A. All clearing and grading activities shall be limited to the minimum necessary per Chapter 15.16 and the critical area provisions of this program.	
<b>RESPONSE:</b> Minimum grading of the site is being proposed. Grading for the building foundation and connection of the stormwater to the existing system.	
B. Clearing, grading, and fill activities may be permitted only when associated with an approved shoreline substantial development permit or shoreline conditional use permit. Temporary stockpiling of materials (up to 6 months) is allowed in association with the tank farm redevelopment if there are no adverse impacts to water quality, critical areas or their buffers due to these activities. Upon completion of construction, remaining cleared areas shall be replanted as approved by the city. Replanted areas shall be monitored and maintained to ensure the reestablishment of vegetation.	
<b>RESPONSE:</b> Minimum grading of the site is being proposed. Grading for the building foundation and connection of the stormwater to the existing system.	
C. Normal nondestructive pruning and trimming of vegetation for maintenance purposes shall not be subject to the regulations contained in this section. Clearing by handheld equipment of invasive, nonnative shoreline vegetation or plants listed on the State Noxious Weed List is permitted in shoreline locations if native vegetation is promptly reestablished in the disturbed area.	
<b>RESPONSE:</b> N/A	

Chapter 17B.20 Bulk Regulations												
17B.20.020 Bulk matrix												
Zone	Maximum Building Height <sup>1, 15</sup>	Minimum Lot Area	Minimum Lot Width			Minimum Average Lot Depth	Minimum Setbacks <sup>3</sup>					Maximum Lot Coverage
			Setback Line	Lot Line	Corner Lot Line		Front <sup>2</sup>	Interior (Side)	Corner (Side)	Rear	Setback From OHWM	
Urban Conservancy												
HI	65’	None	None	None	None	None	25’	IBC next to commercial zones, 50’ next to residential zones	25’	IBC next to commercial zones, 50’ next to residential zones	200’	None
15. Essential public facilities are exempt from the maximum building height regulation.												
<b>RESPONSE:</b> The new administrative/laboratory building will be two stories with the administrative offices and lab on the top floor and a maintenance shop and storage area on the lower floor. The proposed maximum building height of the building is 32.7 feet.												
17B.20.030 Panhandle (pipestem) lots.												
Panhandle lots shall be allowed subject to the following additional requirements:												
A. Minimum street lot frontage of twenty feet;												
B. Maximum length of one hundred fifty feet;												
C. Area calculations are determined at the minimum lot width line;												
D. Minimum height clearance of twelve feet;												
E. Allowed on no more than two lots for every fifteen lots of subdivided property;												
F. Allowed in cul-de-sacs or where topography does not allow the normal frontage required by the underlying zone; and												
G. Allowed only if necessary to maintain the integrity and quality of the proposed development.												
<b>RESPONSE:</b> The proposed project is located at the lower end of Big Gulch. The property abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north. The property takes access through the City’s Open Space property via an access easement.												

<b>Chapter 17B.52A Geologic Sensitive Area Regulations</b>
<b>RESPONSE:</b> The project site is located within a geological sensitive area. A geotechnical report was prepared by PanGeo Incorporated dated July 11, 2018. All development shall proceed in accordance with the recommendations listed in the Geotechnical Report.
<b>Chapter 17B.52B Wetland Regulations</b>
<b>Chapter 17B.52B.070 Buffer areas.</b>
<p>M. Existing Legal Nonconforming Use of a Buffer. Where a legally established, nonconforming use of the buffer exists (e.g., a road or structure that lies within the width of a wetland buffer), proposed actions in the buffer may be permitted as long as they do not increase the degree of nonconformity. This means no increase in the impacts to the wetland from activities in the buffer. For example, if a land use with high impacts (e.g., building an urban road) is being proposed next to a Category II wetland with a moderate level of function for habitat, a one-hundred-fifty-foot buffer would be needed to protect function. If, however an urban road is already present and only fifty feet from the edge of the Category II wetland the additional one hundred feet of buffer may not be needed if the road is being widened. A vegetated buffer on the other side of the road would not help buffer the existing impacts to the wetland from the road. If the existing road is resurfaced or widened (e.g., to add a sidewalk) along the upland edge, without any further roadside development that would increase the degree of nonconformance, the additional buffer is not necessary. The associated increase in impervious surface from widening a road, however, may necessitate mitigation for impacts from stormwater. If, however, the proposal is to build a new development (e.g., shopping center or residential development) along the upland side of the road, the impacts to the wetland and its function may increase. This would increase the degree of nonconformity. The project proponent would need to provide the additional one hundred feet of buffer extending beyond the road or apply for buffer averaging.</p>
<b>RESPONSE:</b> The proposed project is located within an existing wetland buffer that has previously been disturbed. No work is being proposed outside of the disturbed area.
<b>Chapter 17B.52C Fish and Wildlife Habitat Conservation Areas</b>
<b>Chapter 17B.52D Flood Hazard Areas</b>
<b>RESPONSE:</b> The project is not located within the flood hazard area.

City of Mukilteo Comprehensive Plan (C/P) & Shoreline Management Program (SMP) Policy Compliance Checklist

*Pertinent Policies only*

Project Name/No.: MWWD Sewer Treatment Facility Administration/Laboratory Building

Located in	Element	Subject	Topic	Policy No.	Policy
<b>C/P</b>	Land Use	Essential Public Facilities		LU8	The codified process in Mukilteo municipal code for the siting of essential public facilities should be periodically evaluated and, if necessary, be updated to ensure such facilities can be sited within city limits.
<b>RESPONSE</b>		The 2015 Comprehensive Plan will need to be amended to add the Mukilteo Water and Wastewater District (MWWD) sewer treatment facility to the list of essential public facilities within the City limits.			
<b>C/P</b>	Land Use	Critical Areas & Shorelines		LU9	The city shall manage and regulate development in critical areas and the shoreline to allow reasonable and appropriate uses in those areas while protecting them against adverse effects and shall regularly evaluate these regulations and programs to ensure they continue to use the best available science to protect environmentally sensitive areas from negative impacts associated with development.
<b>RESPONSE</b>		The proposed project consist of demolishing an existing structure and rebuilding it in an area that is already disturbed within the shoreline area. There will be no impact to the critical areas.			
<b>C/P</b>	Land Use	Critical Areas		LU9a	These wetlands and other critical areas which contribute to the City's stormwater management program should be protected by delineating their locations, adopting relevant land use regulations, purchasing of development rights, and other protective techniques.
<b>RESPONSE</b>		There are several wetlands adjacent to the MWWD Sewer Treatment Facility property. The proposed new building will be within an area that is currently impacted, no additional impacts to the buffer are being proposed.			
<b>C/P</b>	Utilities	Water & Sewer Utility		UT5	The city shall encourage and work with the Mukilteo Water & Wastewater District and the Alderwood Water & Wastewater District to help improve their systems and efficiencies.



Located in		Element	Subject	Topic	Policy No.	Policy
RESPONSE			The proposed new administrative/laboratory building will help improve operations and management of the MWWD Sewer Treatment Facility.			
C/P		Utilities	Water & Sewer Utility		UT5b	Development standards should also integrate the most cost-effective solutions to upgrade water and sanitary sewer systems as necessary to meet State and Federal requirements while providing the best service to the public.
RESPONSE			The proposed relocation of the existing building will help the MWWD be able to move more waste from the facility with the use of larger vehicles that will now be able to maneuver around the site without the current restrictions.			
C/P	SMP	Critical Areas and Shoreline	Shoreline		SH3	Proposed development shall be regulated and conditioned as necessary to protect the public’s health, safety, and welfare, as well as the land and its vegetation and wildlife, and to protect property rights while implementing the policies of the Shoreline Management Act.
RESPONSE			As conditioned, the project meets the City’s Zoning, Shoreline and Development Regulations for public health, welfare and safety.			
C/P	SMP	Critical Areas and Shoreline	Shoreline	Environmental Conservation	SH4	Protect the City’s critical areas, habitats, management zones and aquatic resources to ensure no net loss.
RESPONSE			N/A – Currently the buffer of the wetland and Type 3 stream are impacted but no additional impact is being proposed.			
C/P	SMP	Critical Areas and Shoreline	Shoreline	Environmental Conservation	SH9	Ensure that new development does not reduce water quality.
RESPONSE			The project is designed to meet water quality standards per the 2012 Washington State Department of Ecology Stormwater Management Manual for Western Washington.			
C/P	SMP	Critical Areas and Shoreline	Urban Water-front Use	Nearshore Enhancement and Restoration	UW9	Shoreline uses and modifications shall be designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.
RESPONSE			The project is designed to meet water quality standards per the 2012 Washington State Department of Ecology Stormwater Management Manual for Western Washington.			



**Mukilteo Water and Wastewater District**  
**DETERMINATION OF NONSIGNIFICANCE (DNS)**

**Description of proposal:**

The purpose of the project is to construct a new office and laboratory at the treatment plant to replace the existing smaller office and laboratory. The new building would be 28 feet by 70 feet, having a footprint less than 2,000 square feet. The new building will have two stories; 20 feet ground floor shop and equipment storage and 8 feet second story office, laboratory, and locker rooms.

**Project Name:** Big Gulch Wastewater Treatment Plan Office-Lab Building

**Proponent:** Mukilteo Water and Wastewater District

**Location of proposal:** Mukilteo Big Gulch Wastewater Treatment Facility 9417 62<sup>nd</sup> Place West, Mukilteo, WA 98275 SE¼ of Section 17, T28N, R4E

**Lead agency:** Mukilteo Water and Wastewater District

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

**Comment Period:** This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted by August 6, 2018 at 5:00 pm.

Comments should be sent in writing to the Mukilteo Water and Wastewater District at the address below.

Responsible official:

Jim Voetberg  
General Manager  
7824 Mukilteo Speedway  
Mukilteo, WA 98275  
(425) 355-3355

Signature: Jim Voetberg Date: 7/18/18

**Date of Issuance:** Monday, July 23, 2018

cc: Review Agencies  
Everett Herald  
City of Mukilteo



# Mukilteo Water and Wastewater District Environmental Checklist

## A. Background

1. Name of proposed project, if applicable:

***Big Gulch Wastewater Treatment Plant Office-Lab Building***

2. Name of applicant:

***Mukilteo Water and Wastewater District  
Snohomish County***

3. Address and phone number of applicant and contact person:

***Mukilteo Water and Wastewater District  
7824 Mukilteo Speedway  
Mukilteo, WA 98275  
(425) 355-3355  
Jim Voetberg, General Manager***

4. Date checklist prepared:

***May 2018***

5. Agency requesting checklist:

***Mukilteo Water and Wastewater District***

6. Proposed timing or schedule (including phasing, if applicable):

***Construction Summer 2019***

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

***No.***

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

***Previous report for the Outfall Improvements and Gabion Wall Replacement projects, which are in the immediate vicinity of the project include:***

- ***Cultural Resources Assessment for the Mukilteo Big Gulch WWTP Outfall, Snohomish County, WA, Northwest Archaeological Associates/SWCA, June 2011.***

***Environmental Information being prepare for this project includes:***

- ***Critical Areas Report for Lab/Administration Building, Wetland Resouces, Inc., July 17, 2018***
- ***Geotechnical Investigation and Report, PanGEO, Inc., July 11, 2018***

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

**No.**

10. List any government approvals or permits that will be needed for your proposal, if known.

**1. City of Mukliteo**

- a. ***Shoreline Condition Use Permit/Special Use Permit***
  - i. ***Public Hearing Required***
  - ii. ***Department of Ecology Approval Required following City's Approval***
- b. ***Substantial Development Permit***
- c. ***Building Permit***
- d. ***Engineering Permit***
- e. ***Fire Sprinkler Permit (if required)***

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

***The purpose of the project is to construct a new office and laboratory at the treatment plant to replace the existing smaller office and laboratory. The new building would be 28 feet by 70 feet, having a footprint less than 2,000 square feet. The new building will have two stories; 20 feet gournd floor shop and equipment storage and 8 feet second story office, laboratory, and locker rooms.***

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

***Mukilteo Big Gulch Wastewater Treatment Facility, 9417 62nd Place West, Mukilteo, WA 98275***

***SE1/4 of Section 17, T28N, R4E***

**B. ENVIRONMENTAL ELEMENTS**

1. Earth

a. General description of the site:

(circle one) Flat, rolling, hilly, steep slopes, mountainous, other \_\_\_\_\_

b. What is the steepest slope on the site (approximate percent slope)?

***The building site is flat. The measured slopes on the parcel and adjacent the flat building site are approximately 50%***

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

***Sand and gravel; no agricultural soils. Soils in the project area are designated as "modified land" original topography disturbed by removal of some Pleistocene deposits, grading and artificial till of unknown quantity. Soils in the vicinity of the WWTF are designated as Qal "alluvium" mostly sand and gravel deposited by streams. Soils on the steep forested slopes that bound the south side of the WWTF are gravelly sandy loams derived from glacial till, as are the soils west of the facility to the shoreline. The glacial till soils are typically less than five feet below the ground surface.***

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

***Steep slopes in the general vicinity may be subject to instability during seismic activity or after heavy rains, particularly along the Puget Sound shoreline.***

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

***Approximately 75 cubic yards of existing soils and asphalt will be excavated and removed from the site and replaced with 12" of foundation gravel for the proposed building.***

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

***The new building will be located over the existing flat asphalted area. Minimal if any erosion could occur as a result of clearing and construction.***

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

***No new impervious surface is proposed. The project is located on developed WWTF property that is currently 100 % impervious (asphalt pavement).***



- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

***Storm water best management practices will be implemented during project construction. An erosion control plan will be developed for the project.***

## **2. Air**

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

***Exhaust from equipment and dust will be the primary sources of emissions during construction of proposed project. Construction impacts will be localized, minor and temporary.***

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

***None known.***

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

***Dust suppression measures and minimization of vehicle idling will be implemented during construction.***

## **3. Water**

- a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

***Yes. The proposed replacement building is in the vicinity of Puget Sound, Big Gulch Creek, and two wetlands on the project site (Wetlands A and B). Puget Sound is a Shoreline of the State, Big Gulch creek is a documented salmonid stream, and is a Type 3 stream per the City of Mukilteo stream typing system. Wetland A is a Category III wetland and Wetland B is a Category IV wetland.***

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

***The project will not require any work over or within any water bodies or wetlands. The proposed replacement building is within 200 feet of the wetlands and water bodies listed above. (see attached plan sheet).***

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

***No fill or dredging of wetlands or water bodies is proposed.***

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

***The proposal will not require surface water withdrawals or diversion.***

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

***No.***

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

***No.***

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

***No.***

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

***No waste material will be discharged into the ground from septic tanks or other sources***

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

***Storm water runoff will be collected and disposed through the existing installed drainage/storm drain system.***

2) Could waste materials enter ground or surface waters? If so, generally describe.

***Grading of the project site is planned to direct runoff and waste materials to the existing installed drainage/storm drain system and avoid entering ground or surface waters.***

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

***No.***

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

***Construction BMPs for the control of surface, ground, and runoff water will be implemented during construction. These include silt fence, catch basin inserts, and oil/water separator.***

#### **4. Plants**

a. Check the types of vegetation found on the site:

- ☒ deciduous tree: alder, maple, aspen, other
- ☒ evergreen tree: fir, cedar, pine, other
- ☒ shrubs
- ☒ grass
- ☐ pasture
- ☐ crop or grain
- ☐ Orchards, vineyards or other permanent crops.
- ☒ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- ☐ water plants: water lily, eelgrass, milfoil, other
- ☐ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

***No vegetation will be removed as part of the proposed project.***

c. List threatened and endangered species known to be on or near the site.

***No known threatened or endangered plant species are known to be on or near the site.***

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

***None proposed; the site surface is currently asphalt and will be maintained as asphalt following construction of the new building.***

- e. List all noxious weeds and invasive species known to be on or near the site.

***Himalayan blackberry and English Ivy.***

## 5. Animals

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other: crows  
mammals: deer, bear, elk, beaver, other: coyote, squirrel, raccoon  
fish: bass, salmon, trout, herring, shellfish, other \_\_\_\_\_

- b. List any threatened and endangered species known to be on or near the site.

***No threatened or endangered species are known to be on or in the immediate vicinity of the site.***

- c. Is the site part of a migration route? If so, explain.

***Yes. Big Gulch creek is utilized for migration by anadromous fish. The project is also within the Pacific Flyway, which is a migratory bird route.***

- d. Proposed measures to preserve or enhance wildlife, if any:

***No impacts to existing wetlands, streams, or vegetated buffers areas are proposed. All areas of existing native vegetation. Implementation of construction BMPs to will be used to prevent runoff from the site and entering Big Gulch Creek.***

- e. List any invasive animal species known to be on or near the site.

***No known invasive animal species are present on the site..***

## 6. Energy and Natural Resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

***Electricity (lighting, heating, power)***

- b. Would your project affect the potential use of solar energy by adjacent properties?  
If so, generally describe.

***No.***

- c. What kinds of energy conservation features are included in the plans of this proposal?  
List other proposed measures to reduce or control energy impacts, if any:

***LED/Energy efficient lighting and energy efficient appliances will be included in the building design. HVAC systems are sized to meet the energy code.***

**7. Environmental Health**

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal?  
If so, describe.

***Health risks associated with the proposed project would be exposure to fuels, lubricants, and coolants associated with the various gasoline and diesel powered engines on construction equipment.***

- 1) Describe any known or possible contamination at the site from present or past uses.

***None known***

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

***An oil / water separator concrete vault is located adjacent to the building site. A sewer main supplies sewage to the WWTF. No underground hazardous transmission pipelines are located within the project site.***

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

***Machinery lubricants, fuels, and coolants might be stored and will be used during site excavation and backfill work.***

- 4) Describe special emergency services that might be required.

***None; the contractor will be responsible for contacting medical aid in the event***



*of worker injury.*

- 5) Proposed measures to reduce or control environmental health hazards, if any:

***Compliance with industrial safety standards in design, construction, and operation of facilities will be implemented during construction.***

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

***The site is an existing WWTP and has noise levels consistent with processing equipment, which includes pumps, blowers and operational equipment.***

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

***Noise from construction equipment will be generated at the project site during construction. No change in noise levels will result from the completed building.***

- 3) Proposed measures to reduce or control noise impacts, if any:

***Construction equipment working times will be limited to daylight hours. Hauling to and from the facility would be limited to the hours of 7:00 a.m. through 5:00 p.m., Monday through Friday to reduce the impact to local residences and any noise-sensitive wildlife present in the project area.***

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

***The site is used as part of the Big Gulch Creek WWTP. The Burlington Northern Santa Fe (BNSF) railroad tracks are located west and adjacent of the District's Big Gulch WWTF. Big Gulch Creek and forested areas are located just north of the WWTF, and include City of Mukilteo Park; steep forested hill slopes are located adjacent and south of the WWTF. Upland areas north and south of the WWTF are residential developments.***

***The proposal will not affect current land uses on nearby or adjacent properties.***

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

***The project site has not been used as working farmlands or working forest lands***

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

***No.***

- c. Describe any structures on the site.

***Man-made structures that are part of the District's existing WWTP include covered wastewater treatment buildings, asphalt roadway and parking lots, and office, laboratory, and process building.***

- d. Will any structures be demolished? If so, what?

***Yes. The existing office and lab building will be demolished as shown on the attached figure.***

- e. What is the current zoning classification of the site?

***The Mukilteo WWTF Site is zoned Heavy Industrial and the route of the sewer mains through Big Gulch is zoned Open Space.***

- f. What is the current comprehensive plan designation of the site?

***Industrial***

- g. If applicable, what is the current shoreline master program designation of the site?

***Shoreline Conservancy (the work is within 200 feet of Possession Sound).***

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

***Big Gulch Creek and surrounding riparian wetlands are designated as environmentally sensitive areas. Steep slopes along Big Gulch are also designated as sensitive areas.***

- i. Approximately how many people would reside or work in the completed project?

***Four treatment plant operators and one Lab Analyst work at the WWTP and use the building; no additional employees would be required to operate Big Gulch WWTF after the project is completed.***

- j. Approximately how many people would the completed project displace?

***None.***

- k. Proposed measures to avoid or reduce displacement impacts, if any:

***None required.***

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

***All projects must comply with the City of Mukilteo Comprehensive Plan.***

- m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

***Not applicable.***

#### **9. Housing**

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

***None.***

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

***None***

- c. Proposed measures to reduce or control housing impacts, if any:

***Not applicable / none required.***

#### **10. Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

***The proposed structure height is 35 feet. Principal exterior building proposed material includes concrete masonry units (CMU) and metal roofing. Doors and windows would be metal frame.***

- b. What views in the immediate vicinity would be altered or obstructed?

***No views outside of the WWTP will be altered.***

- b. Proposed measures to reduce or control aesthetic impacts, if any:

***No aesthetic impacts are anticipated.***

#### **11. Light and Glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

***The project will not produce additional light or glare.***

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

***No.***

- c. What existing off-site sources of light or glare may affect your proposal?

***None.***

- d. Proposed measures to reduce or control light and glare impacts, if any:

***None required.***

## **12. Recreation**

- a. What designated and informal recreational opportunities are in the immediate vicinity?

***Hiking, fishing, and bird watching could occur along Big Gulch Creek.***

- b. Would the proposed project displace any existing recreational uses? If so, describe.

***No.***

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

***Construction BMPs for the control of sedimentation and erosion will be implemented to minimize potential for increasing turbidity to Big Gulch Creek. Noise generating work will occur during regular business hours and will avoid the period between one hour after sunrise and one hour before sunset to protect noise-sensitive wildlife in the Big Gulch Creek corridor.***

***The narrow, winding roadway, with fenced and gated access into and around the Big Gulch WWTF, along with on-going construction activities associated with the project, restrict public access to the WWTF and the project area.***

## **13. Historic and cultural preservation**

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

***No.***

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

***None known. A Cultural Resources Assessment prepared by Northwest Archaeological Associates/SWCA (June 16, 2011 for a project adjacent the proposed) did not identify any landmarks or historic sites.***

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

***State Archaeologist, Rob Whitlam, Ph.D. reviewed and concurred with the findings of the 2011 Cultural Resources Assessment report.***

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

***Existing cultural resources surveys for the project area will be reviewed and a new cultural resources survey/assessment will be conducted by a professional archaeologist, as required by the funding or permitting agencies.***

#### 14. Transportation

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

***Access to the proposed project is via the road that currently serves the Big Gulch WWTF, located at 9417 62<sup>nd</sup> Place West, Mukilteo, WA.***

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

***No. The nearest Community Transit Bus Stop is approximately 0.9 miles to the east along the Mukilteo Speedway.***

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

***Not applicable.***

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). \_\_\_\_\_

***No.***



- e. Describe the existing condition of the proposed access road, including width of easement, width of pavement or roadway, curbs, gutters, and/or sidewalks.

***Existing access to the WWTF and the proposed project on the facility will be utilized; the access road pavement width is approximately 14 feet with gravel shoulders and has no curbs or sidewalks.***

- f. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

***Burlington Northern Santa Fe railroad tracks are located approximately 100 feet west of the project site. The project will not utilize water, rail, or air transportation.***

- g. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

***The completed project will not require any additional vehicle trips.***

- h. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

***No.***

- i. Proposed measures to reduce or control transportation impacts, if any:

***Construction traffic will be coordinated with on-going activities associated with WWTF operations to minimize transportation conflicts.***

## 15. Public Services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

***Not applicable.***

- b. Proposed measures to reduce or control direct impacts on public services, if any.

***Not applicable.***

## 16. Utilities

- a. Circle utilities currently available at the site:


electricity natural gas, water, refuse service, telephone, sanitary sewer septic system,  
other cable

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

***No new utilities are proposed for the project.***

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:   
Name of signee: **Jim Voetberg**  
Position and Agency/Organization: **General Manager for Mukilteo Water and Wastewater District**  
Date Submitted: **7/18/18**



**Mukilteo Water and Wastewater District  
Big Gulch Wastewater Treatment Facility  
New Administration/Lab Building**

**Project Narrative**

The collection and treatment of domestic and commercial wastewater is critical for public health, safety and the general welfare of the environment. In 1993, the City of Mukilteo transferred their sewer systems to Olympus Terrace Sewer District which later merged with the Mukilteo Water District and is now known as the Mukilteo Water and Wastewater District (District). The District owns and operates the sewer system, including the Big Gulch Wastewater Treatment Facility (WWTF) in accordance with RCW 57.

Big Gulch WWTF is a public wastewater treatment facility treating sewage generated from residents and businesses within the City of Mukilteo and Snohomish County including Paine Field Airport. The WWTF is regulated by the State Department of Ecology, permit number WA0023396. Pursuant to Mukilteo Municipal Code, 17B. 16.100, the City of Mukilteo has identified the WWTF as an essential public facility.

The WWTF is located at the lower end of Big Gulch. The property abuts the Burlington Northern Santa Fe railroad property to the west, City of Mukilteo property to the south and east and City of Mukilteo and Possession Land Development, Inc. property to the north. Public access is prohibited on WWTF property.

The WWTF site is fully developed within the District's property with no room to expand. Immediately north of the WWTF developed area is Big Gulch Creek and immediately south is a steep sensitive slope hillside with houses built on the upper bluff. The west side abuts Burlington Northern Santa Fe railroad property. Vehicle access is provided from the east side is too narrow for development.

The proposed project will demolish the existing administrative/lab building and construct a new administration/lab building. The current administration/lab building, to be demolished, is one story with a footprint of 1,960 square feet. The new administration/lab building will be a two story building with the same footprint of 1,960 square feet. The new administration/lab building will be constructed over an area of existing pavement approximately 25 feet from the existing administrative/lab building. Administrative offices and the lab will be on the top floor with a maintenance shop and storage on the lower floor.



CITY OF  
**MUKILTEO**

**PUBLIC NOTICE  
DECLARATION OF POSTING**

I, SARAH KRESS, declare under penalty of perjury under the laws of the State of Washington and the United States of America that the foregoing is true and correct to the best of my knowledge:

On the 20 day of NOVEMBER, 2018, I caused to be posted a true and correct copy of the Notice for:

**HEARING EXAMINER PUBLIC HEARING  
Mukilteo Water & Wastewater Sewer Treatment Facility  
Administration/Laboratory Building  
December 4, 2018  
10:00 AM  
Mukilteo City Hall Council Chambers**

at the following official posting locations for City notices:

Rosehill Community Center  
304 Lincoln Avenue

United States Post Office  
8050 Mukilteo Speedway

Harbour Pointe Shopping Center  
11700 Mukilteo Speedway

Mukilteo City Hall  
11930 Cyrus Way

EXECUTED at Mukilteo, Washington this 20 day of NOVEMBER, 2018.

Sarah Kress  
DECLARANT

City of Mukilteo, Washington  
CERTIFICATION OF PUBLIC NOTICE

DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT

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DECLARATION OF POSTING

I, GARRETT JENSEN, declare under penalty of perjury under the laws of the State of Washington and the United States of America that the foregoing is true and correct to the best of my knowledge:

On the 20<sup>TH</sup> day of NOVEMBER, 2018 I posted a true and correct copy of:

**Public Hearings Notice:** Mukilteo Water and Wastewater Sewer Treatment Facility  
Administration/Laboratory Building

**Date:** December 4, 2018 10:00am

The purpose of the public hearing is for consideration of an Essential Public Facility (EPF), Shoreline Substantial Development Conditional Use Permit (SH-SDP) and a Shoreline Conditional Use Permit (SH-CUP) at 9417 62nd Place SW for the demolition of the current administrative/lab building which is one story and has a building footprint of approximately 1,960 square feet. The new administrative/lab building will be a two-story building with the same footprint of 1,960 square feet. The new building will be constructed over an area of existing pavement approximately 25 feet from the existing administrative/lab building. Administrative offices and the lab will be on the top floor with a maintenance shop and storage on the lower floor

at the following posting location for City notices:

- ☒ Location(s) on or near the site

EXECUTED at Mukilteo, Washington this 20<sup>TH</sup> day of NOVEMBER, 2017.

  
\_\_\_\_\_  
DECLARANT



City of Mukilteo  
CERTIFICATION OF PUBLIC NOTICE

DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT

---

DECLARATION OF MAILING

I, SARAH KRESS, declare under penalty of perjury under the laws of the State of Washington and the United States of America that the foregoing is true and correct to the best of my knowledge:

On the 20 day of NOVEMBER 2018, I e- mailed or mailed a true and correct copy of:

**Public Hearings Notice:** Mukilteo Water and Wastewater Sewer Treatment Facility  
Administration/Laboratory Building

**Date:** December 4, 2018 10:00am

The purpose of the public hearing is for consideration of an Essential Public Facility (EPF), Shoreline Substantial Development Conditional Use Permit (SH-SDP) and a Shoreline Conditional Use Permit (SH-CUP) at 9417 62nd Place SW for the demolition of the current administrative/lab building which is one story and has a building footprint of approximately 1,960 square feet. The new administrative/lab building will be a two-story building with the same footprint of 1,960 square feet. The new building will be constructed over an area of existing pavement approximately 25 feet from the existing administrative/lab building. Administrative offices and the lab will be on the top floor with a maintenance shop and storage on the lower floor

to each property owner, and interested party whose name and address appears on the attached list, by first class mail or email.

EXECUTED at Mukilteo, Washington this 20 day of NOVEMBER, 2018.

  
DECLARANT

## CERTIFICATION OF PUBLIC NOTICE

CITY OF MUKILTEO

DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT

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### DECLARATION OF POSTING

I, Cheryl Martinis, declare under penalty of perjury under the laws of the State of Washington and the United States of America that the foregoing is true and correct to the best of my knowledge:

On the 10<sup>th</sup> day of October, 2018 she/he caused to be posted a true and correct copy of:

<b>Type of Notice:</b>	Notice of Application for Mukilteo Water and Wastewater District Administration/Lab Building
<b>Date Issued:</b>	Friday, October 12, 2018
<b>Comments:</b>	Tuesday, November 13, 2018

at the following posting locations for City notices:

Rosehill Community Center  
304 Lincoln Avenue

United States Post Office  
8050 Mukilteo Speedway

Harbour Pointe Shopping Centre  
11700 Mukilteo Speedway

Mukilteo City Hall  
11930 Cyrus Way

EXECUTED at Mukilteo, Washington this 10<sup>th</sup> day of October, 2018.

\_\_\_\_\_  
DECLARANT

## CERTIFICATION OF PUBLIC NOTICE

**CITY OF MUKILTEO**

**DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT**

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### **DECLARATION OF MAILING**

I, Cheryl Martinis, declare under penalty of perjury under the laws of the State of Washington and the United States of America that the foregoing is true and correct to the best of my knowledge:

On the 11th day of October, 2018 she/he e-mailed or mailed a true and correct copy of:

<b>Type of Notice:</b>	Notice of Application for Mukilteo Water and Wastewater District Administration/Lab Building
<b>Date Issued:</b>	Friday, October 12, 2018
<b>Comments:</b>	Tuesday, November 13, 2018

to the applicant/contact(s), each property owner, and interested party whose name and address appear on the attached list, by first class mail.

EXECUTED at Mukilteo, Washington this 11 day of October, 2018

  
\_\_\_\_\_  
DECLARANT

## CERTIFICATION OF PUBLIC NOTICE

CITY OF MUKILTEO

DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT

### DECLARATION OF POSTING

I, Matthew Entinger, declare under penalty of perjury under the laws of the State of Washington and the United States of America that the foregoing is true and correct to the best of my knowledge:

On the 12<sup>th</sup> day of October, 2018 she/he posted a true and correct copy of:

<b>Type of Notice:</b>	Notice of Application for Mukilteo Water and Wastewater District Administration/Lab Building
<b>Date Issued:</b>	Friday, October 12, 2018
<b>Comments:</b>	Tuesday, November 13, 2018

at the following posting location for City notices:

- ☒ Location(s) on or near the site

EXECUTED at Mukilteo, Washington this 12<sup>th</sup> day of October, 2018.

  
\_\_\_\_\_  
DECLARANT

# Everett Daily Herald

RECEIVED

OCT 18 2018

CITY OF MUKILTEO

## Affidavit of Publication

State of Washington }

County of Snohomish } ss

Dicy Sheppard being first duly sworn, upon oath deposes and says: that he/she is the legal representative of the Everett Daily Herald a daily newspaper. The said newspaper is a legal newspaper by order of the superior court in the county in which it is published and is now and has been for more than six months prior to the date of the first publication of the Notice hereinafter referred to, published in the English language continually as a daily newspaper in Snohomish County, Washington and is and always has been printed in whole or part in the Everett Daily Herald and is of general circulation in said County, and is a legal newspaper, in accordance with the Chapter 99 of the Laws of 1921, as amended by Chapter 213, Laws of 1941, and approved as a legal newspaper by order of the Superior Court of Snohomish County, State of Washington, by order dated June 16, 1941, and that the annexed is a true copy of EDH829667 APPLICATION as it was published in the regular and entire issue of said paper and not as a supplement form thereof for a period of 1 issue(s), such publication commencing on 10/12/2018 and ending on 10/12/2018 and that said newspaper was regularly distributed to its subscribers during all of said period.

The amount of the fee for such publication is \$65.36.

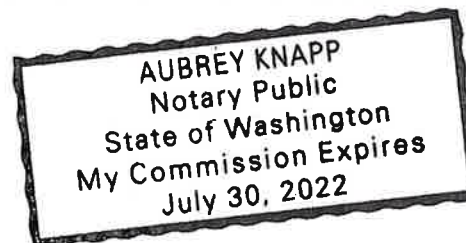
Subscribed and sworn before me on this

12 day of October,  
2018.

Aubrey Knapp

Notary Public in and for the State of Washington.

City Of Mukilteo/Legal ads | 14103318  
CHERYL MARTINIS





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Listing 5 of 352

**NOTICE OF DETERMINATION OF in Everett, WA 98201, US**[Email Friend](#)[Save Ad](#)[QR Code](#)[Tweet](#)[G+](#)[Like 0](#)

**Location:** Everett, WA 98201, US

**Category:** Events and Notices - Legal and Public Notices

**Posted:** 07/23/2018

**Contact:** (425) 355-3355

**Details**

NOTICE OF DETERMINATION OF NONSIGNIFICANCE Mukilteo Water and Wastewater District issued a determination of non-significance (DNS) under the State Environmental Policy Act Rules (Chapter 197-11 WAC) for the following project Big Gulch Wastewater Treatment Plant Office-Lab Building 9417 62nd Place West, Mukilteo, WA 98275 proposed by (Mukilteo Water and Wastewater District. After review of a completed environmental checklist and other information on file with the agency, Mukilteo Water and Wastewater District has determined this proposal will not have a probable significant adverse impact on the environment. Copies of the DNS and Environmental Checklist are available at no charge from Kendra Chapman, (425) 355-3355. The public is invited to comment on this DNS by submitting written comments no later than August 6, 2018 by 5:00 pm to Kendra Chapman at 7824 Mukilteo Speedway, Mukilteo, WA 98275. Published: July 23, 2018.EDH818165

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