

OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS

The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

File No.

Project Name/Address:

Planner: Reilly Pittman 425-452-4350 rpittman@bellevuewa.gov

Minimum Comment Period:

Materials included in this Notice:

Blue Bulletin Checklist Vicinity Map Plans Other:

OTHERS TO RECEIVE THIS DOCUMENT: State Department of Fish and Wildlife State Department of Ecology, Shoreline Planner N.W. Region Army Corps of Engineers Attorney General Muckleshoot Indian Tribe

SEPA Checklist Reviewed by Reilly Pittman on 7/28/20



Development Services

SEPA Environmental Checklist

The City of Bellevue uses this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions

The checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully and to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions.

You may respond with "Not Applicable" or "Does Not Apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies and reports. Please make complete and accurate answers to these questions to the best of your ability in order to avoid delays. For assistance, see <u>SEPA Checklist</u> <u>Guidance</u> on the Washington State Department of Ecology website.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The city may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Background

- 1. Name of proposed project, if applicable Bellevue Fire Station #10
- 2. Name of applicant City of Bellevue
- 3. Contact person Marina Stefanovic, Senior Project Manager Phone 425-452-4486
- 4. Contact person address Finance & Asset Management 450 110th Ave. NE, Bellevue, WA 98004
- 5. Date this checklist was prepared 6/22/2020
- 6. Agency requesting the checklist <u>City of Bellevue</u>

7. Proposed timing or schedule (including phasing, if applicable)

Construction start anticipated 3rd Quarter 2021. Construction completion anticipated 4th Quarter 2022.

8. Do you have any plans for future additions, expansion or further activity related to or connected with this proposal? If yes, explain.

No.

9. List any environmental information you know about that has been prepared or will be prepared, that is directly related to this proposal.

Wetland Delineation Report, The Watershed Company (TWC), 4/17/2019; Wetland Mitigation Plan, TWC, 5/21/2020; Critical Areas Report, TWC, June 2020.

10. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

Boundary Line Adjustment (LW Permit), Conditional Use Permit (LB Permit), Critical Areas Permit (LO Permit), Demolition Permit

11. List any government approvals or permits that will be needed for your proposal, if known.

Critical Areas Permit (LO Permit), Demolition Permit, Fuel Island Permit, Boundary Line Adjustment (LW Permit), SEPA, Side Sewer Permit (UA), Storm Drainage Connection (UB), Utility Extension Agreement (UE), Water Service (UC), Clearing and Grading Permit without SEPA (GD Permit), Utilities, Conditional Use Permit (LB Permit), Building Permit (Major Project- BB Permit), Plumbing (BO Permit), Electrical (BG Permit), Mechanical (BL Permit), Detention Vault (BH Permit)

12. Give a 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 proposal includes construction of a new 26,500 sq. ft. Fire Station for the City of Bellevue located on a 116,043 sq. ft. site located at the 1200 block of 112th Ave NE. The project includes associated site utilities and operations equipment including but not limited to a fuel island, emergency generator, trash enclosure, visitor parking, firefighter parking. The project also includes restoration of an existing Category IV Wetland, site landscaping, frontage improvements, and installation of a new traffic signal.

13. 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 the 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.

1200 Block of 112th Ave NE, Bellevue WA. Address to be confirmed with Boundary Line Adjustment (LW Permit).

SE 1/4 of Section 29, Township 25 N., Range 05 E., W.M.

See attached sheet for Legal Descriptions of parcels involved in this proposal.

Environmental Elements

Earth

- 1. General description of the site:
 - 🗖 Flat
 - □ Rolling
 - 🗖 Hilly
 - □ Steep Slopes
 - Mountainous
 - Other <u>Sloping from North to South. Level at (E) House Pads. Slopes <5% in areas of work.</u>
- 2. What is the steepest slope on the site (approximate percent slope)? Up to 45%

3. 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.

Soil units encountered at the subject site include artificial fill, wetland deposits, Vashon-age recessional lake deposits, lodgement till, and advance outwash, and older till and non-glacial sediments. Existing Fill soils, over wetland deposits, over recessional lacustrine deposits, lodgement tills and advance outwash soils.

4. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

During field study, evidence of recent or older global soil movement was not observed, such as tension cracks, seepages, sag ponds, benches, or reversed drainage features.

5. Describe the purpose, type, total area and approximate quantities and total affected area of any filling, excavation and grading proposed. Indicate the source of the fill.

As described in the "Structural Fill" section of our June 26, 2019 report: "The existing fill, recessional lacustrine deposits, and lodgement till sediments are estimated to contain substantially more than 5 percent fine-grained material. Due to the high silt and moisture content of the on-site native soils encountered during subsurface exploration, these soils will likely not be suitable for reuse as structural fill. Therefore, a select import material consisting of a clean, free-draining gravel and/or sand should be used. Approximate cut: 1385 Cubic Yards, Approximate Fill: 5900 Cubic Yards

6. Could erosion occur as a result of clearing, construction or use? If so, generally describe.

Yes, during construction, but a City and State approved temporary erosion control plan, using approved best management procedures will be implemented to limit erosion. At project completion, all surfaces will be built on, paved or stabilized.

7. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? <u>67%</u>

8. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

During construction, a City and State approved erosion control plan, using approved best management practices will be implemented to limit erosion. At project completion, all surfaces will be built on, paved or stabilized with landscaping.

Air

1. 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.

Short-term air quality impacts may occur during construction. Air emissions would include primarily particulate matter and small amounts of carbon monoxide and oxides of nitrogen from construction machinery exhaust. The sources of particulate matter would be fugitive dust from earth moving or excavation activities and diesel smoke. In addition, temporary odors from machinery exhaust and paving activities could occur. Long-term air quality impacts would be air emissions in the form of carbon monoxide and oxides of nitrogen associated with the operation of fire station vehicles and apparatus.

2. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no off-site sources of emissions or odor that would affect the proposal.

3. Proposed measures to reduce or control emissions or other impacts to air, if any.

Proposed measures to reduce or control emissions and other impacts to air quality during construction would include the following, as appropriate:

•Cover loads, wet down and/or ensure adequate free board on trucks during transport of fill material and topsoil; •Clean up spills of transported material on public roads promptly by frequent use of a street sweeper machine;

•Cover loads of hot asphalt to minimize odors;

•Schedule work tasks to minimize disruption of existing vehicle traffic on streets in the vicinity of the proposed project; and •Maintain all construction machinery engines in good mechanical condition to minimize exhaust emissions.

Water

- 1. Surface Water
 - a. 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.

One slope wetland, Wetland A, is located on the subject property. It is a Category IV wetland with a 40-foot buffer. The site is located in the Sturtevant Creek Basin of the Mercer Slough Drainage, in the Cedar River/Lake Washington Watershed, within the Cedar-Sammamish Water Resource Inventory Area (WRIA 8); Section 29 of Township 25N, Range 5E of the Public Land Survey System. (See the Critical Areas Report, dated June 2020 for further details.)

b. 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.

Yes. The proposed site redevelopment will involve work in and adjacent to the on-site wetland. A narrow strip of Wetland A (375 SF) will be filled at the disturbed south end of Wetland A. The adjacent wetland is quantified as 1,308 SF of paper fill to account for buffer loss in that area. 4,745 SF of wetland buffer will also be impacted by the project. As described in the June 2020 Critical Areas Report, the onsite wetland is degraded and was altered by the previous property owner.

c. 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 the fill material.

This proposal will fill a total of 375 square feet of wetland, convert 1,308 square feet of wetland to paper buffer (paper fill), and impact 4,745 square feet of wetland buffer. To offset these critical area buffer impacts, a total of 16,762 square feet of buffer enhancement is proposed and 4,745 square feet of buffer creation, and 375 square feet of wetland creation. Fill material is to follow Ecology Guidance

d. Will the proposal require surface water withdrawals or diversions? Give a general description, purpose and approximate quantities, if known.

No surface water withdrawals or diversions are anticipated.

e. Does the proposal lie within a 100-year floodplain? <u>No.</u> If so, note the location on the site plan. f. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

There would be no intentional discharge of waste materials to surfaces waters. Best management practices will be employed to avoid unintentional spills.

- 2. Ground Water
 - a. 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.

b. 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.

None.

- 3. Water Runoff (including stormwater)
 - a. 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.

Surface water will be collected from roof and pavements, routed to an on-site detention and water quality pond. This pond will discharge to a public storm drain in the street. The City's system discharges to Sturtevant Creek, and eventually Lake Washington.

b. Could waste materials enter ground or surface waters? If so, generally describe.

A combined detention and water quality pond will be used to collect and treat all the surface water generated from the site, prior to discharge to city systems.

c. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No, existing drainage patterns will be preserved.

Indicate any proposed measures to reduce or control surface, ground and runoff water, and drainage pattern impacts, if any.

A combined water quality and detention pond will treat and control flow rates of surface water from the site. This system will be designed to current City standards

Plants

- 1. Check the types of vegetation found on the site:
 - deciduous tree: alder, maple, aspen, other <u>Deciduous tree saplings</u>
 - vergreen tree: fir, cedar, pine, other <u>Douglas Fir</u>
 - ☑ shrubs
 - ☑ grass
 - **D** pasture
 - **C** crop or grain
 - orchards, vineyards or other permanent crops
 - 🗹 wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other <u>buttercup, Pacific water</u>
 - water plants: water lily eelgrass, milfoil, other ______
 - other types of vegetation <u>meadow grasses</u>
- 2. What kind and amount of vegetation will be removed or altered?

The impacted wetland and buffer areas are vegetated with meadow grasses mixed with herbaceous wetland plants. 2,281 SF of the proposed impact area is already cleared of vegetation and developed with structures or paving. Dead/dying trees around Wetland A will be removed or snagged as necessary for safety. Removed 25 trees, including Pseudotsuga menziesii, Ficus carica, Betula pendula, Juniperus virginiana, Ilex aquifolium, Acer palmatum, Prunus serrulata

3. List any threatened and endangered species known to be on or near the site.

None known.

4. Proposed landscaping, use of native plants or other measures to preserve or enhance vegetation on the site, if any.

Restore native forest, shrub and groundcover plant communities to the wetland and buffer. See the wetland mitigation plan dated 5/21/2020 for further details. Enhance existing forested woodland landscape with additional trees and understory of shrub/grass/perennials mix. Develop swale and meadow landscape to help to slow, contain stormwater and provide food for pollinators, while enhancing wetland ecosystem. Native and adaptive plants used including Acer circinatum, Cornus sanguinea, etc.

5. List all noxious weeds and invasive species known to be on or near the site.

Lamium galeobdolon, Rubus armeniacus (invasive blackberry), English Ivy, Knotweed, Thistle, English Holly, Laurel, Bindweed, English holly, bindweed, knotweed, Canada thistle, Robert's geranium

Animals

1. 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: I hawk, heron, eagle, songbirds, other <u>Red-tailed hawk and songbirds observe</u>

Mammals: deer, bear, elk, beaver, dother <u>Wildlife mammal species expected to utilize</u>

Fish: 🔲 bass, 🔲 salmon, 🖾 trout, 🖾 herring, 🖾 shellfish, 🖾 other ______

2. List any threatened and endangered species known to be on or near the site.

None known.

3. Is the site part of a migration route? If so, explain.

No.

4. Proposed measures to preserve or enhance wildlife, if any.

Wetland and buffer enhancement will improve onsite wildlife habitat by increasing native plant density and diversity, interspersing vegetative strata, and adding large woody debris.

5. List any invasive animal species known to be on or near the site.

None known. Eastern gray squirrel may be present.

Energy and Natural Resources

1. 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.

This will be an all-electric building, no natural gas or other fuels will be provided. Electric fans and heat pumps will be used to serve heating, ventilating, and air conditioning (HVAC) systems in the building.

Exterior Fueling Island with below grade fuel storage tanks will serve City of Bellevue support vehicles and fire apparatus, as well as the emergency generator.

2. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

3. 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.

The following energy conservation features are included in this building: ground source/variable refrigerant flow (VRF) heat pump system, dedicated outdoor air systems (DOAS) with 90% heat recovery, CO2 ventilation controls, radiant floor heating system in the Apparatus Bay, heat pump water heaters, and a direct digital controls system (DDC) that will manage the building energy usage.

Environmental Health

1. 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.

Yes, construction of new fueling island for fire apparatus and related support vehicles. The project will include both diesel (2,300 gallon) and unleaded gas (500 gallon) fueling for both the Fire Department and other city departments. For pollutant control, the fueling will occur on an impervious concrete pad under a canopy to keep out rainfall and stormwater run-on. The fueling island will be designed to control spills and wastewater to required levels with a spill control catch basin. Fire apparatus returning from off-site incident responses will require on-site cleaning within the apparatus bays. Apparatus washing will occur indoors and all vehicle wash water with associated contaminants such as oil and grease, and potential benzene, pesticides, herbicides, nitrates, and other metals will be collected via trench drains located under the apparatus and conveyed through an oil water separator to the municipal sanitary sewer in accordance with DOE best practices.

a. Describe any known or possible contamination at the site from present or past uses.

The Phase I Environmental Site Assessment recommends an asbestos survey be performed prior to the demolition of existing structures on the site.

b. 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.

Underground natural gas lines occur on the east side of 112th Ave NE and may be encountered with the undergrounding of electrical service. Natural gas lines serve (2) existing single family residences on the project site which are to be demolished. Existing Natural gas lines are to be removed from the project site in accordance with local and state regulations.

c. 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.

No toxic or hazardous chemicals will be stored or produced during the project's development or construction, or at any time during the operating life of the project. Hydrocarbon products (gasoline, diesel fuel, oils) used to run the construction equipment are the only potential sources of contamination. The contractor will prepare a Spill Prevention, Control and Countermeasure plan (SPCC) that will outline BMPs, responsive actions in the event of a spill or release, including notification and reporting procedures.

During the life of the building, it is expected that general station cleaning agents will be stored within janitorial closets however, it is anticipated that these agents will be environmentally friendly and conform the LEED Certified Green Cleaning plan. Additionally it is anticipated that a minimal amount of spray paint, solvents and less than a gallon of gas will be stored in a Flammable liquids cabinet during the life of the building for use in the shop area for small tools. The fire department has hazmat containment protocols and absorbent materials within this contained area if any spills where to occur.

d. Describe special emergency services that might be required.

No special emergency services would be required beyond those occasionally required by other similar public facilities. These include police, fire, and emergency medical service.

e. Proposed measures to reduce or control environmental health hazards, if any.

In the event that hazardous materials are encountered during construction, removal would be conducted in accordance with federal, state and local laws and regulations. Potential spills from construction machinery would be minimized through incorporation of a spill prevention and maintenance plan. Post construction, wash water will be routed through trench drains, an oil water separator, and into the sanitary sewer. Any potential fuel spills would be within the covered fuel island containment area and mitigated with on-site hazmat supplies.

- 2. Noise
 - a. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Traffic.

 b. 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.

On a short-term basis (during construction), noise levels would temporarily increase near the construction activity due to heavy equipment use and construction materials transport. Sound levels generated during construction would vary based on the construction phase and equipment used. Generally, at a distance of 50 feet, sound levels for various types of construction equipment or vehicles typically vary from 76 decibels (dBA) to 89 dBA. Construction activity is only proposed on weekdays within the hours allowed by the City of Bellevue. No night work is proposed. If required to meet construction schedules, work within those days and hours allowed would only be conducted after obtaining a noise variance from the City. Sirens from the fire trucks and other safety vehicles will also be a source of noise during operation of the fire station facility. Safety sirens are exempt from the noise ordinance. Regular traffic and operational noise from incoming/departing fire apparatus', medic, battalion chief, and firefighter vehicles including operation of apparatus bay doors. Occasional traffic from visitors, trash collection, postal deliveries, visiting apparatus and city of Bellevue vehicles utilizing the fueling island. Fire signals along 112th Avenue NE.

c. Proposed measures to reduce or control noise impacts, if any.

Construction related noise complaints (if any) will be discussed during weekly construction meetings and addressed as necessary if it becomes an issue. Post construction, noise from returning apparatus will occur in the depressed area of the site to the south west. This area has been setback from neighboring residences to mitigate noise. The on-site standby generator will be placed within a sound attenuating enclosure.

Per BCC 9.18.020, sounds created by safety and protective warning devices (sirens) are exempt from regulation by the City's noise code.

Land and Shoreline Uses

1. 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.

Current site is zoned single family residential (R-4), adjacent sites to north and west are zoned single family residential (R-4). Adjacent sites to east across 112th Ave NE are zoned Office and Light Business (OLB). McCormick Park lies to the south (R-4). South of NE 12th St is zoned both Downtown Mixed Use (DT-MU) and Downtown Residential (DT-R)

2. 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 non-farm or non-forest use?

No.

a. 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.

3. Describe any structures on the site.

(9) Single Family Residences and associated sheds, garages, fences, rockeries.

4. Will any structures be demolished? If so, what?

All existing structures to be demolished.

- 5. What is the current zoning classification of the site? <u>R-4 Single Family Residential</u>
- 6. What is the current comprehensive plan designation of the site? <u>P/SF-H North Bellevue</u>
- 7. If applicable, what is the current shoreline master program designation of the site?
 None.
- 8. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Yes, a regulated wetland and buffer are present onsite. The wetland is a Category IV with a 40-foot buffer.

- 9. Approximately how many people would reside or work in the completed project? 14
- 10. Approximately how many people would the completed project displace? 9 single family hom 1
- 11. Proposed measures to avoid or reduce displacement impacts, if any.

Relocation assistance and compensation, extended dates for moving out. Successful in negotiating, within legal requirements, acceptable terms of purchase with each property owner.

12. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

Located in a residential zone fire station is an allowed use through the Conditional Use Permit process. The project will retain majority of existing trees, provide a green buffer to neighboring properties, and restore an existing wetland. Property frontage improvements will enhance the sidewalk, planting area, and provide a wider street for an added bicycle lane. 13. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any.

N/A as the project site is not nearby any of the lands listed above.

Housing

1. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

2. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

(9) Single Family Homes.

3. Proposed measures to reduce or control housing impacts, if any.

Relocation assistance and compensation, extended dates for moving out. Successful in negotiating, within legal requirements, acceptable terms of purchase with each property owner.

Aesthetics

1. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Top of mechanical screen is proposed to be 5'-0" above top of roof. Roof is approximately 30'-0" above lowest finished grade and 17'-0" above highest finished grade.

2. What views in the immediate vicinity would be altered or obstructed?

None.

3. Proposed measures to reduce or control aesthetic impacts, if any

Proposed building is situated on site to mitigate height impact relative to neighboring residential properties. Site utilities have been located to reduce visual impact on neighboring properties.

Light and Glare

1. What type of light or glare will the proposal produce? What time of day would it mainly

occur?

Sources of light and glare associated with the project proposal include new overhead site lighting and vehicle lights. On-site lighting will be present throughout the non-daylight hours. Glare from fire truck and other safety vehicle lights would be more prevalent at dawn and dusk during the winter months when the primary commute periods extend beyond daylight hours. Light will be provided for safety, security and wayfinding on the site. Glare will be mitigated by the use of sharp cutoff fixtures. Time of day will be evenings until 10 PM.

2. Could light or glare from the finished project be a safety hazard or interfere with views?

Night lighting and increased light and glare from vehicular traffic associated with the proposed facility may be considered a nuisance level impact by some, but it would not create a safety hazard or adversely affect views.

3. What existing off-site sources of light or glare may affect your proposal?

Existing Street Lighting

4. Proposed measures to reduce or control light and glare impacts, if any.

The following measures will be incorporated into the project design to reduce or control light and glare impacts: •Lighting types will be carefully planned to reduce potential spill of light off the project site; •Maximum height of on-site lighting is expected to be approximately 25 feet above lowest grade at building; •Plant materials for landscaping and buffer plantings will be considered and located to effectively reduce light and glare from vehicles maneuvering on the site; and •Use of sharp cut off fixtures, strategic locating of fixtures such that lighting will not extend beyond site boundaries

Recreation

1. What designated and informal recreational opportunities are in the immediate vicinity?

McCormick Park is adjacent to south side of project site.

2. Would the proposed project displace any existing recreational uses? If so, describe.

No.

3. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

Proposed new trail connection from McCormick Park to 112th Avenue NE through southeast portion of fire station site. Right of Way improvements along east property line will include new bicycle lane along 112th Avenue NE.

Historic and Cultural Preservation

1. 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.

None.

2. 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.

3. 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.

GIS data and historic photographs from the Bellevue Historical Society were researched for natural habitat restoration. No significant cultural impacts were discovered.

4. 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.

Preservation and restoration of the existing natural habitat of the site, including the Category IV wetland. A Critical Areas Permit is required for the work in and around the wetland.

Transportation

1. 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.

The site will be accessible from 112th Avenue NE via two curb cuts.

2. 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?

The nearest bus stop to the site is located along 112th Avenue NE, just north of the site. It is served by King County Metro Transit, Route 232.

3. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Proposal: (19) new permanent parking spaces with a potential increase to (21) at full operational capacity. Existing: (9) single family homes and associated parking spaces to be removed.

4. 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).

City required bike lane and sidewalk improvements will be made along the east frontage.

5. Will the project or proposal use (or occur in the immediate vicinity of) water, rail or air transportation? If so, generally describe.

No.

6. 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 non-passenger vehicles). What data or transportation models were used to make these estimates?

The site is expected to typically generate up to 158 vehicle trips per day based on information provided by Bellevue Fire Department and City of Bellevue staff. Of these, approximately 5 percent (or 8 trips) are expected to occur during the PM peak hour. Approximately half of all daily trips are expected to be truck trips, consisting primarily of emergency vehicle trips.

7. 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.

8. Proposed measures to reduce or control transportation impacts, if any.

Proposal includes design and installation of:

(2) Fire Signal road signs on the east and west sides of 112th Ave NE to read "EMERGENCY SIGNAL AHEAD" on approach to the station.
(2) Fire Signal poles on the east and west sides of 112th Ave NE with signs that read "FIRE SIGNAL ACTIVE WHEN FLASHING". Signal poles to each include a mast arm to be lowered over 112th Ave NE in an emergency event to allow safe egress of emergency vehicles from South Driveway. Mast arms are to be equipped with flashing beacons and signs that read "EMERGENCY SIGNAL STOP ON FLASHING RED"
•Road Striping improvements on 112th Ave NE to include (2) stop bars set back 50'-0" from mast arms.

Public Service

1. 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.

The proposed project is a fire station providing additional public services, thus the proposed project would not result in an increased need for public services.

2. Proposed measures to reduce or control direct impacts on public services, if any.

The project will be designed in accordance with applicable building and fire codes to ensure compliance with fire protection and life safety requirements. Once complete the proposed fire station will provide improved access to necessary public services.

Utilities

- 1. Check the utilities currently available at the site:
 - **E**lectricity
 - ☑ natural gas
 - 🗹 water
 - ☑ refuse service
 - 🗹 telephone
 - ☑ sanitary sewer
 - **D** septic system
 - other
- 2. 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.

Puget Sound Energy will provide electrical service. City of Bellevue will provide water and sanitary sewer service. Republic Services is contracted with City of Bellevue to provide refuse service. Natural gas will not be used in this project.

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 mstefanovic@bellevuewa.gov

Name of signee Marina Stefanovic

Position and Agency/Organization Senior Project Manager, Finance and Asset Management, COB

Date Submitted 6/23/2020



Vicinity Map for Bellevue Fire Station 10 File 20-110651-LO and 20-110652-LB







A2.00 SCALE: 1/8" = 1'-0"

General Notes

MATERIAL KEY				
MATERIAL				
VISION GLASS				
CAST-IN-PLACE ARCHITECTURAL CONCRETE				
SIDE ACTION APPARATUS BAY DOORS				
PHOTOVOLTAIC PANELS				
VERTICAL ALUMINUM FINS				
GLASS GUARDRAIL				
PAINTED STEEL COLUMN				
AWNING WINDOW - PAINTED ALUM.FRAME				
VERTICAL METAL PANELS				
PERFORATED METAL SCREEN				
WOOD PANELING				





3/23/2020 9:27:24 AN



2 LEVEL 1 GSF G0.02 SCALE: 1" = 20'-0"



Seal	
Revisions Description No. Description	Date
Bohlin Cywinski Jackson Architecture Planning Interior Design Wilkes-Barre Pittsburgh Philadelphia Seattle San Francisc 1932 First Avenue Suite 916 Seattle, WA 98101 v: 206.256.0862 f: 206.256.0864	co
© 2020 Bohlin Cywinski Jackson CITY OF BELLEVUE FIRE STATION #10 1219 112TH AVE NE BELLEVUE WA 98004	
CONDITIONAL USE PERMIT SUBMITTAL	
GENERAL INFORMATI	ON
Scale As inc Date JUNE 22 BCJ Project Number	dicated 2, 2020 18402



		<u>GENERAL SITE NO</u>	DTES:	
MAX	MAXIMUM 1	. SEE SITE SURVEY FOR I	EXISTING CONDITIONS.	
MECH MIN	MECHANICAL MINIMUM 2	2. SEE CIVIL FOR VEHICUL	AR PAVEMENTS AND CURBS,	
OC PA	ON CENTER PLANTING AREA			
PAVE PED	PAVEMENT 3 PEDESTRIAN	3. SEE ARCHITECTURAL F		
PL PROPERTY LINE ROW RIGHT-OF-WAY EIGHT SF SQUARE FEET SP SPECIES		PROTECTED WITH TEMP	OWN IN THE PLAN SHALL BE ORARY FENCING AND SIGNS PER CITY OF BELLEVUE LUC 20.20.900.	
SS STRUCT TOS TS TW	STAINLESS STEEL 5 STRUCTURE TOP OF SLAB TOP OF STAIR TOP OF WALL	5. ALL PLANTING AREAS S EFFICIENT FULLY AUTOI INCLUDING CONTROLLE EXISTING WATER ASSEM ASSEMBLY AND METER.	HALL BE WATERED WITH AN WATIC IRRIGATION SYSTEM, R, POINT OF CONNECTION TO WBLY, BACKFLOW PREVENTION	
TYP	I YPICAL 6	6. ALL PLANTING AREAS S INCLUDING INSTALLATIC FOR SHRUB AREAS AND	HALL RECEIVE SOIL PREPARATION ON OF 18" DEPTH 3-WAY TOPSOIL 0 24" DEPTH FOR TREES.	
	7	7. ALL PLANTING AREAS S ORGANIC MULCH.	HALL RECEIVE A MIN OF 2" OF	
BOTANICAL NAM	<u>1E</u>	COMMON NAME	CONT	
Acer circinatum		Vine maple	30 GAL	
Amelanchier alni	ifolia	Serviceberry	В & В, З" CAL.	
Carpinus betulus	`Frans fontaine`	Frans fontaine hornbeam	30 GAL	
Cornus venus		Venus dogwood	30 GAL	
Ginkgo biloba `Fa	astigiata`	Fastigiate maidenhair tree	30 GAL	
Liriodendron tuli	pifera	Tulip tree	30 GAL	
Quercus coccine	a	Scarlet oak	30 GAL	
Stewartia monac	delpha	Tall stewartia	30 GAL	
ME	COMMON NAME	SHRUB/GRASS/PE	ERENNIALS MIX (SHORT)	
			Carex testacea Alchemilla mollis Anemone x hybrida 'Honorine Jobert'	New zealand sedge Lady's mantle Japanese anemone
uva-ursi is ix	Common bearberry Creeping mahonia Thymus Stonecrop		Athyrium filix-femina Liriope gigantea 'Big Blue' Fragaria chiloensis Lavandula angustifolia	Lady fern Big blue giant lily turf Beach strawberry English lavendar
		SWALE PLANT MI	Х	
olium cum	Tall oregon grape Evergreen huckleberry		Carex testacea 'prairie fire' Imperata cylindrica Iris sibirica Juncus effusus Iuncus ensifolius	New zealand hair sed Japanese blood grass Siberian iris Softrush Daggerleaf rush
lon blium	Salal Tall oregon grape			
ica cifolia	Pacific wax myrtle Sweet box	MEADOW LANDS	CAPE	
bum	Highbush cranberry		Ajuga reptans 'blueberry muffin' Carex pansa Carex elata 'Aurea'	Carpet bugle Sand dune sedge Golden sedge
ROUNDCOVER			Carex brevior Leymus triticoides 'Lagunita'	Planins' oval sedge Creeping wild rye
emina ant	Lady fern Deer fern		Vaccinium ovatum Vaccinium angustifolium	Evergreen huckleberr Lowbush blueberry
gentea is	Silver chain fern Royal fern			
unitum um	Sword fern Western wild ginger	STREET LANDSCA	<u>PE MIX</u>	
orum dilatum	Red barrenwort False lily-of-the-valley Big blue lily turf		Allium sphaerocephalon Cornus stolonifera 'kelseyi' Fragaria chiloensis Mahonia nervosa Polystichum munitum	Drumstick allium Kelsey Dogwood Beach Strawberry Dwarf Oregon Grape Sword Fern
ALL)			Vaccinium angustifolium	Lowbush blueberry
cephalon era 'Kelsevi'	Drumstick allium Dwarf redtwig dogwood	GREEN ROOF		
iea 'Midwinter Fire' ourea nacra ensis 'Morning Light'	Bloodtwig dogwood Purple coneflower Japanese forest grass Morning light maiden gras	S	Sedum x "color max mix"	
IED-TALL)		VINES	BOTANICAL NAME	COMMON NAME
era 'Kelseyi' ea 'Midwinter Fire' acra ensis 'Morning Light'	Dwarf redtwig dogwood Bloodtwig dogwood Japanese forest grass Morning light maiden gras	S	Parthenocissus henryana	Silvervein creeper

Purple coneflower

Haence herms' switch grass





18\P18\NP-002\CAD\BF\$10_SITE_DEMO:dwg_6/19/2020_10:16_AM_JAS













NOTES: 1. LANDSCAPE PLAN IS REQUIRED 2. 6' MINIMUM TOP WIDTH OF EM 3. SCREW TYPE SHEAR GATE REQI 4. CAPACITY OF OUTLET PIPE MUS CONDITION IF PIPE OVERFLOW 5. BERM SLOPE MAY BE 2:1 WHE 6. PENETRATE CARRIER PIPE THRC 7. USE APPROVED WATERTIGHT ST ADAPTOR. 8. SLIP SMOOTH-BORE HORIZONT FLOW CONTROL TEE INSDE CAI 9. NO FLOW CONTROL JOINT OUTS STRUCTURE. JANUARY 2019	TO BEAUTIFY OF BANKMENT, 15' M JIRED FOR ALL S IT BE EQUAL TO IS USED IN LIEU N TOP SUBMERG DUGH WALL. RUCTURE AL LEG OF RRIER PIPE. SIDE OF NO SCALE
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A Portion of the SE 1/4 of Section 29, Township 25 N, Range 05 E, W.M.





MEMORANDUM

Date:	June 12, 2020	TG:	19138.00
To:	Ryan Miller – City of Bellevue		
From:	Mike Swenson, P.E. & Maris Fry, P.E. – Transpo Group		
cc:	Marina Stefanovic – City of Bellevue Andrew Thies – Bohlin Cywinski Jackson		
Subject:	Bellevue Fire Station #10 – Transportation Analysis (DRAFT)		

This memorandum summarizes the assessment that was conducted of the transportation-related elements of the proposed Bellevue Fire Station #10. Specifically, this document discusses daily and PM peak hour trip generation associated with the fire station, site design and access, parking supply and demand, and an analysis of vehicular operations.

Project Description

The proposed Fire Station #10 is located in the City of Bellevue along 112th Avenue NE just north of NE 12th Street. As shown in Figure 1, the site will include a public parking area on the north end of the site and a fire apparatus apron along the south end of the site. To keep separation between the emergency vehicles and visitors to the station, separate driveways to the two site areas have been identified. An emergency fire signal is proposed at the southern access point. This traffic signal would be activated to facilitate exiting vehicles during an emergency call only. This signal will not be triggered for non-emergency calls or inbound trips to the site.

The addition of a new fire station will provide improved response times for fire and emergency services in the Bellevue Fire Department (BFD) service area. The fire station will be in operation at all hours of the day, every day of the week to provide emergency response to the local area. Initially, the fire station will be staffed by up to ten employees, with the ability to increase staffing to up to 14 employees with the addition of new fire apparatus.

Transportation Network

The following describes the existing street network within the vicinity of the proposed project, nonmotorized facilities, and transit service.

112th Avenue NE is classified as a major arterial by the City of Bellevue. It is a three-lane roadway north of the site with one center turn lane and two through lanes in each direction, and transitions to a five-lane section with one center turn lane and two through lanes in each direction leading up to the intersection of 112th Avenue NE/NE 12th Street. Sidewalks are provided along both sides of the street. Parking is not provided along 12th Street NE.

NE 12th Street is classified as a major arterial by the City of Bellevue. It is a five-lane roadway providing one center turn lane and two through lanes in each direction. Sidewalks are provided along both sides of the street. Parking is not provided along NE 12th Street.

As noted above, pedestrian facilities are provided along the adjacent streets of 112th Avenue NE and NE 12th Street, including sidewalks along both sides of the streets and a signalized pedestrian crossing at the intersection of 112th Avenue NE/NE 12th Street.



FIGURE

1

transpogroup

Preliminary Site Plan

Bellevue Fire Station #10

Jun 09, 2020 - 2:43pm jonathans M:\19\1.19138.00 - Bellevue Fire Station #10\Graphics\DWG\Graphics_19138.dwg Layout: Site Plan

Bicycle lanes are provided along 112th Avenue NE north of the site and transition to sharrows leading up to the intersection of 112th Avenue NE/NE 12th Street. An off-street bicycle path is provided along the north side of NE 12th Street.

Transit service in the study area is provided by King County Metro Transit. The nearest bus stops to the site are located along 112th Avenue NE, just north of the project site, and along NE 10th Street, just west of 112th Avenue NE. Both stops are served by Routes 232 and the NE 10th Street stop is served by Route 226. The service areas, operating hours, and weekday PM peak hour headways between bus arrivals are summarized in Table 1.

Table 1.	Existing Transit Routes		
Routes	Area Served	Approximate Operating Hours	Weekday PM Peak Headways (min)
226	Eastgate P&R to Crossroads to Bellevue TC	5:12 am – 12:24 am	30
232	Duvall to Redmond TC to Bellevue TC	5:20 am – 7:22 pm	30
Source: Ki	ng County Metro Transit (March 2020).		

Trip Generation

The following section describes the anticipated daily and PM peak hour trip generation for Fire Station #10. As rates for fire stations are not published in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 10th Edition, the anticipated trip generation described below was estimated based on information provided by the BFD and the City of Bellevue. Trips can be broken down into five general functions which are described in more detail below:

Fire Station Staff

Fire Station #10 will have capacity for up to 14 employees. Initially, up to ten employees are expected to be on site with the ability to increase staffing to up to 14 employees with the addition of new fire apparatus. Employees will work 24-hour shift periods, with shift changes occurring daily during the morning peak hour. Assuming two trips per employee (one inbound and one outbound) per day, up to 28 trips per day is expected. Since shift changes are anticipated to occur during the AM peak hour, no PM peak hour employee-generated trips are expected.

Emergency Calls

Based on information provided by the BFD, approximately 20 emergency response calls are anticipated to be fielded by Fire Station #10 on an average weekday. The fire station would respond to these calls with an average of two emergency vehicles. As a result, a total of 80 emergency vehicle trips is estimated (40 departing and 40 returning) during an average weekday. Based on data provided from the BFD, approximately five percent of emergency calls occur during the PM peak hour, resulting in a projected peak hour trip generation of four trips (two inbound and two outbound). However, these emergency calls would occur regardless of construction of Fire Station #10; therefore, these trips are not considered new trips as a direct result of the fire station.

Training Room

A training room will be incorporated into the new fire station that will serve internal firefighter training and operations meetings. Firefighter trainings are expected to occur four times per year with 12 firefighters and two instructors in attendance. Firefighters in
attendance will be from other companies and will arrive via fire apparatus¹. Chiefs operations meetings will occur once per month with up to six attendees who will be traveling to the fire station from off site, resulting in a total of 12 daily trips (six inbound and six outbound).

Firefighter training and chiefs operations meetings are expected to occur during the day, outside of peak travel hours. Additionally, all anticipated training room activity is currently held at other fire stations and will be relocated to Fire Station #10 upon completion; therefore, these trips are not considered new trips as a direct result of Fire Station #10.

City Fleet Fueling

A fueling station will be incorporated into the new fire station that will be made available to Bellevue municipal vehicles only. Based on discussions with City of Bellevue staff, it is expected that this fueling station would offset existing demand from the Bellevue Service Center (BSC) and Fire Station #1. Assuming 50 percent of existing fueling trips relocate to Fire Station #10, the following daily fueling demand is expected:

- Patrol Car 4 times/day
- Motorcycle 5 times/day
- Parks Department Vehicle 2 times/day
- Other City Vehicle 1 time/day

Approximately ten percent of fueling trips are expected to occur during the PM peak hour. However, these trips would occur regardless of construction of Fire Station #10; therefore, these trips are not considered new trips as a direct result of Fire Station #10.

Visitors and Miscellaneous Trips

Visitor and miscellaneous trips are expected in the form of public visits and any delivery or maintenance trips. Based on conversations with the City of Bellevue, it is expected that Fire Station #10 will average four public visits per day. The site will also be served by an average of two *daily* deliveries, such as mail and parcel delivery, three waste collection pickups *per week*, and three fuel trucks to service the fueling station *per month*. This results in an average of three delivery activities per day for delivery and maintenance activity. The majority of visits and deliveries are expected to occur during the day, outside of peak travel hours; however, for the purpose of this analysis, it is assumed that up to 15 percent of daily activity takes place during the PM peak hour.

Trip Generation Summary

A summary of the weekday daily and PM peak hour trip generation assumptions is shown on Table 2. Based on the functions of Fire Station #10 and the anticipated activity associated with those functions, it is expected that the fire station will generate approximately 158 daily vehicle trips per day. Of these daily trips, PM peak hour trips are anticipated for emergency calls, fueling, and visitors and miscellaneous activity resulting in a projection of eight (8) vehicle trips during the PM peak hour. Based on the discussion above, only two (2) of these trips would be new trips during the PM peak hour. The remaining trips are not considered new trips as they would be present on the roadway network regardless of the construction of Fire Station #10.

¹ This analysis assumes 12 vehicle trips associated with firefighter trainings: 8 fire apparatus trips (4 inbound and 4 outbound) and 2 instructor trips (1 inbound and 1 outbound)



Fire Station Function	Anticipated Daily Vehicle Trips	% Expected During PM Peak Hour	PM Peak Hour Trip Generation <i>(in/out)</i>	% New Trips	Net New PM Peal Hour Trip Generation
Staff	28	0%	0	30%	0
Emergency Calls	80	5%	4 (2/2)	0%	0
Training Room	12	0%	0	0%	0
Fueling	24	10%	2 (1/1)	0%	0
Visitors/Miscellaneous	14	15%	2 (1/1)	80%	2 (1/1)
Total	158		8 (4/4)		2 (1/1)

Site Design and Access

Two driveways will provide access to the fire station. A northern driveway will provide access to a small public parking lot, while the southern driveway will provide access and egress for fire apparatus. In addition, the southern driveway will provide access to on-duty firefighter parking, and a municipal fueling station. As it relates to site design and access, this section overviews the sight distance evaluation at the site driveways, the proposed emergency signal at the southern driveway, and the proposed roadway improvements along the site frontage.

Site Distance Evaluation

The vehicular sight distance and pedestrian sight lines were evaluated at the site driveways per City of Bellevue standard drawings RL-100-1 and RL-120-1, respectively. The sight triangles are shown in Attachment B. As shown in Attachment A, the pedestrian and vehicular sight distance is met at both driveways.

Overhead Emergency Signal

Due to the proximity of the southern driveway to the adjacent traffic signal at 112th Avenue NE/NE 12th Street, the southern driveway will be controlled by an overhead emergency traffic signal which is an intersection control system that gives right-of-way to an emergency vehicle. An emergency vehicle preemption system will be implemented such that the emergency vehicle can be detected, and the emergency signal can be activated. The preemption system will be coordinated with the adjacent signal such that southbound queues are cleared when the emergency signal is activated, and emergency vehicles will be given right-of-way at the 112th Avenue NE/NE 12th Street traffic signal.

The emergency traffic signal will only be activated for outbound emergency vehicles. Therefore, for inbound emergency vehicles and all other users of the southern driveway, the driveway will operate as side-street stop-controlled.

Frontage Improvements

In coordination with the proposed project, the curb-line along 112th Avenue NE will be adjusted along the site frontage to provide a widened curb-to-curb width. The additional width (ranging from approximately 7-10 feet) will allow for the extension of an existing bike lane and improvements to the bike lane, including a two foot buffer, as well as the extension of a second through lane leading up to the intersection of 112th Avenue NE/NE 12th Street. This frontage improvement helps to extend the existing bicycle network and provide additional vehicle capacity along 112th Avenue NE.

Parking

Public parking for visitors will be available in a surface parking lot accessible from the northern driveway. The parking lot will supply a total of seven parking spaces which will be sufficient to accommodate the anticipated public activity on-site. Public visits to the fire station are expected to be minimal on a daily basis and staggered throughout the day.

Fire station staff parking will be accessible from the southern driveway. A total of 12 dedicated parking spaces will be provided, with space for an additional 14 vehicles to be parked on-site to accommodate shift changes. This amount of parking will be sufficient to serve up to 12 employees. In the event that staffing increases to the maximum of 14 employees, additional dedicated parking spaces will be allocated on-site such that all on-duty firefighters have a designated parking space.

Traffic Operations Analysis

The following section outlines the traffic analysis performed to determine the potential impacts of the fire station on the surrounding roadway network. This includes an analysis of existing, future without-project, and future with-project conditions at the following intersections:

- 112th Avenue NE/NE 12th Street (Bellevue Model Int. #25)
- Southern Site Driveway/112th Avenue NE
- Northern Site Driveway/112th Avenue NE

The traffic volume assumptions, trip distribution and assignment, and traffic operations at the study area intersections are discussed within this section.

Traffic Volumes

Existing PM peak hour traffic volumes at the intersection of 112th Avenue NE/NE 12th Street, and through volumes along 112th Avenue NE at site driveways were based on the City of Bellevue 2018 traffic model.

Future without-project PM peak hour traffic volumes were based on the City of Bellevue 2024 traffic model. No additional pipeline projects were assumed to be included under this scenario.

Future with-project traffic volumes were determined by adding project-generated trips to the City of Bellevue 2024 traffic model. Project-generated PM peak hour trips (shown in Table 2) were distributed through the network based on traffic patterns observed in the City of Bellevue 2024 traffic model. It should be noted that only inbound emergency vehicle trips were included in this analysis. Outbound emergency vehicle trips will activate the emergency traffic signal and will be given right-of-way to travel through the study intersections. Based on data provided by the BFD, an average of one emergency call is expected during the weekday PM peak hour. During this time, emergency vehicles will have the right-of-way and all other vehicular traffic will be stopped. For the remainder of the time, traffic conditions will be typical and other project-generated trips will travel through the network normally and are analyzed as such.

Existing, and future traffic volumes, along with trip distribution and trip assignment for projectgenerated trips, are shown in Figure 2.



FIGURE

2

Weekday PM Peak Hour Traffic Volumes

Bellevue Fire Station #10

transpogroup Jun 09, 2020 - 2:44pm jonathans M:\19\1.19138.00 - Bellevue Fire Station #10\Graphics\DWG\Graphics_19138.dwg Layout: Volumes

Traffic Operations

For each of the analysis scenarios, average vehicle delays and intersection level of service (LOS) were calculated based on methodologies in the *Highway Capacity Manual (HCM), 6th Edition* using Synchro (v. 10) software. At signalized intersections, LOS is measured in average control delay per vehicle and typically reported using the intersection delay. At unsignalized side-street, stop-controlled intersections, LOS is measured by the average delay on the worst-movement of the intersection. Traffic operations and average vehicle delay for an intersection can be described qualitatively with a range of levels of service (LOS A through LOS F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Attachment B contains a detailed explanation of LOS criterial and definitions. In addition, the 95th percentile queues were evaluated for the study area intersections based on Synchro software, consistent with the LOS analysis.

Under existing and future without-project conditions, existing channelization and traffic control was assumed. Under future with-project conditions, the channelization was updated to reflect the proposed roadway improvements along the site frontage which result in the extension of a second through lane leading up to the intersection of 112th Avenue NE/NE 12th Street. Additionally, while the emergency signal will be activated for outbound emergency vehicle trips, this scenario does not represent typical traffic conditions. As such, the southern driveway is assumed to operate as side-street stop-controlled in this analysis. Signal timings were provided by the City of Bellevue and were optimized for the future without- and with-project conditions to reflect the City's adaptive signal timing program.

LOS results are summarized in Table 3 below and level of service worksheets are included in Attachment C. As shown, the intersection of 112th Avenue NE/NE 12th Street is anticipated to operate at LOS D under existing, future without-project, and future with-project conditions. The decrease in delay from existing to future without-project conditions is a result of the optimization of the signal at 112th Avenue NE and NE 12th Street. With the addition of project traffic, intersection delay is not expected to change. The two site access driveways are both expected to operate at LOS C or above under with-project conditions

Table 3.	Future Weekday	PM Peak Hour	Inters	ection	LOS	Summa	ry				
			Existing			2024 V	Vithout-l	2024 With-Project			
Intersection		Traffic Control	LOS ¹	Delay ²	WM ³	LOS	Delay	WM	LOS	Delay	WM
25. 112th Av	ve NE/NE 12th St	Signalized	D	50	-	D	47	-	D	47	-
A. 112th Av	re NE/North Driveway	TWSC	With	-Project	Only	With	n-Project	Only	В	14	EB
B. 112th Av	e NE/South Driveway	TWSC	With	-Project	Only	With	n-Project	Only	С	17	EB

TWSC = Two-Way Stop-Controlled

1. Level of Service (A – F) as defined by the Highway Capacity Manual (HCM 6), Transportation Research Board.

2. Average delay per vehicle in seconds.

3. Worst movement reported for unsignalized intersections.

Table 4 shows the PM peak hour queuing at the 112th Avenue NE/NE 12th Street. As shown, queues at the 112th Avenue NE/NE 12th Street are minimally impacted with the increase of project traffic. The storage length for each movement can accommodate the anticipated 50th and 95th percentile queues, except for the southbound left turn. The 95th percentile southbound left queue extends beyond the proposed southern driveway. As stated previously, the emergency signal preemption system will be coordinated with the adjacent signal at 112th Avenue NE/NE 12th Street such that southbound queues are cleared when the emergency signal is activated.

No queuing issues are observed at the proposed driveway locations. Both site access driveways are expected to observe queues of one vehicle or less exiting the site.

			Future Without	e (2024) -Project	Future (2024) With-Project		
Movement		Storage Length ¹	50th Percentile Queue (ft)	95th Percentile Queue (ft)	50th Percentile Queue (ft)	95th Percentile Queue (ft)	
25. 112th Ave	NE/NE 12th St						
	Eastbound Left	300	70	175	70	175	
	Eastbound Through	>500	195	305	195	305	
	Westbound Left	>500	140	300	140	305	
	Westbound Through	>500	315	440	315	440	
	Northbound Left	225	55	105	55	105	
	Northbound Through	250	95	160	95	160	
	Northbound Right	250	0	25	0	25	
	Southbound Left	170	125	255	125	255	
	Southbound Through	>500	110	165	110	165	

Storage length is the turn pocket length or the distance between the intersection and the adjacent major intersection.

Summary and Conclusions

- The proposed project would construct a new fire station along 112th Avenue NE, just north of NE 12th Street in Bellevue. Access would be provided by two driveways along 112th Avenue NE.
- A total of 12 formal parking spaces will be provided, with space for an additional 14 vehicles to be parked on-site to accommodate shift changes.
- The fire station is expected to generate 8 trips during the peak hour (4 in, 4 out), 2 of which will be new trips (1 in, 1 out).
- A total of 19 parking spaces will be provided, with space for an additional 14 vehicles to be parked on-site to accommodate firefighter shift changes.
- The project will meet sight distance requirements.
- The southern project driveway will be controlled by an emergency signal due to its proximity to the 112th Avenue NE/NE 12th Street intersection. An emergency vehicle preemption system will be implemented such that emergency vehicles are detected, the emergency signal is activated, and emergency vehicles are given the right-of-way.
- The roadway will be widened along the project frontage to accommodate an extended and improved bicycle lane and an extended second southbound through lane leading up to the intersection of 112th Avenue NE/NE 12th Street.
- The intersection of 112th Avenue NE/NE 12th Street is expected to operate at LOS D or better in the PM peak hour. Queues are expected to be minimally impacted by project traffic. In coordination with the emergency signal at the proposed southern driveway, southbound queues at the intersection will be cleared when the emergency signal is activated.
- Both access driveways would operate at LOS C or better with queues of 1 vehicle or less and operate acceptably.

Attachment A: Sight Distance Exhibit



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Attachment B: LOS Definitions

Highway Capacity Manual, 2000

Signalized intersection level of service (LOS) is defined in terms of the average total vehicle delay of all movements through an intersection. Vehicle delay is a method of quantifying several intangible factors, including driver discomfort, frustration, and lost travel time. Specifically, LOS criteria are stated in terms of average delay per vehicle during a specified time period (for example, the PM peak hour). Vehicle delay is a complex measure based on many variables, including signal phasing (i.e., progression of movements through the intersection), signal cycle length, and traffic volumes with respect to intersection capacity. Table 1 shows LOS criteria for signalized intersections, as described in the *Highway Capacity Manual* (Transportation Research Board, Special Report 209, 2000).

Table 1. Le	vel of Service Criteria fo	r Signalized Intersections
Level of Service	Average Control Delay (sec/veh)	General Description (Signalized Intersections)
А	≤10	Free Flow
В	>10 - 20	Stable Flow (slight delays)
С	>20 - 35	Stable flow (acceptable delays)
D	>35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 - 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)
Source: Highway Ca	pacity Manual. Transportation Res	search Board, Special Report 209, 2000.

Unsignalized intersection LOS criteria can be further reduced into two intersection types: allway stop-controlled and two-way stop-controlled. All-way, stop-controlled intersection LOS is expressed in terms of the average vehicle delay of all of the movements, much like that of a signalized intersection. Two-way, stop-controlled intersection LOS is defined in terms of the average vehicle delay of an individual movement(s). This is because the performance of a twoway, stop-controlled intersection is more closely reflected in terms of its individual movements, rather than its performance overall. For this reason, LOS for a two-way, stop-controlled intersection is defined in terms of its individual movements. With this in mind, total average vehicle delay (i.e., average delay of all movements) for a two-way, stop-controlled intersection should be viewed with discretion. Table 2 shows LOS criteria for unsignalized intersections (both all-way and two-way, stop-controlled).

Table 2.	Level of Service Crit	ice Criteria for Unsignalized Intersections						
	Level of Service	Average Control Delay (sec/veh)						
	А	0 - 10						
	В	>10 - 15						
	С	>15 - 25						
	D	>25 - 35						
	Е	>35 - 50						
	F	>50						
Source: Hig	hway Capacity Manual, Transpor	tation Research Board, Special Report 209, 2000.						

Highway Capacity Manual 2010/6th Edition

Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Table 1 summarizes the LOS criteria for signalized intersections, as described in the *Highway Capacity Manual 2010* and 6th Edition (Transportation Research Board, 2010 and 2016, respectively).

Table 1. Level of	able 1. Level of Service Criteria for Signalized Intersections								
Level of Service	Average Control Delay (seconds/vehicle)	General Description							
А	≤10	Free Flow							
В	>10 - 20	Stable Flow (slight delays)							
С	>20 - 35	Stable flow (acceptable delays)							
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)							
E	>55 – 80	Unstable flow (intolerable delay)							
F ¹	>80	Forced flow (congested and queues fail to clear)							
Source: Highway Capa	city Manual 2010 and 6th Edition, T	ransportation Research Board, 2010 and 2016, respectively.							

1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Unsignalized intersection LOS criteria can be further reduced into two intersection types: all-way stop and two-way stop control. All-way stop control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements. Table 2 shows LOS criteria for unsignalized intersections.

Cable 2. Level of Service Criteria for Unsignalized Intersections						
Level of Service	Average Control Delay (seconds/vehicle)					
A	0 – 10					
В	>10 - 15					
С	>15 - 25					
D	>25 – 35					
E	>35 - 50					
F ¹	>50					

Source: *Highway Capacity Manual 2010 and 6th Edition*, Transportation Research Board, 2010 and 2016, respectively.

1. If the volume-to-capacity (v/c) ratio exceeds 1.0, LOS F is assigned an individual lane group for all unsignalized intersections, or minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.

Attachment C: Synchro Worksheets

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	≜ †Ъ		ሻ	4 12		۲	•	1	5	≜ 15-	
Traffic Volume (veh/h)	135	575	105	185	805	100	95	180	80	190	365	200
Future Volume (veh/h)	135	575	105	185	805	100	95	180	80	190	365	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	147	625	114	201	875	109	103	196	87	207	397	217
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	989	180	405	818	102	167	377	460	208	501	270
Arrive On Green	0.20	0.37	0.35	0.12	0.29	0.27	0.10	0.22	0.21	0.13	0.25	0.24
Sat Flow, veh/h	1603	2702	492	1603	2862	356	1603	1683	1427	1603	2005	1082
Grp Volume(v), veh/h	147	369	370	201	489	495	103	196	87	207	316	298
Grp Sat Flow(s),veh/h/ln	1603	1599	1595	1603	1599	1619	1603	1683	1427	1603	1599	1488
Q Serve(g s), s	6.2	14.7	14.8	5.6	22.0	22.0	4.7	7.9	3.4	9.9	14.2	14.5
Cycle Q Clear(g c), s	6.2	14.7	14.8	5.6	22.0	22.0	4.7	7.9	3.4	9.9	14.2	14.5
Prop In Lane	1.00		0.31	1.00		0.22	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	328	585	584	405	457	463	167	377	460	208	400	372
V/C Ratio(X)	0.45	0.63	0.63	0.50	1.07	1.07	0.62	0.52	0.19	0.99	0.79	0.80
Avail Cap(c a), veh/h	328	585	584	415	457	463	208	503	566	208	436	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	20.1	20.3	13.5	27.5	27.6	33.0	26.2	18.8	33.5	27.0	27.5
Incr Delay (d2), s/veh	0.4	5.1	5.2	0.4	62.1	61.9	1.3	0.4	0.1	60.6	7.7	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.0	6.0	1.9	15.8	16.0	1.9	3.1	1.1	7.2	6.0	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	25.2	25.4	13.8	89.6	89.5	34.3	26.6	18.9	94.0	34.7	36.6
LnGrp LOS	С	С	С	В	F	F	С	С	В	F	С	D
Approach Vol, veh/h		886			1185			386			821	
Approach Delay, s/veh		25.6			76.7			26.9			50.3	
Approach LOS		С			Е			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	25.0	13.0	20.3	12.6	31.2	11.0	22.2				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	8.0	20.0	8.0	21.0	8.0	18.0	8.0	19.0				
Max Q Clear Time (g_c+I1), s	8.2	24.0	11.9	9.9	7.6	16.8	6.7	16.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	0.5	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			50.4									
HCM 6th LOS			D									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ľ	≜1 ≱		7	A12		۲	•	1	۲	≜1 ≱	
Traffic Volume (veh/h)	124	639	103	320	932	105	110	211	137	207	351	194
Future Volume (veh/h)	124	639	103	320	932	105	110	211	137	207	351	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	135	695	112	348	1013	114	120	229	149	225	382	211
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	917	148	408	1016	114	187	380	508	208	478	260
Arrive On Green	0.14	0.33	0.32	0.16	0.35	0.34	0.12	0.23	0.21	0.13	0.24	0.23
Sat Flow, veh/h	1603	2758	444	1603	2898	326	1603	1683	1427	1603	1998	1088
Grp Volume(v), veh/h	135	403	404	348	559	568	120	229	149	225	305	288
Grp Sat Flow(s),veh/h/ln	1603	1599	1603	1603	1599	1625	1603	1683	1427	1603	1599	1487
Q Serve(g_s), s	6.1	17.3	17.4	10.9	26.9	26.9	5.5	9.4	5.8	10.0	13.8	14.1
Cycle Q Clear(g_c), s	6.1	17.3	17.4	10.9	26.9	26.9	5.5	9.4	5.8	10.0	13.8	14.1
Prop In Lane	1.00		0.28	1.00		0.20	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	221	532	533	408	561	570	187	380	508	208	382	355
V/C Ratio(X)	0.61	0.76	0.76	0.85	1.00	1.00	0.64	0.60	0.29	1.08	0.80	0.81
Avail Cap(c_a), veh/h	221	532	533	408	561	570	250	459	574	208	395	367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	22.9	23.1	16.4	25.0	25.1	32.5	26.7	17.8	33.5	27.5	28.0
Incr Delay (d2), s/veh	3.6	9.7	9.7	15.1	37.2	37.1	1.3	0.5	0.1	85.5	9.7	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.6	7.6	5.3	15.2	15.5	2.1	3.7	1.8	8.7	6.1	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	32.6	32.8	31.4	62.1	62.1	33.8	27.2	18.0	119.0	37.2	39.6
LnGrp LOS	С	С	С	С	E	E	С	С	В	F	D	D
Approach Vol, veh/h		942			1475			498			818	
Approach Delay, s/veh		33.0			54.9			26.0			60.6	
Approach LOS		С			D			С			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	30.0	13.0	20.4	15.0	28.6	12.0	21.4				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	5.0	25.0	8.0	19.0	10.0	20.0	10.0	17.0				
Max Q Clear Time (q c+l1), s	8.1	28.9	12.0	11.4	12.9	19.4	7.5	16.1				
Green Ext Time (p c). s	0.0	0.0	0.0	0.9	0.0	0.3	0.1	0.3				
Intersection Summary												
			16.9									
			40.0 D									
			U									

Notes

User approved pedestrian interval to be less than phase max green.

Queues 25: 112th & NE 12th St/Bel-Red Rd

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	135	807	348	1127	120	229	149	225	593	
v/c Ratio	0.96	0.92	0.90	0.95	0.56	0.60	0.21	1.09	0.71	
Control Delay	106.7	43.7	49.2	42.4	41.0	32.5	2.4	125.0	26.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	106.7	43.7	49.2	42.4	41.0	32.5	2.4	125.0	26.0	
Queue Length 50th (ft)	66	191	~140	~312	53	93	0	~123	106	
Queue Length 95th (ft)	#172	#304	#300	#437	105	160	23	#255	164	
Internal Link Dist (ft)		577		1395		532			585	
Turn Bay Length (ft)	300		650		255			530		
Base Capacity (vph)	140	877	385	1186	240	442	719	206	852	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.96	0.92	0.90	0.95	0.50	0.52	0.21	1.09	0.70	

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Intersection

Int Delay, s/veh	0						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	- Y		- ሽ	↑	e î -		
Traffic Vol, veh/h	0	1	1	441	753	0	
Future Vol, veh/h	0	1	1	441	753	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	25	-	-	-	
Veh in Median Storage,	# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	95	95	95	95	95	95	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	0	1	1	464	793	0	

Major/Minor	Minor2	l	Major1	Maj	or2		
Conflicting Flow All	1259	793	793	0	-	0	
Stage 1	793	-	-	-	-	-	
Stage 2	466	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	188	389	828	-	-	-	
Stage 1	446	-	-	-	-	-	
Stage 2	632	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	188	389	828	-	-	-	
Mov Cap-2 Maneuver	321	-	-	-	-	-	
Stage 1	446	-	-	-	-	-	
Stage 2	632	-	-	-	-	-	
Approach	EB		NB		SB		
HCM Control Delay, s	14.3		0		0		

HCM LOS В

Minor Lane/Major Mvmt	NBL	NBT EBLn	I SBT	SBR
Capacity (veh/h)	828	- 38) -	-
HCM Lane V/C Ratio	0.001	- 0.00	3 -	-
HCM Control Delay (s)	9.4	- 14.	3 -	-
HCM Lane LOS	А	-	3 -	-
HCM 95th %tile Q(veh)	0	-) -	-

Intersection

Int Delay, s/veh	0						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y		ľ	•	∱ î≽		
Traffic Vol, veh/h	1	0	2	441	753	1	
Future Vol, veh/h	1	0	2	441	753	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	25	-	-	-	
Veh in Median Storage,	# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	95	95	95	95	95	95	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	1	0	2	464	793	1	

Major/Minor	Minor2		Major1	Ма	jor2	
Conflicting Flow All	1262	397	794	0	-	0
Stage 1	794	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	174	603	825	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	603	825	-	-	-
Mov Cap-2 Maneuver	299	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	629	-	-	-	-	-
					~-	

Approach	EB	NB	SB	
HCM Control Delay, s	17.1	0	0	
HCMLOS	С			

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	825	- 299	-	-
HCM Lane V/C Ratio	0.003	- 0.004	-	-
HCM Control Delay (s)	9.4	- 17.1	-	-
HCM Lane LOS	А	- C	-	-
HCM 95th %tile Q(veh)	0	- 0	-	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	∱1 }		٦	A		٦	†	1	۲	A	
Traffic Volume (veh/h)	125	639	103	320	932	106	110	212	137	207	351	195
Future Volume (veh/h)	125	639	103	320	932	106	110	212	137	207	351	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683	1683
Adj Flow Rate, veh/h	136	695	112	348	1013	115	120	230	149	225	382	212
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	916	148	408	1015	115	187	381	508	208	477	261
Arrive On Green	0.14	0.33	0.32	0.16	0.35	0.34	0.12	0.23	0.21	0.13	0.24	0.23
Sat Flow, veh/h	1603	2758	444	1603	2895	328	1603	1683	1427	1603	1995	1091
Grp Volume(v), veh/h	136	403	404	348	559	569	120	230	149	225	305	289
Grp Sat Flow(s),veh/h/ln	1603	1599	1603	1603	1599	1624	1603	1683	1427	1603	1599	1487
Q Serve(g_s), s	6.2	17.3	17.4	10.9	26.9	26.9	5.5	9.4	5.8	10.0	13.8	14.2
Cycle Q Clear(g_c), s	6.2	17.3	17.4	10.9	26.9	26.9	5.5	9.4	5.8	10.0	13.8	14.2
Prop In Lane	1.00		0.28	1.00		0.20	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	220	531	533	408	561	570	187	381	508	208	383	356
V/C Ratio(X)	0.62	0.76	0.76	0.85	1.00	1.00	0.64	0.60	0.29	1.08	0.80	0.81
Avail Cap(c_a), veh/h	220	531	533	408	561	570	250	459	574	208	395	367
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	22.9	23.1	16.4	25.0	25.1	32.5	26.7	17.8	33.5	27.5	28.0
Incr Delay (d2), s/veh	3.8	9.7	9.8	15.1	37.4	37.3	1.3	0.6	0.1	85.5	9.8	11.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.6	7.6	5.3	15.3	15.5	2.1	3.7	1.8	8.7	6.1	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	32.7	32.9	31.5	62.4	62.4	33.8	27.3	17.9	119.0	37.3	39.7
LnGrp LOS	D	С	С	С	E	Е	С	С	В	F	D	D
Approach Vol, veh/h		943			1476			499			819	
Approach Delay, s/veh		33.1			55.1			26.0			60.6	
Approach LOS		С			E			С			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	30.0	13.0	20.4	15.0	28.6	12.0	21.4				
Change Period (Y+Rc) s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax) s	5.0	25.0	8.0	19.0	10.0	20.0	10.0	17.0				
Max Q Clear Time (q. $c+11$) s	8.2	28.9	12.0	11.4	12.9	19.4	7.5	16.2				
Green Ext Time (p c), s 0.0 0.0		0.0	0.9	0.0	0.3	0.1	0.3					
	0.0	0.0	5.0	0.0	0.0	0.0	0.1	0.0				
			40.0									
			40.9									
			D									

Notes

User approved pedestrian interval to be less than phase max green.

Queues 25: 112th & NE 12th St/Bel-Red Rd

	٦	-	4	←	1	1	1	1	Ŧ	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Group Flow (vph)	136	807	348	1128	120	230	149	225	594	
v/c Ratio	0.97	0.92	0.90	0.95	0.56	0.60	0.21	1.09	0.71	
Control Delay	108.5	43.7	49.4	42.6	41.0	32.5	2.4	125.0	26.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	108.5	43.7	49.4	42.6	41.0	32.5	2.4	125.0	26.0	
Queue Length 50th (ft)	66	191	~140	~313	53	93	0	~123	107	
Queue Length 95th (ft)	#172	#304	#301	#437	105	161	23	#255	165	
Internal Link Dist (ft)		577		1395		532			225	
Turn Bay Length (ft)	300		650		255			200		
Base Capacity (vph)	140	877	385	1185	240	442	719	206	851	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.97	0.92	0.90	0.95	0.50	0.52	0.21	1.09	0.70	

Intersection Summary

Description: Project

Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Bellevue Fire Station #10 City of Bellevue

June 2020

Prepared for:

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Prepared on behalf of (applicant):

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Title-page image: View looking south from north end of on-site Wetland A (October 2019).

Report Disclaimer: The information contained in this report is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria outlined in the methods section. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, state and federal regulatory authorities. No other warranty, expressed or implied, is made.



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Appendix A

Wetland Delineation Report

Appendix B

Mitigation Plan

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1. Introduction

1.1 Background and Purpose

The purpose of this report is to document critical area and buffer/setback impacts associated with proposed construction of a new fire station in the City of Bellevue. The City recently obtained ownership of nine residential parcels to develop a new fire station, named Fire Station #10. According to public meeting statements by the Bellevue Fire Chief, a fire station is needed in this location to improve and maintain rapid response times to the surrounding community, which includes skyscrapers with vertical response time requirements. The site is just north of dense multi-story city developments. The building site contains one degraded Category IV wetland. Former wetland degradation includes pond landscaping, grading, and fill. The City seeks to restore degraded wetland as part of this project.

Bellevue Land Use Code (LUC) 20.25H.230 requires compliance with specific critical areas report criteria as part of any modification to a critical area or critical area buffer/setback, including a demonstration of how the development leads to equivalent or better protection of critical area functions and values. This report fulfills these criteria. This report presents a detailed discussion of the habitat and vegetation on-site and how the proposed development can be permitted with no net loss of critical area functions and values.

1.2 Methods

Public-domain information on the subject properties was reviewed for this critical areas study. Resources and review findings are presented in Table 1 of the "location and description" section of this report. Additionally, previous work completed in 2017 in a peer review capacity for the City of Bellevue on the two northern parcels was referenced.

Current wetland delineation work was conducted in August 2018 and March 2019 following standard protocols as documented in our April 2019 *Bellevue Fire Station #10, Wetland Delineation Report* (Appendix A). Site observations were referenced to determine mitigation opportunities, vegetative structure and composition, special habitat features, and presence of wildlife species.

2. Subject Property

2.1 Location and Description

The Fire Station #10 project site is on the northwest corner of the intersection of NE 12th Street and 112th Avenue NE, north of McCormick Park. The project site spans nine properties currently developed with single-family homes (Parcel No. 126620-0330, -0331, -0340, -0341, and 292505-9181, -9188, -9183, -9293, -9294, see Figure 1 below). The 2.8-acre site generally slopes southeasterly. A wetland is located in the northwest quadrant of the site. Some native trees and shrubs are mixed with ornamental shrubs, groundcover plants, and lawn around existing impervious surfaces and structures.

The project site is located in the Sturtevant Creek Basin of the Mercer Slough Drainage, in the Cedar River/Lake Washington Watershed, within the Cedar-Sammamish Water Resource Inventory Area (WRIA 8); Section 29 of Township 25N, Range 5E of the Public Land Survey System.

Reviewed public-domain information on the subject property is summarized in Table 1, below.

Resource	Summary
WETS climatic condition	August 2018: Drier than Normal; March 2019: Normal
United States Department of Agriculture Natural Resources Conservation Service: Web Soil Survey	AmC: Arents, Alderwood material, 6 to 15 percent slopes
United States Fish and Wildlife Service: National Wetlands Inventory Wetland Mapper	No wetlands mapped on site
Washington Department of Fish and Wildlife (WDFW): Priority Habitats and Species (PHS) on the Web	No mapped PHS on site or within 0.4 mile
Washington State Department of Natural Resources (WA DNR): Forest Practices Activity Mapping Tool	No streams mapped on site
WA DNR: Wetlands of High Conservation Value (WHCV) Map Viewer	No WHCV or rare plants
King County Public GIS (iMAP)	No streams or wetlands mapped on site. Sturtevant Creek is approximately 0.4-mile SE of the site.

 Table 1.
 Summary of resource review results from online mapping and inventory data.



Figure 1. Vicinity and street level map (King County iMap).

3. Critical Areas

3.1 Wetland

One wetland, Wetland A, was identified on site and is documented in the *Bellevue Fire Station #10, Wetland Delineation Report*, dated April 17, 2019, prepared by The Watershed Company (Appendix A). Wetland A is a slope wetland with a palustrine emergent vegetation class. Vegetation in the wetland includes pacific water parsley, soft rush, willowherb, bird's foot trefoil, and meadow grasses. Dead and dying Douglas-fir trees surround the north end of the wetland. Soils exhibit redox dark surface or depleted matrix hydric soil indicators. Observed wetland hydrology indicators include saturation, a high ground water table, iron deposits, drainage patterns, and the FAC-neutral test.

Wetland A has a history of disturbance. The northern end on parcels 126620-0330 and -0331 was altered with City-issued clearing and grading permits in 2002 and 2015. As the photographs from 2016 and 2017 (Figures 2 and 3 below) show, site alterations did not eliminate wetland presence. The southern portion of Wetland A, on parcel number 1266200341, contained a landscaped pond. The pond was filled sometime in 2017. Our wetland delineation study found high groundwater persists in this general location; it meets wetland criteria under the site disturbance methodology. Figures 4 and 5 below document the pond and subsequent fill placement. Fill placed in the former pond is mixed with debris and remnants of the old fence that cross the wetland.



Figure 2. Looking southwest from the northern end of parcel number 126620-0330 (photograph provided by City of Bellevue, dated 08/27/2016). Site conditions after grading.



Figure 3. Looking south from the northwest end of parcel number 126620-0330 (photograph taken by The Watershed Co., dated 03/23/2017). Note persistence of wetland conditions.



Figure 4. Aerial photograph showing pond presence (King County iMap, dated 2007).



Figure 5. Aerial photograph showing fill placement (King County iMap, dated 2017).

3.2 Habitat Functions

Vegetation, whether located within or outside of critical areas, inherently provides some habitat functions. Habitat functions of the subject property have been assessed and are discussed in this section, consistent with the requirements of City of Bellevue's Land Use Code.

3.2.1.1 On-site Habitat

Vegetation on the subject site is variable. Site vegetation is primarily comprised of lawn and ornamental landscaping immediately surrounding the existing single-family homes. Some patches of Douglas-fir trees are present. Locally dominant patches of Himalayan blackberry and English ivy are present through the site.

3.2.1.2 Off-site Habitat

The opportunity for the site to provide habitat is dependent upon the potential of the greater vicinity to act as a source for wildlife. Therefore, the presence or absence of habitat patches in the landscape surrounding the project site is considered in this assessment.

The area surrounding the subject property is urban and dominated by a mix of single- and multi-family residential and commercial land uses. Habitat areas within approximately 0.5 mile of the project site include Lake Bellevue, McCormick Park, Ashwood Playfield, Zumdieck Park, and Hidden Valley Park. However, these habitat patches in the vicinity, with the exception of McCormick Park, are disconnected from on-site habitat by roads and development. Several of the parks also include athletic fields, a high-intensity land use.

3.2.1.3 Wildlife

Wildlife species expected to utilize the project site most are species that are adapted to living in urban settings. These species generally include raccoons, opossums, eastern gray squirrel, rats, mice, bats, and a number of birds like crows, starlings, robins, chickadees, and sparrows, to name a few.

During site investigations, no species of local importance were observed on the subject properties, nor was habitat observed that is expected to have a primary association with any species of local importance in this local- and landscape-level context (see Section 3.4). The on-site wetland area forest patches, however, provide refuge for urban wildlife.

3.3 Water Quality and Hydrology Functions

In addition to habitat functions, vegetation also provides important water quality and hydrology functions. The ability of the site to perform these functions well is dependent upon the vegetation present (e.g., forested versus mowed lawn). Most non-developed portions of the site are vegetated and contain a mix of trees, shrubs, and groundcover plants, both native and non-native. Since the properties were in residential use, lawn and ornamental landscaping are common. Vegetated areas of the site are expected to intercept, allow for infiltration, and uptake rain and surface water, thereby functioning well to both slow and filter water flowing downgradient.

3.4 Species of Local Importance

The City of Bellevue designates habitat associated with species of local importance as a critical area [LUC 20.25H.150(B)]. As noted in Section 3.2.1.3, wildlife use on site is expected to be limited to urban species. However, it is possible that some habitat on site could occasionally be used by species of local importance. Species of local importance [LUC 20.25H.150(A)] for which suitable habitat exists on the study properties are bald eagle, pileated woodpeckers, Vaux's swift, merlin, great blue heron, and red-tailed hawk. The likelihood of each of these species utilizing the property is discussed below.

Bald eagles are common foragers over Lake Washington, which is located approximately 1.2 miles from the project site. Bald eagles are generally known to nest and forage in the Lake Washington area. Bald eagles were removed from the State's endangered species list in 2017 and WDFW no longer maps known bald eagle nests nor requires coordination on bald eagle plans for specific properties. No eagles or nests were observed on site during field visits.

Pileated woodpeckers commonly use large conifers for drumming and foraging. The species is often spotted in suburban areas in King County. Individuals may occasionally use the large trees on the properties. Dead and dying trees on the properties may provide suitable nesting sites for this species (Audubon 2020).

Merlins occur throughout western Washington in winter and during migration. Breeding birds are rare in the state. Occurrences are spotty but not uncommon in suburban areas, and the study parcels may provide a small amount of suitable foraging or perching area in the non-breeding season.

Vaux's swifts forage in open skies over forests, lakes, and rivers, where insects are abundant. Lake Washington provides suitable foraging habitat approximately one mile from the project site, and the species may be present at times over the parcels. Nesting takes place in forest stands; old-growth forests where large, hollow snags are available are preferred nesting habitat in Washington (Audubon 2020). While the property does contain small snags, it does not contain the hollow old-growth snags that Vaux's swifts prefer, so it is unlikely that the birds would nest on site.

Great blue herons are widespread in western Washington. Outside of breeding, which occurs in tall trees, commonly away from human disturbance, the birds are most often observed in and along rivers, lakes, and wetlands. The nearest documented heron breeding area is approximately 1.8 miles west of the site, along Lake Washington. The prevalence of more suitable habitat near the lake make it unlikely that herons would nest on site.

Red-tailed hawks nest in large trees, and although no active nests were previously observed on site, on-site trees may be suitable for this species. Nests, however, are generally located in more extensive woodlands than the site offers. Red-tailed hawks are ubiquitous in this area and are likely to occasionally perch on or fly over the site.

4. Local Regulations

4.1 Critical Areas

In Bellevue, wetlands are regulated in Part 20.25H (Critical Areas Overlay District) of the Land Use Code. The undeveloped site regulations for wetlands apply to the subject property because a Native Growth Protection Area (NGPA) was not previously recorded here (LUC 20.25H.095(D)(1)(a)(i)). Impacts within critical areas, buffer, and/or setbacks are subject to the mitigation sequencing criteria of LUC 20.25H.215. Performance standards must be followed (LUC 20.25H.100) and compensatory mitigation is required (LUC 20.25H.105).

Per LUC 20.25H.095, wetland buffer widths are determined based on the wetland rating category, habitat function, site condition of the subject parcel (developed or undeveloped), and wetland size. All parcels are considered to be undeveloped, despite the presence of primary structures.

Wetland A scores 5 points for water quality function, 5 points for hydrologic function, and 3 points for habitat function, for a total of 13 points (wetland rating form and figures are in Appendix B). It is a low functioning Category IV wetland. Category IV wetlands over 2,500 square feet on undeveloped parcels in the City of Bellevue require a 40-foot buffer. No building setback is required.

4.1.1 Critical Area Functions Based on Application of Code Standards

Existing residential uses and associated landscaping have reduced and degraded onsite wetland and buffer areas. If the site was not undergoing redevelopment, then existing disturbances would be allowed to persist under City code. Recent unpermitted filling of the pond would have been reviewed for code compliance; however, the previous owner treated this feature as an ornamental pond and it had a history of landscape management. The current site redevelopment plan is prompting complete wetland restoration/enhancement and buffer enhancement that would not otherwise occur. If left as-is, the invasive plants in and around the wetland would spread and continue to displace native plants and decrease diversity. The proposed grading to create microtopography for season ponds would not occur and special habitat features, such as large woody debris, would not be added. Overall, critical area functions and values would be expected to decrease with time if the property was maintained in its existing state.

4.1.2 Modification

Critical area buffers and setbacks can be modified through an approved critical areas report. The applicant must demonstrate that the modifications to the critical area, buffer, and setback, combined with any restoration efforts, will result in equivalent or better protection of critical area functions and values than would result from adhering to the standard application of the regulations (LUC 20.25H.230). Restoration activities would require monitoring and maintenance in accordance with LUC 20.25H.220, consistent with an approved restoration plan. This proposal includes modifications to wetland and buffer areas.

4.2 Habitat Associated with Species of Local Importance

As noted above, habitat associated with species of local importance are also regulated as a critical area according to LUC 20.25H.150(B). In this context, "habitat" is defined as "the place, including physical and biotic conditions, where a plant or animal usually occurs and is fundamentally linked to the distribution and abundance of species."

As described in Section 3.4, there is no on-site evidence of the presence of habitat associated with species of local importance. Some of the trees on site could occasionally support migrating or foraging bird species. However, the habitat on site is unlikely to be used extensively by any of these species. Furthermore, WDFW PHS data does not show the presence of any priority species within the vicinity. Therefore, it is The Watershed Company's opinion that the site is unencumbered by critical area habitat that has a primary association with species of local importance.

5. Project

5.1 Description

The proposed project is to redevelop nine previous single-family home properties into one new fire station facility. This is the proposed site of Fire Station #10 and its construction will be funded by a 2016 voter approved Fire Levy. A fire station is needed in this location to maintain rapid response times, including vertical response times in downtown high-rise buildings. Given site topography, programmatic needs, and traffic considerations, the project will require some wetland and buffer modifications. Site facilities will include a meeting room, office, dining, exercising, and sleeping spaces. The station will have bays for medic, aid car, and fire

engine vehicles. A hose tower and refueling station will also be onsite. The site will also contain parking areas for firefighter staff and the general public. This project will impact and restore wetland and buffer areas in the northwest corner of the site. Proposed critical area modifications are in previously disturbed wetland and degraded buffer areas immediately adjacent to the proposed building and will be offset through a mitigation and monitoring plan. Implementation of the mitigation and monitoring plan will result in an improvement in ecological function of the on-site critical area and buffer over existing conditions.

5.2 Mitigation Sequencing

Pursuant to LUC 20.25H.215, attempts to avoid and minimize impacts to the on-site wetland and its buffer have been taken.

Avoidance. As previously mentioned, programmatic needs of the fire station facility cannot be achieved on this site without incurring some impacts to onsite wetland and buffer areas. Collectively, wetland and buffer areas cover approximately 0.7-acre or 25 percent of the total site. After evaluating multiple design options, the architectural team determined that complete avoidance of standard 40-foot buffers and the wetland area are not feasible for this project. The team has expressed concern about having wetland conditions too close to the building foundation and has practical concerns about construction logistics. For these reasons, a small 375 square foot impact to the south end of the wetland was deemed necessary.

Minimization. Several minimization techniques were utilized during the design process to limit impacts to the critical area and buffer. First, site improvements were designed around the wetland and buffer to the extent feasible. Existing forest patches in and adjacent to the standard buffer are deliberately preserved. Proposed wetland fill is limited to the disturbed south end of the wetland. Since this wetland area was formerly a landscaped pond that was filled by the previous property owner with a mix of soil and debris, restoration was needed in this area. The impact area is vegetated with emergent plants and herbaceous weeds.

Mitigation. As mitigation for unavoidable, permanent wetland impacts, a combination of wetland creation and enhancement are proposed. Additionally, to mitigate for functional loss of wetland buffer adjacent to the direct wetland impact area, the paper fill / paper buffer approach is applied. Paper buffer will be mitigated through wetland enhancement. The concept of paper fill, comes from Best Available Science (BAS) publication, *Wetland Mitigation in Washington State* – *Part 1* (Ecology Publication 06-06-011a) states (bold emphasis added):

"6.6.3 Wetlands as Buffers - In cases where area for an upland buffer is limited or nonexistent, wetland area on the edge of the compensation wetland can be considered a

buffer for the rest of the compensatory wetland. However, the acreage of wetland which is acting as a buffer would not count toward compensation requirements for wetland acreage. It is not acceptable to fill wetlands to "create" an upland buffer for the wetland.

In these situations, the outer portion of the wetland (often referred to as a "paper" buffer) is performing similar functions as an upland buffer (filtering out pollutants and screening noise, light, and intrusions), thus, protecting the inner portion of the wetland. In most cases, however, the "paper" buffer is not able to perform the additional buffer function of providing adjacent upland habitat needed for many wetland dependent species. Thus, the width of "paper" buffers generally will be based on the need for providing the water quality and screening functions."

The wetland adjacent to the proposed 479 square feet of fill will be functioning as a buffer and will be mitigated accordingly to ensure wetland functions are maintained. The 40-foot buffer width is used for the paper fill calculation. The ratio for conversion of wetland to another type, such as 'wetland as buffer' is generally one-half of the typical ratio for permanent impacts (Ecology Publication #06-06-011a). Therefore, a minimum of 3:1 enhancement would be necessary. The proposed mitigation exceeds that recommendation.

The proposed 479 square feet of direct wetland fill will be mitigated through 1:1 creation plus 2:1 enhancement in accord with Ecology Guidance (Publication #06-06-011a, Appendix 8C).

Lastly, wetland buffer impacts with be mitigated through buffer replacement and buffer enhancement. Proposed buffer mitigation exceeds minimum requirements under City code. The proposed mitigation is based on City code and Washington State Department of Ecology guidance. Proposed impacts and mitigation are summarized in Table below. A mitigation plan is provided in Appendix B.

	IMPACT		MITIGATION	MITIGATION
IMPACT TYPE	AREA	MITIGATION ACTION	AREA	RATIO
WETLAND BUFFER	5,058 SF	BUFFER REPLACEMENT	5,058 SF	1:1
		WETLAND BUFFER		
		ENHANCEMENT	16,402 SF	3.2:1
WETLAND FILL*	479 SF	WETLAND CREATION	479 SF	1:1
(CATEGORY IV)		WETLAND ENHANCEMENT	958 SF	2:1
WETLAND PAPER FILL*	1,209 SF	WETLAND ENHANCEMENT	7,569 SF	6:1

 Table 2.
 Summary of proposed impacts and mitigation.

* CATEGORY IV WETLAND. PROPOSED MITIGATION BASED ON WASHINGTON STATE DEPARTMENT OF ECOLOGY GUIDANCE (PUBLICATION # 05-06-008, APPENDIX 8-C).

5.3 Impacts

5.3.1 Critical Area Impact Assessment

Project impacts to critical areas, buffers, and setbacks are discussed in detail in the following sub-sections.

5.3.1.1 Direct Impacts

Direct impacts to critical areas are limited to 479 square feet of the degraded category IV wetland and adjacent buffer areas. As documented above, this portion of the wetland was maintained as a landscape pond before it was filled by the prior property owner. Approximately 28 percent of the proposed buffer impact area is already impacted by existing residential developments. If not adequately mitigated, these impacts have the potential to reduce critical area functions (habitat, water quality and hydrology). No significant adverse impacts are anticipated from the proposal since the project must adhere to the City's critical area regulations and compensatory mitigation is proposed.

5.3.1.2 Indirect Impacts

Disturbances associated with fire station development, like increased light and noise, and increased land use intensity, are types of indirect effects on wildlife and habitat on-site. However, indirect impacts are not likely to significantly increase since the site is currently developed and located in an urbanized area. Attempts to offset impacts to habitat on-site include enhancing and restoring wetland and buffer habitat in the northwest corner of the site.

5.3.1.3 Cumulative Impacts

Impacts that result from collective changes over the landscape have the potential to affect habitat over time. The area within the vicinity of the project site is almost entirely developed with single-family residences and commercial buildings. While some development or redevelopment can be expected, the overall character of the urban setting is not likely to change substantially. Urban areas do trend toward less mature native vegetation and more ornamental vegetation and impervious surface. The proposed project is consistent with this trend in that some vegetated areas will be replaced with development and increased impervious surface. However, the functions of retained habitat will be improved, not further degraded, once proposed mitigation activities are considered. Retained habitat is not likely to be developed further because of the presence of regulatory critical areas (wetland and buffer).
5.4 Mitigation

5.4.1 Critical Area Mitigation

The proposed mitigation plan (Appendix B) seeks to modify and restore a disturbed wetland area and modify and enhance wetland buffer. Proposed mitigation actions and ratios are summarized in Section 5.2 and Table 2 above.

5.5 Critical Area Functional Lift Analysis

The proposed project, with incorporation of mitigation activities, will improve the functions of on-site critical areas. A qualitative analysis of the change in critical area functions is provided below.

5.5.1 Water Quality and Hydrology

Existing Conditions. The wetland area is primarily vegetated, with grasses and emergent plants. Vegetation is patchy and some bare soil is present. Remnants of an old fence cross through the southern end of the wetland. Fill dirt mixed with some pieces of lumber, nails, and debris were placed in the south end in the area that was formerly maintained as a landscape pond. The surrounding buffer, where vegetated, is characterized by conifers with an understory dominated by invasive plants, including Himalayan blackberry and English ivy. A patch of knotweed is at the north end of Wetland A. Some existing structures and driveways extend into the buffer.

Proposed Conditions. Demolish existing residential structures and construct a fire station. Restore and enhance wetland and buffer in the northwest property corner. Reduce invasive plants in critical areas and buffers. Replace invasive plants with native trees, shrubs, and groundcovers. Maintain and improve vegetative screening for the neighboring property owners to the north and west.

Net Result. Native plant density and diversity will increase and water quality and hydrology functions will be maintained, resulting in an overall net benefit to these functions on-site.

5.5.2 Habitat

Existing Conditions. As noted in Section 5.5.1 above, vegetation in the wetland is emergent and the buffer is characterized by forest with an invasive plant understory. Several Douglas-fir trees on-site are dead or dying. These trees provide habitat for nesting and foraging birds. The prevalence of invasive species on-site reduces quality of available habitat and threatens to reduce habitat quantity over time. English ivy has the potential to destabilize existing trees, and

Himalayan blackberry in the understory makes it difficult for additional native trees and shrubs to establish, leading to further habitat degradation over time.

Proposed Conditions. Demolish houses and construct a fire station facility. Reduce invasive plants in critical areas and buffers. Replace invasive plants with native trees, shrubs, and groundcovers. Enhance underplanted understory areas. Create snags where warranted and place large woody debris in wetland and/or buffer areas. Remove fence remnants and debris from the south end of the wetland and create microtopographic depressions in the vicinity of the former pond.

Net Result. Increase the habitat functions of retained vegetated areas, thereby improving habitat quality. Alteration of foraging, perching, and nesting opportunities for wildlife through native plant installation. New native trees, shrubs and groundcover will be installed. Overall, the quality of habitat will be increased by replacing invasive plants and enhancing understory areas with a dense and diverse native plant assemblage appropriate to the eco-region and growing conditions on-site. New plantings will provide food, cover, and nesting opportunities for wildlife. Snags and large woody debris will provide habitat niches. Microtopography in the wetland will pond seasonally, a condition that supports native amphibians. Overall, proposed mitigation will improve critical area functions relative to existing conditions.

6. Critical Areas Report Criteria

As previously mentioned, wetland critical area and buffers may be modified pursuant to LUC 20.25H.230. The Director may approve modifications if it can be shown that, through restoration, the modification will result in equivalent or better protection of critical area functions and values. The existing project site contains areas of previously degraded, low-functioning wetland and buffers.

Per the LUC, the critical areas report must meet specific decision criteria in order for the Director to approve a proposal to modify the regulated wetland and critical area buffer. Compliance with the relevant critical areas report criteria is addressed below.

LUC 20.25H.250(B) - Minimum Report Requirements

- 1. Identification and classification of all critical areas and critical area buffers on the site;
- 2. Identification and characterization of all critical areas and critical area buffers on those properties immediately adjacent to the site;

Critical areas and buffers located on the subject property are described in Sections 3 and 4 above.

3. Identification of each regulation or standard of this code proposed to be modified;

The subject site contains a category IV wetland as defined by LUC 20.25H.095(C)(4). It requires a 40-foot buffer pursuant to LUC 20.25H.095(D)(1)(a)(i). Modifications are proposed to regulations related to wetland and buffer areas.

3. A habitat assessment consistent with the requirements of LUC 20.25H.165;

Habitat is assessed in Sections 3.2, 3.4 and 4.2 of this report.

4. An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development;

Cumulative impacts are discussed in Section 5.3.1.3.

- 5. An analysis of the level of protection of critical area functions and values provided by the regulations or standards of this code, compared with the level of protection provided by the proposal. The analysis shall include:
 - a. A discussion of the functions and values currently provided by the critical area and critical area buffer on the site and their relative importance to the ecosystem in which they exist;
 - b. A discussion of the functions and values likely to be provided by the critical area and critical area buffer on the site through application of the regulations and standards of this Code over the anticipated life of the proposed development; and
 - c. A discussion of the functions and values likely to be provided by the critical area and critical area buffer on the site through the modifications and performance standards included in the proposal over the anticipated life of the proposed development;

Discussion of current critical area functions is provided in Section 3. Critical area functions and values expected through application of standard regulations is provided in Section 4.1.1. The anticipated improvement of functions is provided in the functional lift analysis in Section 5.5.

6. A discussion of the performance standards applicable to the critical area and proposed activity pursuant to LUC 20.25H.160, and recommendation for additional or modified performance standards, if any;

No species of local importance have been determined to have a primary association with the habitat available on the site, therefore additional performance standards (WDFW recommendations) do not apply. No additional or modified performance standards are proposed.

7. A discussion of the mitigation requirements applicable to the proposal pursuant to LUC 20.25H.210, and a recommendation for additional or modified mitigation, if any; and

A mitigation plan has been developed to meet the requirements of the LUC. No additional or modified mitigation is proposed.

8. Any additional information required for the specific critical area as specified in the sections of this part addressing that critical area.

None at this time.

LUC 20.25H.165(A) - Habitat Assessment

1. Detailed description of vegetation and habitat on and adjacent to the site;

See Section 3.2 and 3.4.

2. Identification of any species of local importance that have a primary association with habitat on or adjacent to the site and assessment of potential project impacts to the use of the site by the species;

No species of local importance have a primary association with on-site habitat. See Sections 3.2 and 3.4.

3. A discussion of any federal, state, or local special management recommendations, including Washington Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the site;

Since no species have a primary association, special management recommendations do not apply.

4. A detailed discussion of the direct and indirect potential impacts on habitat by the project, including potential impacts to water quality;

See Section 5.3.

5. A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing habitats and restore any habitat that was degraded prior to the current proposed use or activity and to be conducted in accordance with the mitigation sequence set forth in LUC 20.25H.215; and

Mitigation sequencing is demonstrated in Section 5.2.

6. A discussion of ongoing management practices that will protect habitat after the site has been developed, including proposed monitoring and maintenance programs.

A mitigation plan has been developed, described in Section 5.4, and included as Appendix B, which includes five years of mitigation site monitoring and maintenance.

LUC 20.25H.255 - Critical areas report - Decision criteria

To allow a wetland or buffer modification through an approved critical areas report, the Director must also find compliance with the decision criteria established in LUC 20.25H.255(A) and (B). Compliance with the relevant sections listed in LUC 20.25H.255(A) and (B) is addressed below.

A. General.

1. The modifications and performance standards included in the proposal lead to levels of protection of critical area functions and values at least as protective as application of the regulations and standards of this code.

See functional lift analysis in Section 5.5.

2. Adequate resources to ensure completion of any required mitigation and monitoring efforts.

The mitigation plan specifies appropriate species for planting and planting techniques, describes proper maintenance activities, and sets forth performance standards to be met yearly during monitoring to ensure that restoration plantings will be maintained, monitored, and successfully established within the first five years following implementation. Furthermore, to ensure that the proposed plantings are installed and that the five-year maintenance and monitoring plan is implemented, if required, the applicant will post an Installation Assurance Device and a Maintenance Assurance Device.

3. The modifications and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site.

Proposed mitigation will improve the functions of the on-site wetland and buffer. Mitigation activities will have positive effects on nearby off-site areas as well by replacing invasive species with native trees, shrubs, and groundcover, which will improve habitat.

4. The resulting development is compatible with other uses and development in the same land use district.

The proposed structure is compatible with adjacent properties and surrounding development within the same land use district. Adjacent properties include residential, commercial and public land uses.

B. Decision Criteria – Proposals to Reduce Regulation Critical Area Buffer

1. The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in overall critical area or critical area buffer functions.

A mitigation plan is included as Appendix B and discussed in Section 5.4. A functional lift analysis is provided in Section 5.5.

2. The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in the most important critical area or critical area buffer functions to the ecosystem in which they exist.

See functional lift analysis in Section 5.5.

3. The proposal includes a net gain in stormwater water quality function by the critical area buffer or by elements of the development proposal outside of the reduced regulated critical area buffer.

See functional lift analysis in Section 5.5.

4. Adequate resources to ensure completion of any required restoration, mitigation and monitoring efforts;

The mitigation plan specifies appropriate species for planting and planting techniques, describes proper maintenance activities, and sets forth performance standards to be met yearly during monitoring to ensure that restoration plantings will be maintained, monitored, and successfully established within the first five years following implementation.

5. The modifications and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site; and

Proposed mitigation will restore and improve the functions of the on-site wetland and buffer. Mitigation activities will have positive effects on nearby off-site areas as well by replacing invasive species with native trees, shrubs, and groundcover, which will improve habitat.

6. The resulting development is compatible with other uses and development in the same land use district.

The proposed development is compatible with adjacent properties and surrounding development within the same land use district. Adjacent properties include residential, commercial and public land uses.

20.25H.225 – Innovative Mitigation

The proposed fire station is categorized as a protective service; it is not considered an essential public facility. Construction of a protective services building is not an allowed use under LUC 20.25H.055. Therefore, the project proposes critical area and buffer modifications pursuant to the City's Critical Areas Report process in LUC 20.25H.230. Additionally, innovative mitigation was applied to this project pursuant to LUC 20.25H.225.

The Director may encourage, facilitate, and approve innovative mitigation projects that are based on the best available science.

As detailed in Sections 5.2, 5.4 and 5.5 above, the proposed mitigation will result in improved wetland and buffer functions, relative to existing site conditions. Since the south end of the wetland is disturbed, the mitigation plan seeks to restore and improve wetland conditions while leaving an adequate building area for the new fire station. As noted in Table 2 (Section 5.2) Ecology guidance was used to determine compensatory mitigation actions and ratios for the proposed wetland and buffer modification. This applies to both direct wetland impacts, mitigated through wetland creation plus enhancement, as well as indirect paper fill (wetland as buffer) mitigated through wetland enhancement. Proposed buffer enhancement exceeds the City's requirements by both replacing lost buffer at 1:1 and enhancing the entire on-site buffer. The proposed mitigation will result in a lift in critical area functions and create a sustainable environment adjacent to the new building.

20.25H.100 - Wetland Performance Standards

In compliance with standard best practices and best available science (BAS), performance standards under LUC 20.25H.100 will be followed as applicable. Lights and noise will be directed away from the wetland as feasible. In accord with stormwater regulations and BAS, untreated runoff will not be directed to the wetland. Buffer planting will deter intrusions into the wetland. Any pesticide use will be limited to an Integrated Pest Management (IPM) approach and will be conducted in accordance with Bellevue's 'Environmental Best Management Practices.'

20.30P.140 - Critical Areas Land Use Permit Decision Criteria

Modification of a critical area and buffer requires the applicant to apply for and receive a Critical Areas Land Use Permit. Before issuing a Critical Areas Land Use Permit, the Director must find that the project meets specific decision criteria. Compliance with the applicable Critical Areas Land Use Permit decision criteria listed in LUC 20.30P.140 is addressed below. *The Director may approve or approve with modifications an application for a Critical Areas Land Use Permit if:*

A. The proposal obtains all other permits required by the Land Use Code; and

The project applicant has applied for a Critical Areas Land Use Permit (LO) to modify the onsite critical area and buffers and to provide mitigation for impacts. No other City of Bellevue land use permits will be required of the project at this time. Appropriate construction permits would also be obtained.

B. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer; and

As mitigation for impacts associated with the critical area and buffer modifications, the existing degraded wetland and wetland buffer area will be restored. Proposed site improvements are located the maximum distance feasible from critical areas and are immediately adjacent to the existing degraded critical areas. The applicant has used the best available science and development techniques to design the improvements. The design allows for facility construction while providing adequate mitigation.

C. The proposal incorporates the performance standards of Part 20.25H LUC to the maximum extent applicable; and

See response to LUC 20.25H.100 above for general discussion of wetland performance standard compliance.

D. The proposal will be served by adequate public facilities including streets, fire protection, and utilities; and

The proposed fire station will be serving the surrounding community. Intersection and right-ofway improvements are required and are being implemented by this project to maintain acceptable service levels.

E. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC 20.25H.210; except that a proposal to modify or remove vegetation pursuant to an approved Vegetation Management Plan under LUC 20.25H.055.C.3.i shall not require a mitigation or restoration plan; and

A mitigation and restoration plan has been prepared in accordance with the requirements of LUC 20.25H.210. See Appendix B.

F. The proposal complies with other applicable requirements of this code.

The proposed project complies with all other applicable City of Bellevue Land Use Codes.

7. Summary

To maintain quick response times a new fire station facility is needed at the proposed location near the intersection of NE 12th Street and 112th Avenue NE in Bellevue. The 2.8-acre site selected contains a category IV slope wetland with a 40-foot buffer. On-site critical areas are in the northwest corner and take up approximately one-quarter of the site. The south end of the wetland was formerly maintained as a pond but was filled by the previous property owner; the current condition is disturbed. Existing residential structures and associated driveways are inside the wetland buffer. New facility construction will incur unavoidable direct and indirect wetland and buffer impacts. Compensatory mitigation is planned based on City code and Best Available Science-based guidance. Proposed critical area impacts and mitigation are presented in Appendix B (Mitigation Plan). This project presents an opportunity to sustainably restore a wetland and buffer that was previous split across four separate parcels. Mitigation will yield a net improvement in critical area functions on this site.

References

- Audubon. 2020. Guide to North American Birds. <u>https://www.audubon.org/field-guide/bird/pileated-woodpecker</u>.
- Granger, T. T. Hruby, A. McMillan, D. Peters, J. Rubey, D. Sheldon, S. Stanley, E. Stockdale. April 2005. Wetlands in Washington State – Volume 2: guidance for Protecting and Managing Wetlands. Washington state Department of Ecology. Publication #05-06-008. Olympia, WA.
- Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. March 2006. Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance. Washington State Department of Ecology Publication #06-06-011a. Olympia, WA.

Appendix A

Wetland Delineation Report



April 17, 2019

Marina Stefanovic City of Bellevue 450 110th Avenue NE Bellevue, WA 98009 Via email: <u>MStefanovic@bellevuewa.gov</u>

Re: Bellevue Fire Station #10, Wetland Delineation Report

The Watershed Company Reference Number: 161121.3

Dear Marina:

On August 17, 2018, ecologists Nell Lund and Logan McClish visited the planned location for Bellevue Fire Station No. 10 where access was granted (house numbers 1233, 1231, 1219, 1213, 1211 and 1209 on 112th Avenue NE) to screen for jurisdictional wetlands. On March 25, 2019, ecologists Nell Lund and Logan Dougherty returned to screen additional properties where access was later granted (house numbers 1223, 1221, and 1215). The property at 1213 112th Avenue NE was screened on April 9, 2019. This letter summarizes the findings of the study and details applicable federal, state, and local regulations. The following documents are enclosed:

- Wetland Delineation Map
- Wetland Determination Data Forms
- 2014 Ecology Rating Forms and Figures

A prior review of the northern two subject properties was also referenced:

- March 27, 2017, 1231 and 1233 112th Avenue NE Environmental Review, Prepared by The Watershed Co., Prepared for City of Bellevue.
- June 9, 2017, *Ecology Comments on Thorpe Property Wetland Determination, Lead Agency File No.:* 16-129116-LN. Prepared by Washington State Department of Ecology. Prepared for City of Bellevue.



Figure 1. Study area (outlined in purple).

Findings Summary

One wetland (Wetland A) is located in the northwest portion of the study area. It is a Category IV wetland. The City of Bellevue requires a standard 40-foot buffer for Wetland A.

Methods

Public-domain information on the subject properties was reviewed for this reconnaissance study. Resources and review findings are presented in Table 1 of the "Findings" section of this letter. Additionally, previous work completed in a peer review capacity for the City of Bellevue was referenced as noted above.

The subject property was evaluated for wetlands using methodology from the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0 (U.S. Army Corps of Engineers 2010), as required by local, state, and federal regulations. Wetland A was determined to be present on the basis of an examination of vegetation, soils, and hydrology. During our field work, these parameters were sampled at several locations along the wetland boundary to determinate the delineated wetland edge. Due the known history of fill on the properties with house numbers 1233, 1231 and 1223, atypical situations – unauthorized activities methodology was followed at those sites (Corps 1987). Wetland A was classified using the Department of Ecology's 2014 rating system (Hruby 2014).

Characterization of climatic conditions for precipitation in the Wetland Determination Data Forms were determined using the WETS table methodology (USDA, NRCS 2015). The "Seattle Tacoma Intl AP" station from 1981-2010 was used as a source for precipitation data (<u>http://agacis.rcc-acis.org/</u>). The WETS table methodology uses climate data from the three months prior to the site visit month to determine if normal conditions are present in the study area region.

Findings

The Bellevue Fire Station #10 site is located in the Sturtevant Creek Basin of the Mercer Slough Drainage, in the Cedar River/Lake Washington Watershed, within the Cedar-Sammamish Water Resource Inventory Area (WRIA 8); Section 29 of Township 25N, Range 5E of the Public Land Survey System (PLSS). Reviewed public-domain information on the subject property is summarized in Table 1, below. Wetland A is summarized in Table 2.

Resource	Summary
WETS climatic condition	August 2018: Drier than Normal; March 2019: Normal
USDA NRCS: Web Soil Survey	AmC: Arents, Alderwood material, 6 to 15 percent slopes
USFWS: NWI Wetland Mapper	No wetlands mapped on-site
WDFW: PHS on the Web	No mapped PHS on-site or within 0.4 miles
WA-DNR: Forest Practices Activity	No streams mapped on-site
WA-DNR: WHCV Map Viewer	No WHCV or rare plants
King County Public GIS (iMAP)	No streams or wetlands mapped on-site

Table 1 Cummany of recourse	rouiouu roculto	from online	manningand	invantany data
Table 1. Summary of resource	review results	from online	madding and	inventorv data.

8	The Waters Compan	HED NY		w	/ETLAN	D A – A) A – Assessment Summary									
Loca	tion:	Northw	oortion	of study	area (P	ea (Parcels 126620-0330, -0331, -0341)										
WRI	A / Sub-basin:	WRIA 8	/ Sti	urtevan	t Creek E	Basin	isin									
						Cla	ssificatio	on:		Categ	ory IV					
						But	ffer Wid	th:		40 fee	et					
						But	ffer Setb	ack:		none						
		Fare				We	tland Si	ze:		~ 0.25	5 acre					
						Cov Cla	wardin ssificatio	on(s):		Palus	trine em	ergent				
بالأراب		and the second sec			A CONTRACT	HG	M Class	ification	(s):	Slope						
						We	etland D	ata Shee	et(s):	Aug 2 Mar 2 5A, D	2018: DP 2019: DP P-6A, DF	-1 P-1A, DP-3A, DP- P-9A, DP-10A				
Wetland A (Photo Taken 03-24-2017): Looking					Up	land Dat	a Sheet	(s):	Aug 2018: DP-2, DP-3 Mar 2019: DP-2A, DP-4A, DP- 7A, DP-8A, DP-11A							
north from southwest side of wetland on 1231					Fla	g Color:			Pink-a	and-blac	k striped					
112 Avenue NE.					Fla	g Numb	ers:		Aug 2 Mar 2	2018: A-1 2019: AA	l to A-19 A-1 to AA-11					
	Tree:	Dead/dy	ying	Douglas	s-fir											
ß	Shrub:	none														
>	Herb:	Meadov Cooley's	v gra s hec	asses, fie dge-nett	eld horse le, mani	etail, sm nagrass	iil, smartweed, water parsley, willowherb, soft rush, grass, bird's foot trefoil, etc.									
H	Soil survey:	Arents, A	Alde	rwood I	Material	, 6 to 15	5 percer	t slopes	;							
sc	Field data:	Redox D) ark	Surface	(F6), De	epleted Matrix (F3)										
	Source:	Ground	and	surface	water fr	from contributing basin										
H ₂ C	Field data:	High Wa Drainage	ater e Pa	Table (A tterns (I	2), Satu 310), FA	ration (. C-Neutr	g Roots (C3),									
					W	etland I	unction	S								
			Wa	ater Qua	ality	F	Iydrolog	ic		Habitat	t					
Site	Potential		Н	M) н м (L) н м (L)										
Land	scape Potentia	al	Н	M	L	Н	M	L	н	М						
Valu	e		Н	(M)	L	Н	(M)	L	н	М		TOTAL				
Scor	e Based on Rat	tings		5			5			3		13				

Table 2. Wetland A assessment summary.



WETLAND A – Assessment Summary

Description and Comments

The southeast portion of the wetland, located on parcel 1266200341 (house # 1223), was modified in 2017 (see Figure 2 below). This area was historically maintained as a pond feature, but has been filled in and diked with wood (see enclosed photos). A culvert was observed at the north property line; it is angled to the southeast. The general area of the former pond exhibited high ground water and saturation during the March 2019 site visit (see wetland data points).



Figure 2. Fill placement evident in south end of Wetland A on 2017 aerial photograph (Source: King County iMAP).

Non-Wetland Areas

All properties contained single-family homes, associated driveways, and lawn/landscaped areas. Plants were characterized by Douglas fir, fruit trees, ornamental shrubs, ivy, and lawn grasses. Wetland hydric soil indicators and/or wetland hydrology indicators were not present in the project area beyond Wetland A.

Local Regulations

Wetlands and streams are regulated in the City of Bellevue under the Critical Areas Ordinance within the Bellevue Land Use Code (LUC). The City has recently updated their Critical Area Regulations as part of their Shoreline Master Program update. Critical Area regulations under the updated code are summarized below.

Per LUC 20.25H.095, wetland buffer widths are determined based on the 2014 wetland rating category, habitat function, site condition of the subject parcel (developed or undeveloped), and wetland size. All parcels are considered to be undeveloped, as there are no NGPAs or NGPEs with wetlands and wetland buffers recorded prior to August 1, 2006 (LUC 20.25H.095.D.1.a.ii(1)) on the subject parcel.

Wetland A scores 5 points for water quality function, 5 points for hydrologic function, and 3 points for habitat function, for a total of 13 points. It is a Category IV wetland. Category IV wetlands over 2,500 square feet on undeveloped parcels in the City of Bellevue require a 40-foot buffer.

Allowed Uses within Wetlands and Wetland Buffers

Fire stations are protective services, but do not meet the definition of essential public facilities under City code (stated in meeting with City Planners Nick Whipple and Toni Pratt on February 5, 2019). However, in association with this project, the City of Bellevue may allow new or expanded utility systems, and stormwater facilities in a wetland and/or buffer in accordance with LUC 20.25H.055. To comply with the allowed use provisions for utilities, the applicant must demonstrate that there is no technically feasible alternative with less critical area impact. The technical feasibility analysis includes consideration of existing infrastructure, project objectives, and cost constraints. Once it is demonstrated that no technically feasible alternative exists, the applicant must show that the proposed design will result in the least impact to the wetland and wetland buffer, including impacts to peak flows, and flood storage capacity.

All temporary and permanent critical area impacts must be mitigated through an approved mitigation plan (LUC 20.25H.055.C.2.b). Pursuant to LUC 20.25H.225: "The director may encourage, facilitate, and approve innovative mitigation projects that are based on the best available science." Additionally, the project design is required to incorporate the performance standards in LUC 20.25H.100, which includes directing lights and noisy activity away from the wetland, routing toxic runoff and new impervious surface away from the wetland, densely vegetating the outer buffer edge, and prohibiting pesticide use within 150 feet of the wetland.

Wetland Buffer Modification

Buffer and setback widths may be modified if it can be shown that an enhancement plan will improve buffer function overall despite the buffer modification. Enhancement may involve removing invasive plant species and lawn, and reestablishing native vegetation. An approved enhancement plan would require monitoring and maintenance in accordance with LUC 20.25H.210.

Wetland buffer modification may be allowed if buffer averaging criteria are met, including limiting buffer reduction to 25 percent at any given point, maintaining a contiguous buffer area of equivalent area, and maintaining ecologic structure and function of the buffer (LUC 20.25H.095.D.2). Preliminary site plans indicate, building footprint needs will necessitate buffer reduction in excess of 25 percent at points. Buffer modifications necessary to construct the proposed fire station building that do not meet the standard buffer modification criteria may be considered through a Critical Areas Report (LUC 20.25H.230) and permitted through the Critical Areas Land Use Permit (CALUP) process.

State and Federal Regulations

Federal Agencies

Wetlands are regulated by the Corps under section 404 of the Clean Water Act. Any filling or other direct impacts to Waters of the U.S., including wetlands (except isolated wetlands), would require notification and permits from the Corps. The Corps has the authority to determine whether or not a wetland is isolated. Wetland A may be considered isolated; a jurisdictional determination may be requested from the Corps. Based on our understanding of project type prioritization, it may be faster to submit a JARPA application under which the Corps would review for isolated status. Unavoidable impacts are typically required to be compensated through implementation of an approved mitigation plan.

Federally permitted actions that could affect endangered species may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Compliance with the Endangered Species Act must be demonstrated for activities within jurisdictional wetlands and the 100-year floodplain. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology and a cultural resource study in accordance with Section 106 of the National Historic Preservation Act.

Washington Department of Ecology (Ecology)

Similar to the Corps, Ecology, under Section 401 of the Clean Water Act, is charged with reviewing, conditioning, and approving or denying certain federally permitted actions that result in discharges to state waters. However, Ecology review would only become necessary if a Section 404 permit from the Corps was issued. Therefore, if filling activities are avoided, authorization from Ecology would not be needed.

If filling is proposed, a JARPA could be submitted to Ecology in order to obtain a Section 401 Water Quality Certification and Coastal Zone Management Consistency Determination. Ecology permits are either issued concurrently with the Corps permit or within 90 days following the Corps permit. Even if the Corps deems a wetland isolated, it is still regulated under the state Clean Water Act, Chapter 90.48 RCW. Any project involving filling or other direct impacts to wetlands needs to follow state regulations and submit a JARPA to Ecology. Ecology would issue an Administrative Order (AO) upon approval (Ecology Publication No. 01-06-020).

Washington Department of Fish and Wildlife (WDFW)

Chapter 77.55 of the RCW (the Hydraulic Code) gives WDFW the authority to review, condition, and approve or deny "any construction activity that will use, divert, obstruct, or change the bed or flow of state waters." This provision includes any in-water work, the crossing or bridging of any state waters and can sometimes include stormwater discharge to state waters. If a project meets regulatory requirements, WDFW will issue a Hydraulic Project Approval (HPA).

Through issuance of an HPA, WDFW can also restrict activities to a particular timeframe. Work is typically restricted to late summer and early fall. However, WDFW has in the past allowed crossings that don't involve in-stream work to occur at any time during the year.

In general, neither the Corps, Ecology nor WDFW regulates wetland buffers, unless direct impacts are proposed. When direct impacts are proposed, mitigated wetlands and streams may be required to employ buffers based on Corps and Ecology joint regulatory guidance.

References

- Hruby, T. 2014. *Washington State Wetland Rating System for Western Washington: 2014 Update.* (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.
- U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). ed. J. S. Wakely, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2015. National Engineering Handbook, Part 650 Engineering Field Handbook, Chapter 19 Hydrology Tools for Wetland Identification and Analysis. ed. R. A. Weber. 210-VI-NEH, Amend. 75. Washington, DC.

Disclaimer

The information contained in this letter is based on the application of technical guidelines currently accepted as the best available science and in conjunction with the manuals and criteria referenced above. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing. The findings of this report are subject to verification and agreement by the appropriate local, state and federal regulatory authorities. No other warranty, expressed or implied, is made.

Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

ogen Joughuty

Logan Dougherty Ecologist

Enclosures

Nell Jund

Nell Lund, PWS Senior Ecologist

Photos



Photo 1. Former pond area, now filled (looking northwest from parcel 1266200341 driveway). Photo taken 3/25/19.



Photo 2. Wooden dike at northern property boundary of parcel 1266200341 (looking east). Taken 3/25/19.



Photo 3. Inundation present within dike structure. Photo taken 3/25/19.



Figure 4. Culvert opening at dike structure. Photo taken 3/25/19.





WETLAND DETERMINATION DATA FORM

Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 1

levue Fire Station #	10 (12	231 & 1	233 1	12 th Ave	NE)		Sampling date:	8/17/18			
/ of Bellevue							Sampling Point:	DP- 1			
I Lund, Logan McC	lish						City/County:	Bellevu	ie / King Co	ounty	
29 T 25N	R	5E					State:	WA			
hillslope				Slope (%): <	5%	Local relief (concave,	, convex, no	one): conca	ve	
				Lat:			Long:		Datum		
Iderwood material,	6 to 1	5% slo	opes				NWI classification: N	lone			
on the site typical for thi	s time	of year?	. [Yes	\boxtimes	No	(If no, explain in rema	arks.)			
ent on the site?				🛛 Yes		No	Drier than normal (N	NRCS WET	S Table, Sea	Tac Statio	on)
ology 🗆 significantly dis	turbed	?							-		
ology 🗆 naturally proble	ematic						(If needed, explain ar	ny answers	in Remarks.)		
Attach site map sho	wing	sampl	ing po	oint loca	tions	, trans	sects, important fea	atures, etc).		
Yes	\boxtimes	No									
Yes	\boxtimes	No		Is the S	Sampli	ina Poi	nt within a Wetland?	Yes	\mathbf{X}	No	
Yes	\boxtimes	No				5					
	Ilevue Fire Station # y of Bellevue Il Lund, Logan McCl 29 T 25N hillslope Alderwood material, on the site typical for thi ent on the site? ology a significantly dis ology anaturally proble Attach site map sho Yes Yes Yes	Ilevue Fire Station #10 (12 y of Bellevue Il Lund, Logan McClish 29 T 25N R hillslope Alderwood material, 6 to 1 on the site typical for this time ent on the site? ology □ significantly disturbed ology □ naturally problematic Attach site map showing Yes □	Ilevue Fire Station #10 (1231 & 1 y of Bellevue Il Lund, Logan McClish 29 T 25N R 5E hillslope Alderwood material, 6 to 15% slope Attach site typical for this time of year? ology □ significantly disturbed? ology □ naturally problematic Attach site map showing sampl Yes □ No Yes □ No Yes □ No Yes □ No Yes □ No	Ilevue Fire Station #10 (1231 & 1233 1 y of Bellevue Il Lund, Logan McClish 29 T 25N R 5E hillslope Alderwood material, 6 to 15% slopes on the site typical for this time of year? □ ent on the site? □ ology □ significantly disturbed? □ ology □ naturally problematic	Ilevue Fire Station #10 (1231 & 1233 112 th Average of Bellevue y of Bellevue Il Lund, Logan McClish 29 T 25N R 5E hillslope Slope (* Lat: Lat: Alderwood material, 6 to 15% slopes on the site typical for this time of year? Yes ent on the site? Yes ology □ significantly disturbed? Yes ology □ naturally problematic Attach site map showing sampling point location Yes No Is the Step Step Step Step Step Step Step Ste	Illevue Fire Station #10 (1231 & 1233 112 th Ave NE) y of Bellevue IL Lund, Logan McClish 29 T 25N R 5E hillslope Slope (%): <	Ilevue Fire Station #10 (1231 & 1233 112 th Ave NE) y of Bellevue ILund, Logan McClish 29 T 25N R 5E hillslope Slope (%): <5% Lat: Alderwood material, 6 to 15% slopes on the site typical for this time of year? Yes No oldgy □ significantly disturbed? ○logy □ naturally problematic No Yes No Attach site map showing sampling point locations, trans Yes< No Is the Sampling Point Yes No Is the Sampling Point	Illevue Fire Station #10 (1231 & 1233 112 th Ave NE) Sampling date: y of Bellevue Sampling Point: Il Lund, Logan McClish City/County: 29 T 25N R 5E hillslope Slope (%): <5%	Illevue Fire Station #10 (1231 & 1233 112 th Ave NE) Sampling date: 8/17/18 y of Bellevue Sampling Point: DP-1 Il Lund, Logan McClish City/County: Bellevu 29 T 25N R 5E hillslope Slope (%): <5%	Illevue Fire Station #10 (1231 & 1233 112 th Ave NE) Sampling date: 8/17/18 y of Bellevue Sampling Point: DP- 1 IL Lund, Logan McClish City/County: Bellevue / King Co 29 T 25N R 5E State: WA hillslope Lat: Local relief (concave, convex, none): conca Alderwood material, 6 to 15% slopes NWI classification: None on the site typical for this time of year? Yes No Orier than normal (NRCS WETS Table, Sea ology significantly disturbed? If needed, explain any answers in Remarks.) Drier than normal (NRCS WETS Table, Sea Attach site map showing sampling point locations, transects, important features, etc. Yes No Yes No Is the Sampling Point within a Wetland? Yes	Illevue Fire Station #10 (1231 & 1233 112 th Ave NE) Sampling date: 8/17/18 y of Bellevue Sampling Point: DP-1 IL Lund, Logan McClish City/County: Bellevue / King County 29 T 25N R 5E hillslope Slope (%): <5%

Remarks: Note: The City issued grading permits for the site in 2015 and 2016 (15-116961 GA; 15-116962 GA).

VEG	ETATION – Use scientific names of pla	ants.					
Tree	Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1.	Pseudotsuga menziesii	15	N*	FACU	Number of Dominant Species	4	
2.	Acer macrophyllum	5	N**	FACU	that are OBL, FACW, or FAC:	1	(A)
3.					Total Number of Dominant	4	
4.					Species Across All Strata:	1	(B)
		20	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:	100	(A/B)
Sapli	ng/Shrub Stratum (Plot size: 3m diam.)						_ 、 ,
1.					Prevalence Index Worksheet		
2.					Total % Cover of	Multip	<u>ly by</u>
3.					OBL species	x 1 =	
4.					FACW species	x 2 =	
5.					FAC species	x 3 =	
		0	= Total Cover		FACU species	x 4 =	
			_		UPL species	x 5 =	
Herb	Stratum (Plot size: 1m diam.)				Column totals (A)	(B)	
1.	Ranunculus repens	98	Y	FACW			
2.	Oenanthe sarmentosa	5	N	OBL	Prevalence Index = B / A =		
3.	Phalaris arundinacea	2	N	FACW			
4.					Hydrophytic Vegetation Indic	ators	
5.					\boxtimes Dominance test is > 50%		
6.					□ Prevalence test is $\leq 3.0^*$		
7.					Morphological Adaptations * (provide supportir	ng
8.					data in remarks or on a separ	ate sheet)	
9.					Wetland Non-Vascular Plants	*	
10.					Problematic Hydrophytic Vege	etation * (explain)
11.							·
		105	= Total Cover		* Indicators of hydric soil and wetlan present, unless disturbed or problem	d hydrology mus natic	t be
Wood	ly Vine Stratum (Plot size:)						
1.							
2.					Hydrophytic Vegetation		
		0	= Total Cover		Present?	es 🔟 N	10
% Ba	re Ground in Herb Stratum:						
Rema	arks: * tree dead/dying						
	** rooted upslope, canopy only	.					

SO	IL

Sampling Point – DP- 1

Profile Descri	ption: (Describ	e to the c	lepth need	ed to document the indicate	or or confi	rm the absence o	f indicators	.)	
Depth		Matrix		F	Redox Feat	ures			
(inches)	Color (mo	oist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 2/1		95	5YR 4/6	5	С	M, PL	Sandy loam	
6-9	10YR 5/2		90	7.5YR 4/6	10	С	м	Gravelly sandy loam	
9-16	10YR 2/1		98	2.5YR 3/4	2	С	M, PL	Sandy loam	
¹ Type: C=Con	centration, D=De	epletion, F	RM=Reduce	ed Matrix, CS=Covered or Co	ated Sand	Grains ² Loc: Pl	_=Pore Linin	g, M=Matrix	
Hydric Soil In	dicators: (Appl A1)	icable to	all LRRs, u	Inless otherwise noted.) Sandy Redox (S5)		Indicato	n Muck (A10)	ematic Hydric Soils ³	
Histic Epip	edon (A2)			Stripped Matrix (S6)		🗌 Red	Parent Mat	erial (TF2)	
Black Histi	ic (A3)			oamy Mucky Mineral (F1) (ex	xcept MLR	A 1) 🗌 Oth	er (explain ir	n remarks)	
□ Hydrogen	Sulfide (A4)			oamy Gleyed Matrix (F2)					
Depleted E	Below Dark Surf	ace (A11)		Depleted Matrix (F3)					
Thick Dark	Surface (A12)		\boxtimes	Redox Dark Surface (F6)		³ Indicate	ors of hydrop	hytic vegetation and wetland	hydrology must
🗌 Sandy Mu	cky Mineral (S1))		Depleted Dark Surface (F7)		be prese	ent, unless di	sturbed or problematic	
Sandy Gle	eyed Matrix (S4)			Redox Depressions (F8)					
Restrictive Lay	ver (if present):								
Type:						Hydric soil	present?	Yes 🔀	No
Depth (inches)):								
Remarks:									
HYDROLOGY									
Wetland Hydr	ology Indicator	rs:	auirad: aha	ak all that apply):			Secondary	Indiantora (2 or more required	n.
	ators (minimum ater (Δ1)	or one red		Snarsely Vegetated Concave :	Surface (B)	3)	□ Wat	er-Stained Leaves (B9) (MLR)	η. Δ124Δ&4R)
	ar Table ($\Delta 2$)			Vater-Stained Leaves (evcen		2 14 & 1B) (BQ)		nage Patterns (B10)	- 1, 2, 4 7 d 40/
	(A3)			Colt Cruct (P11)		2, 4A d 4D) (D3)		Season Water Table (C2)	
	rka (P1)			austia Invertebrates (P12)				season water Table (C2)	n(CO)
	Doposito (B2)			Audrogon Sulfido Odor (C1)				marchia Desition (D2)	ry (C9)
	Deposits (D2)				Living Deel			low Aguitard (D2)	
	or Cruct (P4)			Dragonag of Reduced Iron (C4		S (C3)		Neutral Test (D5)	
	of Clust (B4)			resence of Reduced from (C4	F) 				
	isils (B5))		eu Ant Mounds (D6) (LKR A)	
Surface S	ouil Gracks (B6) n Visible on Apri	al Imagen		ounted or Stressed Plants (D	1) (LKK A)			I-meave HUMMOCKS	
(B7)		armayer	y 📋 (
Field Observa	ations								
Surface Water	Present?	Yes 🗆	No D	Depth (in):					
Water Table P	resent?	Yes 🗆	No [®]	_ Depth (in):		Wotlond Useda		w 12 Vac 🔽	
Saturation Pre	sent?			Depth (in):		wetiand Hydro	biogy Prese	ntr res	
(includes capil	lary fringe)		INU L	⊐ − − − − − − − − − − − − − − − − − − −					
Describe Reco	orded Data (strea	am gauge	, monitoring	y well, aerial photos, previous	inspection	s), if available:			
Remarks:	The area was	s saturat	ed/inund	ated in spring 2017.					
				-					



WETLAND DETERMINATION DATA FORM

Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 2

Project Site:	Bellevue Fire Station	#10 (123	1 & 1233	3 1 [,]	12 th Ave	e NE)		Sampling date:	8/17/18			
Applicant/Owner:	City of Bellevue		Sampling Point:	DP-2								
Investigator:	Nell Lund, Logan McC	lish						City/County:	Bellevue	/ King Cou	nty	
Sect., Township, Range:	Sect., Township, Range: S 29 T 25N R 5E							State:	WA			
Landform (hillslope, terrace, etc): hillslope					Slope ((%): <	5%	Local relief (concave,	convex, none	e): convex		
Subregion (LRR): A					Lat:			Long:		Datum:		
Soil Map Unit Name: Arer	nts, Alderwood materia	, 6 to 15	% slopes	s				NWI classification: N	one			
Are climatic/hydrologic condi	itions on the site typical for the	nis time of	year?] Yes	\boxtimes	No	(If no, explain in rema	arks.)			
Are "Normal Circumstances"	present on the site?] Yes		No	Drier than normal (N	IRCS WETS	Table, SeaTa	ac Static	on)
Are Vegetation \Box , Soil \Box , or	Hydrology	sturbed?										
Are Vegetation \Box , Soil \Box , or	Hydrology naturally prob	ematic						(If needed, explain ar	ny answers in	Remarks.)		
SUMMARY OF FINDING	S – Attach site map sh	owing s	ampling	ро	oint loca	ations	, trans	sects, important fea	tures, etc.			
Hydrophytic Vegetation Pres	ent? Yes	\boxtimes	No 🗆					•				
Hydric Soils Present?	Yes		No 🛛		le tha	Samnli	na Poi	nt within a Wetland?	Vec		No	\square
Wetland Hydrology Present?	Yes		No 🖂		15 116	Sampi	iig i oi		163		NO	\square
Remarks:												

VEGETATION – Use scientific names of	plants.				
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Works	heet
1. Acer macrophyllum	75	Y	FACU	Number of Dominant Species	3 · 3
2.					(A)
3.				Species Across All Strata:	3 (B)
	75	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC	: <u>100</u> (A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)					
1.				Prevalence Index Works	sheet
2.				Total % Cover of	Multiply by
3.				OBL species	x 1 =
4.				FACW species	x 2 =
5.				FAC species	x 3 =
	0	= I otal Cover		FACU species	x 4 =
				UPL species	x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A)	(B)
1. Ranunculus repens	50	Y	FACW		
2. Phalaris arundinacea	10	N	FACW	Prevalence Index = B	/ A =
3. Pteridium aquifolium	10	N	FACU		
4. Meadow grass	20	Y	FAC*	Hydrophytic Vegetation	Indicators
5. Hypochaeris radicata	5	N	FACU	\boxtimes Dominance test is > 50)%
6.				$\Box \text{Prevalence test is } \leq 3.0$	0 *
7.				Morphological Adaptat	ions * (provide supporting
8.				data in remarks or on a	a separate sheet)
9.				Wetland Non-Vascular	Plants *
10.				□ Problematic Hydrophy	tic Vegetation * (explain)
11.					
	95	= Total Cover		 Indicators of hydric soil and present, unless disturbed or present. 	wetland hydrology must be problematic
Woody Vine Stratum (Plot size:)					
1.					
2.				Hydrophytic Vegetation	
		= Total Cover		Present?	Yes 📈 No
		-			
% Bare Ground in Herb Stratum:					
Remarks: * Meadow grass presumed fa	acultative (FAC).				

SOIL

Sampling Point - DP- 2

SUIL							Sampling Point – L	7F= 2
Profile Descri	iption: (Describe to the	depth nee	ded to document the indicat	tor or confirm	the absence o	f indicators	s.)	
Depth	Matrix			Redox Feature	es		, 	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-14	10YR 2/2	100			J I -		Gravelly sandy loam	
•							Chartony canay roan	
¹ Type: C=Con	centration, D=Depletion, I	RM=Reduc	ed Matrix, CS=Covered or Co	bated Sand Gr	ains ² Loc: PL	=Pore Linin	g, M=Matrix	
Uvaluia Cail Iu	diaatara, (Annliachla ta		unless otherwise noted)		Indiaata	ra far Drahl	lemetia Undria Caila ³	
Histosol (A	dicators: (Applicable to		Sandy Redox (S5)			Muck (A10		
Histosof (/	vedon (A2)		Stripped Matrix (S6)			Parent Mat) erial (TF2)	
Black Hist	ic (A3)		Loamy Mucky Mineral (F1) (e	except MLRA	1) 🗌 Oth	er (explain ir	remarks)	
	Sulfide (A4)		Loamy Gleved Matrix (F2)		.,		(in the interview of t	
Depleted F	Below Dark Surface (A11)		Depleted Matrix (F3)					
Thick Dark	surface (A12)	, <u> </u>	Redox Dark Surface (F6)		³ Indicate	ors of hydror	phytic vegetation and wetla	nd hvdroloav must
□ Sandy Mu	cky Mineral (S1)		Depleted Dark Surface (F7)		be prese	nt, unless d	isturbed or problematic	
Sandy Gle	eved Matrix (S4)		Redox Depressions (F8)					
, Destation is a								
Restrictive Lay	/er (if present):						_	
Type.					Hydric soil	present?	Yes	No 🔀
Depth (inches)):							
Remarks:								
HYDROLOGY	,							
Wetless d Lloyde								
Primary Indic	ators (minimum of one re	auired: che	eck all that apply):			Secondary	Indicators (2 or more requi	red).
□ Surface w	vater (A1)		Sparsely Vegetated Concave	Surface (B8)		□ Wat	er-Stained Leaves (B9) (MI	RA 1, 2, 4A & 4B)
High Wate	er Table (A2)		Water-Stained Leaves (excer	ot MLRA 1, 2,	4A & 4B) (B9)	🗌 Drai	nage Patterns (B10)	,
□ Saturation	n (A3)		Salt Crust (B11)			Dry-	Season Water Table (C2)	
Water Ma	irks (B1)		Aquatic Invertebrates (B13)			🗌 Satu	ration Visible on Aerial Ima	gery (C9)
Sediment	Deposits (B2)		Hydrogen Sulfide Odor (C1)			🗌 Geo	morphic Position (D2)	
Drift Depo	osits (B3)		Oxidized Rhizospheres along	Living Roots	(C3)	Shal	llow Aquitard (D3)	
Algal Mat	or Crust (B4)		Presence of Reduced Iron (C	4)		🗌 FAC	-Neutral Test (D5)	
Iron Depo	osits (B5)		Recent Iron Reduction in Tille	ed Soils (C6)		Rais	ed Ant Mounds (D6) (LRR	A)
Surface S	oil Cracks (B6)		Stunted or Stressed Plants (D	01) (LRR A)		Fros	t-Heave Hummocks	
Inundation	n Visible on Aerial Imager	у 🗆	Other (explain in remarks)					
(B7)								
Field Observa	ations							
Surface Water	Present? Yes	No	Depth (in):					
Water Table P	resent? Yes	No	Depth (in):		Watland Hydro	Jogy Broco	nt2 Von 🗌	
Saturation Pre	sent? Yes	No	Depth (in):			logy Flese		
(includes capil	lary fringe)							
Depariha Data	orded Data (stream acure	monitoria	a wall parial photos province		if available:			
Describe Reco	nueu Dala (siream gauge	, 110111011	iy well, aerial priolos, previous	s inspections),	ii avaliaDle.			
Domortiai								
remarks:								



WETLAND DETERMINATION DATA FORM

Western Mountains, Valleys, and Coast Supplement to the 1987 COE Wetlands Delineation Manual

DP- 3

Project Site:	Bellevue Fire Station	#10 (1211 1 ⁻	12 th Av	e NE)			Sampling date:	8/17/18	
Applicant/Owner:	City of Bellevue		Sampling Point:	DP- 3					
Investigator:	Nell Lund, Logan McC	lish					City/County:	Bellevue /	King County
Sect., Township, Range: S 29 T 25N R 5E							State:	WA	
Landform (hillslope, terrace,		Slope (%): <	5%	Local relief (concave,	convex, none):	concave		
Subregion (LRR): A				Lat:			Long:		Datum:
Soil Map Unit Name: Arei	nts, Alderwood material	, 6 to 15% s	lopes				NWI classification: N	lone	
Are climatic/hydrologic cond	itions on the site typical for th	nis time of yea	r? [Yes	\boxtimes	No	(If no, explain in rema	arks.)	
Are "Normal Circumstances"	' present on the site?		No	Drier than normal (N	IRCS WETS Ta	ble, SeaTac Station)			
Are Vegetation \Box , Soil \Box , or Are Vegetation \Box , Soil \Box , or	· Hydrology	sturbed? ematic					(If needed, explain ar	ny answers in R	emarks.)
SUMMARY OF FINDING	S – Attach site map sh	owing samp	oling po	oint loca	ations	, trans	sects, important fea	tures, etc.	
Hydrophytic Vegetation Pres	sent? Yes	⊠ No							
Hydric Soils Present?	Yes	🗆 No	\boxtimes	Is the S	Sampli	ina Poi	nt within a Wetland?	Yes [
Wetland Hydrology Present	Yes	□ No	\boxtimes	10	Juii - P.				
Remarks:									

VEGETATION – Use scientific names of pla	nts.				
Tree Stratum (Plot size: 5m diam.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet	
Pseudotsuga menziesii 2.	Trace	N	FACU	Number of Dominant Species that are OBL, FACW, or FAC:	2 (A)
3.				Total Number of Dominant Species Across All Strata:	3 (B)
		= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC:	67 (A/B)
Sapling/Shrub Stratum (Plot size: 3m diam.)					()
1. Ficus carica	60	Y	FACU	Prevalence Index Worksheet	
2. Prunus L.	60	Y	FAC	Total % Cover of	Multiply by
3.				OBL species	x 1 =
4.				FACW species	x 2 =
5.				FAC species	x 3 =
	120	= Total Cover		FACU species	x 4 =
		-		UPL species	x 5 =
Herb Stratum (Plot size: 1m diam.)				Column totals (A)	(B)
1. Ranunculus repens	98	Y	FACW	1	
2. Meadow grass	10	Ν	FAC	Prevalence Index = B / A =	
3.					
4.				Hydrophytic Vegetation Indicato	rs
5.				☑ Dominance test is > 50%	
6.				□ Prevalence test is ≤ 3.0 *	
7.				Morphological Adaptations * (pro	vide supporting
8.				☐ ☐ data in remarks or on a separate	sheet)
9					-
10				Problematic Hydrophytic Vegetat	tion * (explain)
11					
	108	= Total Cover		 * Indicators of hydric soil and wetland h present, unless disturbed or problemati- 	ydrology must be c
Woody Vine Stratum (Plot size:)					
1.				7	
2.				Hvdrophytic Vegetation	
		T 1 1 0		Present? Yes	X No 🗌
	0	= Total Cover			
% Bare Ground in Herb Stratum:	0	= Total Cover			
% Bare Ground in Herb Stratum: Remarks:	0	= Total Cover			
% Bare Ground in Herb Stratum: Remarks:	0	_ = 1 otal Cover			

SOIL

Sampling Point – DP- 3

<u> </u>								•
Profile Descri	ption: (Describe to the	depth neede	ed to document the indicat	tor or confir	m the absence o	of indicators	s.)	
Depth	Matrix			Redox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 2/2	100					Gravelly sandy loam	
1								
'Type: C=Con	centration, D=Depletion, I	RM=Reduce	d Matrix, CS=Covered or Co	bated Sand G	Grains ² Loc: Pl	_=Pore Linin	g, M=Matrix	
Hydric Soil In	dicators: (Applicable to	all LRRs, u	nless otherwise noted.)		Indicato	rs for Probl	ematic Hydric Soils ³	
Histosol (A	A1)		andy Redox (S5)			n Muck (A10)	
Histic Epip	edon (A2)		Stripped Matrix (S6)			Parent Mat	erial (TF2)	
Black Hist	C (A3)		oamy Mucky Mineral (F1) (e	except MLRA	4 1) ∐ Otn	er (explain ir	n remarks)	
Hydrogen	Sulfide (A4)		oamy Gleyed Matrix (F2)					
	Selow Dark Surface (A11)		Depleted Matrix (F3)		³ Indiact	ara of budrar	butic vegetation and water	ad budralaau muat
	Surface (ATZ)		Contracted Dark Surface (FO)		be prese	ent. unless di	isturbed or problematic	ia nyarology musi
□ Sandy Nu □ Sandy Gle	(31)		Pedox Depressions (F8)					
Restrictive Lay	er (if present):						¥	
Donth (inchoo)					Hydric soli	present?	res	
Depth (Inches)	:							
Remarks:								
HYDROLOGY								
Wetland Hydr	ology Indicators:							
Primary Indic	ators (minimum of one re	quired: chec	k all that apply):			Secondary	Indicators (2 or more requi	red):
Surface w	ater (A1)		parsely Vegetated Concave	Surface (B8)	U Wat	er-Stained Leaves (B9) (MI	.RA 1, 2, 4A & 4B)
High Wate	er Table (A2)		/ater-Stained Leaves (excep	ot MLRA 1, 2	2, 4A & 4B) (B9)	∐ Drai	nage Patterns (B10)	
Saturation	n (A3)	∐ S	alt Crust (B11)			∐ Dry-	Season Water Table (C2)	()
U Water Ma	rks (B1)		quatic Invertebrates (B13)			∐ Satu	iration Visible on Aerial Ima	gery (C9)
Sediment	Deposits (B2)		ydrogen Sulfide Odor (C1)		(∐ Geo	morphic Position (D2)	
Drift Depo	osits (B3)		ixidized Rhizospheres along	Living Roots	s (C3)		llow Aquitard (D3)	
☐ Algal Mat	or Crust (B4)		resence of Reduced Iron (C	4) 			-Neutral Test (D5)	• `
	sits (B5)		ecent Iron Reduction in Tille	d Solls (C6)			ed Ant Mounds (D6) (LRR	A)
Surface S	Oll Cracks (B6) Nisible on Aerial Imager		tunted or Stressed Plants (L	(LRR A)			t-Heave Hummocks	
(B7)	r visible on Aenai imagei	y 🗋 Ö						
	<i>.</i>							
Field Observa			Depth ('=);					
Surface water	Present? Yes	No 🗵	Deptn (in):					_
Water Table P	resent? Yes	No 🗵	Depth (in):		Wetland Hydro	ology Prese	nt? Yes	No 🔀
Saturation Pre (includes capil	sent? Yes 🗌 lary fringe)	No 🗵	g Depth (in):					
Describe Reco	orded Data (stream gauge	e, monitoring	well, aerial photos, previous	s inspections), if available:			
Remarks:								



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

DP-1A

Project/Site: Fire Station #10, parcel 126	6200341,	1223 1	12th Ave	NE	City/County: Bellevue	/ King Cou	unty Samp	ling date	: 3/25/2	019		
Applicant/Owner: City of Bellevue / Pras	ad					State:	WA Sa	mpling P	oint: 1A			
Investigator(s): Nell Lund, Logan Dough	erty			_ 5	Section, Township, Range:	9, T 25N, R 5E						
Landform (hillslope, terrace, etc): hillslo		_ L	ocal relief (concave, conve	*	s	Slope (%):	<5%					
Subregion (LRR): A Lat: _			L	ong	: <u>-</u>		Datum:	-				
oil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (AmC) 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 \boxtimes , Soil \boxtimes , or Hydrology \boxtimes	significant	ly distu	irbed?		Are "Normal Circumstand	ces" prese	ent on the site	? 🗆 Ye	s 🛛 No			
Are Vegetation \Box , Soil \Box , or Hydrology \Box	naturally p	roblem	natic?		(If needed, explain any a	nswers in	Remarks.)					
SUMMARY OF FINDINGS – Attac	h site maj	p shov	ving sam	plinę	g point locations, transec	cts, impoi	rtant feature	es, etc.				
Hydrophytic Vegetation Present?	Yes	\boxtimes	No 🗆									
Hydric Soils Present?	Yes	\boxtimes	No 🗆		Is the Sampled Area within a Wetland?	a	Yes	\boxtimes	No 🗌			
Wetland Hydrology Present?	Yes	\boxtimes	No 🗆									
Remarks: King County iMAP aeria	l photogra	aphs sl	how the f	orme	er pond was filled in 2017.							

*unneven fill placement

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test workshe Number of Dominant Speci	et: es	1	
1. <u>Prunus emarginata^^</u>	50	N	FACU	that are OBL, FACW, or FA	C:	(A))
2				Total Number of Dominant		1 (P)	
S:						(В))
**rooted unclone	50	= Total Co	vor	that are OBL_EACW or EA	es C·	100	B)
			VCI		0.	(74)	0)
Sapling/Shrub Stratum (Plot size: 3-m diameter)				Prevalence Index worksho	et:		
1				<u>Iotal % Cover of:</u>	Multiply	<u>/ by:</u>	
2					$- x_{1} = $		
3.					x 2 =		
4.				FAC species	x 3 =		
5				FACU species	x 4 =		
			ver	UPL species	x 5 =		
Herb Stratum (Plot size: 1-m diameter)	10		540	Column Totals:	(A)	(1	B)
1. Lawn grass	40	Y	FAC	Prevalence Index = B/A =			
2. Ranunculus repens	3	<u>N</u>	FACW				
3 Initolium ranans	6	N	$\vdash \Delta C$	Hydronhytic Vedetati	oteoihai na	irs.	
		N	140				
4. Aster sp.	trace	N	N/A	□ 1 – Rapid Test for Hyd	ophytic Veo	getation	
4. Aster sp. 5.	trace	N	N/A	 □ 1 – Rapid Test for Hyd ⊠ 2 – Dominance Test is 	ophytic Veg	getation	
4. Aster sp. 5. 6.	trace	N	N/A	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 	rophytic Veg > 50% $s \le 3.0^1$	getation	
A. Aster sp. 5.	trace	N	N/A	 ☐ 1 – Rapid Test for Hyd ☑ 2 – Dominance Test is ☑ 3 – Prevalence Index is ↓ – Morphological Ada ↓ data in Romarks of 	rophytic Veg > 50% $s \le 3.0^1$ ptations ¹ (Pr	getation rovide supportir	ng
A. Aster sp. 5.	trace	N	N/A	 ☐ 1 – Rapid Test for Hyd ☑ 2 – Dominance Test is ☑ 3 – Prevalence Index is ☑ 4 – Morphological Ada data in Remarks of 	rophytic Veg > 50% $\leq 3.0^1$ otations ¹ (Proposed in the second sec	getation rovide supportir ate sheet)	ng
3. Information repears 4. Aster sp. 5.	trace	N	N/A	 ☐ 1 – Rapid Test for Hyd ☑ 2 – Dominance Test is ☑ 3 – Prevalence Index is ☑ 4 – Morphological Ada data in Remarks of □ 5 – Wetland Non-Vasc □ Problematic Hydrophd 	rophytic Veg > 50% $\leq 3.0^1$ $\pm 3.0^1$ = 0 on a separ = 0 ular Plants ¹ = 0 or $= 0$	rovide supportir rate sheet)	ng
3. Information repears 4. Aster sp. 5.	trace	N	N/A	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vasc Problematic Hydrophyt 	rophytic Veg > 50% $\leq 3.0^{1}$ otations ¹ (Pr on a separ ular Plants ¹ ic Vegetatio	rovide supportir rate sheet)	ng
3. Infinitial repension 4. Aster sp. 5.	trace		N/A	 ☐ 1 – Rapid Test for Hyd ☑ 2 – Dominance Test is ☑ 3 – Prevalence Index is ☑ 4 – Morphological Ada data in Remarks or ☑ 5 – Wetland Non-Vasc ☑ Problematic Hydrophyt ¹Indicators of hydric soil and present unless disturbed or 	rophytic Veg > 50% s $\leq 3.0^{1}$ otations ¹ (Pr on a separ ular Plants ¹ ic Vegetatio I wetland hy	rovide supportir rate sheet) on ¹ (Explain) ydrology must b	ng
3. Aster sp. 4. Aster sp. 5.		= Total Cor	Ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vasc Problematic Hydrophyt ¹Indicators of hydric soil and present, unless disturbed o 	rophytic Veg > 50% $\leq 3.0^{1}$ otations ¹ (Pro- on a separ- ular Plants ¹ ic Vegetatio d wetland hy problemati	rovide supportir rate sheet) on ¹ (Explain) ydrology must b c.	ng De
3. Aster sp. 4. Aster sp. 5.		N N = Total Cor	Ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vasc Problematic Hydrophyt ¹Indicators of hydric soil and present, unless disturbed o 	rophytic Veg > 50% $\leq 3.0^{1}$ otations ¹ (Pr on a separ ular Plants ¹ ic Vegetatio d wetland hy problemati	rovide supportir rovide supportir rate sheet) on ¹ (Explain) ydrology must b c.	ng De
3.		N N = Total Cor	Ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 4 – Morphological Ada data in Remarks or 5 – Wetland Non-Vasc Problematic Hydrophyti ¹Indicators of hydric soil and present, unless disturbed o 	rophytic Veg > 50% $\leq 3.0^1$ otations ¹ (Pr on a separ ular Plants ¹ ic Vegetatio d wetland hy problemati	rovide supportir rovide supportir rate sheet) on ¹ (Explain) ydrology must b c.	ng De
3.		= Total Co	ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 4 – Morphological Ada data in Remarks or 5 – Wetland Non-Vasc Problematic Hydrophyti ¹Indicators of hydric soil and present, unless disturbed o 	rophytic Veg > 50% $\leq 3.0^1$ otations ¹ (Pr on a separ Jlar Plants ¹ ic Vegetatio 4 wetland hy problemati	rovide supportir rovide supportir rate sheet) on ¹ (Explain) ydrology must b c.	ng De
3. Aster sp. 4. Aster sp. 5.		= Total Co	ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vasc Problematic Hydrophytic Hydrophytic Vegetation Present? 	rophytic Veg > 50% s $\leq 3.0^{1}$ otations ¹ (Pr on a separ ular Plants ¹ ic Vegetatio t wetland hy problemati	rovide supportir rovide supportir rate sheet) on ¹ (Explain) ydrology must b c.	ng De
3. Aster sp. 4. Aster sp. 5.		= Total Cor	ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vasc Problematic Hydrophyti ¹Indicators of hydric soil and present, unless disturbed of Hydrophytic Vegetation Present? 	rophytic Veg > 50% $\leq 3.0^{1}$ totations ¹ (Pr on a separ ular Plants ¹ ic Vegetatio d wetland hy problemati	rovide supportir rovide supportir rate sheet) on ¹ (Explain) ydrology must b c.	ng De
3. Aster sp. 4. Aster sp. 5.	48	_ = Total Co	ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index is 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vasc Problematic Hydrophyti ¹Indicators of hydric soil and present, unless disturbed o Hydrophytic Vegetation Present? 	rophytic Veg > 50% s ≤ 3.0 ¹ totations ¹ (Pr on a separ ular Plants ¹ ic Vegetatio d wetland hy problemati Yes X	rovide supportir rovide supportir rate sheet) on ¹ (Explain) ydrology must b c.	ng De

SOIL

Profile Des	scription: (Descr	ibe to	the de	epth I	neede	ed to docume	ent the indicator	or confirm the at	osence	of indicators.)	
(inches)	Color (moist)	9	6	Со	lor (m	ioist)	% Type	¹ Loc ²	2	Texture	Remarks
0-6	10 YR 3/2	10	00							Gravelly sand	
6-14	10 YR 4/1	9	5	7.	5 YR	3/3	5 C	PL.N	1	Gravelly	
0 11		0	<u> </u>		• • • •	0,0	<u> </u>		•	sandy loam	
¹ Type: C=C	Concentration, D=	Deplet	tion, RI	M=Re	educe	d Matrix, CS=	Covered or Coate	d Sand Grains.	² Loc:	PL=Pore Lining, M=	-Matrix.
Hydric Soi	l Indicators: (Ap	plicab	le to a	II LR	Rs, u	nless otherw	vise noted.)		Indica	ators for Problemat	tic Hydric Soils ³ :
□ Histos	iol (A1)					Sandy Redox	(S5)			cm Muck (A10)	
	Epipedon (A2) Histic (A3)					Stripped Matr	1x (S6) / Mineral (F1) (exc	ept MI RA 1)		ked Parent Material /erv Shallow Dark S	(TF2) Jurface (TF12)
□ Hydro	gen Sulfide (A4)					Loamy Gleye	d Matrix (F2)	opt ()		Other (Explain in Rei	marks)
	ted Below Dark S	urface	(A11)			Depleted Mat	rix (F3)		· · ··		
□ I hick □ Sandy	Dark Surface (A1 / Mucky Mineral (2) S1)				Redox Dark S	Surface (F6) k Surface (F7)		° Indica we	ators of hydrophytic etland hydrology mu	vegetation and st be present unless
□ Sandy	Gleyed Matrix (S	64)				Redox Depre	ssions (F8)		dis	sturbed or problema	itic.
Restrictive	e Layer (if preser	nt):									
Type:								Hydric soil		Yes 🛛	No 🗌
Depth	(inches):							present			
Wetland H	DGY ydrology Indicat	ors:				-11.4141.4			0	a de se la dia stars (0	
Primary inc	aicators (minimum	n of on	e requi	rea: c	спеск	all that apply		MIDA 1 2 44	Seco	Mater Stained Log	or more required)
□ Surfac ⊠ High V	Vater Table (A2)					vater-Stair & 4B) (B9)	ned Leaves (exce	X MLKA 1, 2, 4A		2, 4A & 4B)	aves (B9) (MLRA 1,
⊠ Satura	ation (A3)					Salt Crust (B11)			Drainage Patterns	(B10)
□ Water	Marks (B1)					Aquatic Inv	ertebrates (B13)			Dry-Season Water	r Table (C2)
□ Sedim	ent Deposits (B2))				Hydrogen S	Sulfide Odor (C1)	Living Poots (C3)		Saturation Visible of Geomorphic Positi	on Aerial Imagery (C9)
	Mat or Crust (B4)					Presence o	f Reduced Iron (C	4)		Shallow Aquitard ((D3)
□ Iron D	eposits (B5)					Recent Iror	Reduction in Tille	d Soils (C6)		FAC-Neutral Test	(D5)
□ Surfac	e Soil Cracks (Be	3) 		(D-)		Stunted or	Stressed Plants (E	01) (LRR A)		Raised Ant Mound	ls (D6) (LRR A)
	ation Visible on A	erial In	nagery	(B7)	n □	Other (expl	ain in remarks)			Frost-Heave Hum	mocks
Field Obse	ervations:	ncave	Sunac	е (БС	<i>'</i>)						
Surface Wa	ater Present?	Yes		No	\boxtimes	Depth (in):					
Water Tabl	e Present?	Yes	\boxtimes	No		Depth (in):	8" BGS	Wetland Hyd Present	rology	Yes	🛛 No 🗆
Saturation	Present?	Yes	\boxtimes	No		Depth (in):	3" BGS	i resent	•		
(includes ca	apillary fringe)										
Describe R	ecorded Data (sti	ream g	jauge,	monit	toring	well, aerial pl	hotos, previous ins	spections), if avail	able:		
Remarks:											



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

Project/Site: Fire Station #10, parcel 1266200341, 1223 112th Ave NE	City/County: Bellevue /	King Count	y Sampling	date: <u>3</u>	8/25/201	9
Applicant/Owner: City of Bellevue / Prasad		State:	WA Sampli	ng Point:	2A	
Investigator(s): Nell Lund, Logan Dougherty	Section, Township, Range:	SE S 29,	T 25N, R 5E			
Landform (hillslope, terrace, etc): hillslope	Local relief (concave, convex,	none):	concave	Slope ((%):	<5%
Subregion (LRR): A Lat: - Lor	g:		Datum: <u>-</u>			
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (A	mC) NWI classifica	ation: N	lone			
Are climatic / hydrologic conditions on the site typical for this time of year	? 🛛 Yes 🛛 No (If no, expl	ain in rema	arks.)			
Are Vegetation \boxtimes , Soil \boxtimes , or Hydrology \boxtimes significantly disturbed?	Are "Normal Circumstance	s" present	on the site?	Yes 🛛	No	
Are Vegetation \Box , Soil \Box , or Hydrology \Box naturally problematic?	(If needed, explain any ans	swers in Re	emarks.)			
SUMMARY OF FINDINGS – Attach site map showing sample	ng point locations, transect	s, importa	int features, e	etc.		

Hydrophytic Vegetation Present? Hydric Soils Present?	Yes Yes	No No		Is the Sampled Area within a Wetland?	Yes 🗌	No 🛛
Wetland Hydrology Present?	Yes	No	\boxtimes			
Remarks: Fill or adjacent to fill						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5-m diameter) 1. Prunus emarginata* 2.	Absolute % Cover 35	Dominant Species? N	Indicator Status FACU	Dominance Test workshee Number of Dominant Specie that are OBL, FACW, or FAC Total Number of Dominant Species Across all Strata: Percent of Dominant Specie:	t: s ::::::::::::::::::::::::::::::::::	2	(A) (B)
*rooted out/ upslope		= Total Co	ver	that are OBL, FACW, or FAC	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	100	(A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter) 1. 2. 3. 4				Prevalence Index workshe Total % Cover of: OBL species FACW species FAC species FAC species	et: <u>Multipl</u> x 1 = x 2 = x 3 =	y by:	_
5		- Total Co	vor	FACU species	_ ×4 =		_
Herb Stratum (Plot size: 1-m diameter)		_ = 10tal C0	VEI	Column Totals:	- (A)		— (B)
1. Lawn grass	45	Y	FAC	Drovoloneo Index $= D/A =$	() ()		
2. Trifolium repens	15	Y	FAC	Prevalence Index = B/A =			
3. Cardamine oligosperma	5	N	FAC	Hydrophytic Vegetatio	n Indicate	ors:	
4. Ranunculus repens	2	N	FAC	□ 1 – Rapid Test for Hydro	ophytic Ve	getation	
5					• 50%		
6				 3 – Prevalence Index is 4 – Morphological Adap data in Remarks or 5 – Wetland Non-Vascu 	≤ 3.0 ¹ tations ¹ (P on a sepa lar Plants ¹	Provide supp rate sheet)	porting
10				¹ Indiactors of bydris soil and	veyetation	udrology m	i) Liet he
	67	= Total Co	ver	present, unless disturbed or	problemat	tic.	usibe
Woody Vine Stratum (Plot size: 3-m diameter) 1. 2. % Bare Ground in Herb Stratum:		_ = Total Co	ver	Hydrophytic Vegetation Y Present?	es 🛛	No 🗆	
Remarks:							

SOIL

Profile Des	cription: (Desc	ribe to the de	epth neede	d to document t	he indicator	or confirm the ab	sence	of indicators.)	
Depth (inches)	Matrix Color (moist)	0/	Color (m	Nedox Fe	eatures Type			Texture	Pemarks
		100		JISL) 70	Туре	LUC		Gravelly,	Remarks
0-10	10 11 3/2	100						loam	
¹ Type: C=C	oncentration, D=	Depletion, RI	M=Reduced	Matrix, CS=Cove	ered or Coate	d Sand Grains.	² Loc:	PL=Pore Lining, M=I	Matrix.
Hydric Soi	I Indicators: (Ap	plicable to a	II LRRs, un	less otherwise	noted.)		Indica	tors for Problemati	c Hydric Soils ³ :
□ Histos	ol (A1)			andy Redox (S5)			cm Muck (A10)	
□ Histic	Epipedon (A2) Histic (A3)			Stripped Matrix (S	66) heral (E1) (exc	ent MI RA 1)		ed Parent Material (IF2) rface (TF12)
	gen Sulfide (A4)			oamy Gleyed Ma	atrix (F2)			ther (Explain in Rem	narks)
Deplet	ed Below Dark S	Surface (A11)		Depleted Matrix (F	=3)				
□ Thick	Dark Surface (A1	2) 81)		Redox Dark Surfa	rface (F6)		³ Indica	ators of hydrophytic v	vegetation and
□ Sandy □ Sandy	Gleyed Matrix (S4)		Redox Depression	ns (F8)		dis	sturbed or problemat	ic.
Restrictive	Layer (if prese	nt):		•	. ,				
Type:						Hydric soil		Yes 🗌	No 🛛
Depth	(inches):					present?			
Remarks:									
HYDROLO	DGY								
Wetland Hy	vdrology Indica	tors:							
Primary Ind	icators (minimun	n of one requi	red: check a	all that apply)			Seco	ndary Indicators (2 o	r more required)
□ Surfac	e water (A1) Vater Table (A2)			Water-Stained L	<u>-eaves (exce</u>	x MLRA 1, 2, 4A		Water-Stained Leav 2. 4A & 4B)	ves (B9) (MLRA 1,
□ Satura	tion (A3)			Salt Crust (B11))			Drainage Patterns	(B10)
□ Water	Marks (B1)			Aquatic Invertet	orates (B13)			Dry-Season Water	Table (C2)
	ent Deposits (B2)		Hydrogen Sulfid	le Odor (C1)	Living Deets (C2)		Saturation Visible of	n Aerial Imagery (C9)
	eposits (B3) Aat or Crust (B4)			Presence of Re	pheres along duced Iron (C	4)		Shallow Aquitard ()n (D2))3)
	eposits (B5)			Recent Iron Rec	duction in Tille	d Soils (C6)		FAC-Neutral Test (D5)
□ Surfac	e Soil Cracks (B	6)		Stunted or Stree	ssed Plants (E	01) (LRR A)		Raised Ant Mounds	s (D6) (LRR A)
	tion Visible on A	erial Imagery	(B7)	Other (explain in	n remarks)			Frost-Heave Humm	nocks
	ely Vegetated Co	ncave Surfac	e (B8)						
	tor Drecent?	Voc 🗆	No 🕅	Donth (in);					
Water Table	D Procont?			Depth (in):		Wetland Hyd	rology	Yes [
Saturation I	Dresent?	Yes 🗆	No 🖾	Depth (in):		Present	<i>.</i>		
(includes ca	apillary fringe)								
Describe R	ecorded Data (st	ream gauge,	monitoring	well, aerial photos	s, previous ins	pections), if avail	able:		
Remarks:	Moist at botto	m, not satura	ted						



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

DP-3A

Project/Site: Fire Station #10, parcel 1266200341, 1223 112th Ave NE	City/County: Bellevue /	King Cou	nty Sa	mpling date:	3/25/20	19
Applicant/Owner: City of Bellevue / Prasad		State:	WA	Sampling Point	: <u>3</u> A	
Investigator(s): Nell Lund, Logan Dougherty	Section, Township, Range:	SE S 29	, T 25N, F	R 5E		
Landform (hillslope, terrace, etc): hillslope	Local relief (concave, convex	, none):	concave	e Slop	e (%):	<5%
Subregion (LRR): A Lat: - Lor	ng:		Datum:	-		
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (A	MC) NWI classifica	ation:	None			
Are climatic / hydrologic conditions on the site typical for this time of year	r? 🛛 Yes 🛛 No (If no, exp	lain in rer	marks.)			
Are Vegetation \boxtimes , Soil \boxtimes , or Hydrology \boxtimes significantly disturbed?	Are "Normal Circumstance	es" preser	nt on the s	site? 🗆 Yes	🛛 No	
Are Vegetation \Box , Soil \Box , or Hydrology \Box naturally problematic?	(If needed, explain any an	swers in F	Remarks.))		
SUMMARY OF FINDINGS - Attach site man showing sample	ing point locations transact	s import	tant faati	ires etc		

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

Hydrophytic Vegetation Present?	Yes	\boxtimes	No			
Hydric Soils Present?	Yes	\boxtimes	No	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗌
Wetland Hydrology Present?	Yes	\boxtimes	No			

Remarks: King County iMAP aerial photographs show the former pond was filled in 2017.

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 5-m diameter)	% Cover	Species?	Status	Number of Dominant Species	0	
1. Prunus emarginata	90	Ý	FACU	that are OBL, FACW, or FAC:	Z (A	A)
2.				Total Number of Dominant	`	
3.				Species Across all Strata:	3 (E	B)
4				Percent of Dominant Species	67	
	90	= Total Co	ver	that are OBL, FACW, or FAC:	(A	A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter)				Prevalence Index worksheet		
1				Total % Cover of:	Multiply by:	
2				OBL species	x 1 =	
2					x 2 =	
S					x 2	
4					x 3 =	
5				FACU species	x 4 =	
		= Total Co	ver	UPL species	x 5 =	
Herb Stratum (Plot size: 1-m diameter)				Column Totals:	(A)	(B)
1. Lawn grass	99	Y	FAC	Prevalence Index = B/A =		
2. Ranunculus repens	20	Y	FACW	Trevalence index - D/A -		
3. Lotus corniculatus	10	Ν	FAC	Hydrophytic Vegetation	Indicators:	
4. Rumex crispus	2	Ν	FAC	1 – Rapid Test for Hydrop	hytic Vegetation	
5				☑ 2 – Dominance Test is > 5	50%	
6				\square 3 – Prevalence Index is \leq	3 0 ¹	
7				4 – Morphological Adapta	tions ¹ (Provide sunnor	tina
8				data in Remarks or or	a separate sheet)	ang
9				5 – Wetland Non-Vascula	r Plants ¹	
10					/egetation ¹ (Evaluain)	
11				Indianters of hydria asil and w	otland budralagy must	tha
	404	- Tatal Ca		andicators of hydric soil and w	chlomatic	lbe
	131		ver	present, unless disturbed of pr	obiematic.	
Woody Vine Stratum (Plot size: 3-m diameter)						
1				Hydrophytic		
2				Vegetation Yes	s 🖾 No 🗋	
		= Total Co	ver	Present?		
% Bare Ground in Herb Stratum:						
Remarks:						
Sampling Point: DP-3A

Profile Des	scription: (Describ	e to the d	epth neede	ed to docume	ent the indicator	or confirm the at	osence	of indicators.)	
Depth (inchos)	<u>Matrix</u>	0/	Color (m	Rede	ox Features		2	Toxturo	Domorko
(Incries)		70		ioist)	70 Type	EUC		Gravelly	Relians
0-5	10 YR 2/2	100						sandy, clay	
								loam	
5 16	2 5 VD 3/2	50		1/ 5	10 C	M		Gravelly,	
5-10	2.5 TK 5/2	50		4/3		IVI		loam	
								Gravelly,	
	10 YR 3/1	40	10 YR	4/5	10 C	Μ		sandy, clay	
								loam	
¹ Type: C=C	Concentration, D=De	epletion, R	M=Reduce	d Matrix, CS=	Covered or Coate	ed Sand Grains.	² Loc:	PL=Pore Lining, M=N	Aatrix.
Hydric Soi	I Indicators: (Appl	icable to	all LRRs, u	nless otherw	vise noted.)		Indica	tors for Problemati	c Hydric Soils ³ :
Histos	sol (A1)			Sandy Redox	(S5)		□ 2	cm Muck (A10)	
Histic	Epipedon (A2)			Stripped Matr	rix (S6)		🗆 R	ed Parent Material (TF2)
Black	Histic (A3)			Loamy Mucky	/ Mineral (F1) (ex	cept MLRA 1)		ery Shallow Dark Su	rface (TF12)
□ Hydro	gen Sulfide (A4)	faco (A 1 1		Loamy Gleye	d Matrix (F2)			ther (Explain in Rem	iarks)
Deple Thick	Dark Surface (A12)) 🗆	Redox Dark 9	IIX (F3) Surface (E6)		³ Indica	ators of hydrophytic y	vegetation and
	/ Mucky Mineral (S1)		Depleted Dark	k Surface (F7)		WE	tland hvdrology mus	t be present. unless
□ Sandy	Gleyed Matrix (S4)	,)		Redox Depre	ssions (F8)		dis	sturbed or problemat	iC.
Restrictive	a laver (if present)								
Tunoi						Hydric soil		V M	N. 🗖
Type.						present?		res 🗠	
Depth	(inches):								
Remarks [.]									
HYDROLO	OGY								
Wotland H	vdrology Indicator								
Primary Inc	dicators (minimum o	s. f one reau	ired: check	all that apply)		Seco	ndarv Indicators (2 o	r more required)
□ Surfac	ce water (A1)			Water-Stair	, and Leaves (exce	nt MI RA 1 2 /A		Water-Stained Leav	(R9) (MI RA 1
⊠ High V	Water Table (A2)			& 4B) (B9)		pt menter 1, 2, 4A		2, 4A & 4B)	
🛛 Satura	ation (A3)			Salt Crust (B11)			Drainage Patterns (B10)
Water	Marks (B1)			Aquatic Inv	ertebrates (B13)			Dry-Season Water	Table (C2)
Sedim	ent Deposits (B2)			Hydrogen S	Sulfide Odor (C1)			Saturation Visible or	n Aerial Imagery (C9)
Drift D	eposits (B3)			Oxidized RI	nizospheres along	Living Roots (C3)		Geomorphic Positio	on (D2)
Algal I	Mat or Crust (B4)			Presence o	f Reduced Iron (C	(4)		Shallow Aquitard (E	03)
□ Iron D	eposits (B5)			Recent Iron	Reduction in Till	ed Soils (C6)		FAC-Neutral Test (I	
	ce Soll Gracks (B6)	al Imager	(P7)	Stunted or	Stressed Plants (I)) (LKK A)		Frost Hoove Human	(U0) (LKK A)
	ely Venetated Conc	ar mayer) ave Surfa	r(⊡r) ⊔ ce(R8)	oner (expl	ani in renidiks)			I IUSI-ITEAVE MUITIIT	10072
Field Obc	avations:				I				
	ator Procent? V	es 🗆	No 🕅	Depth (in):					
Water Tabl	$= \operatorname{Present?} \nabla$	es 🕅	No □	Depth (in).	14"	Wetland Hyd	rology	Yes D	No 🗆
Saturation	Present? V	es 🕅		Depth (in).	11"	Present	ſ		
(includes c	apillary fringe)			Depui (iii).					
	ecorded Data (stres	am daude	monitorina	well aerial pl	hotos previous in	spections) if avail	able [.]		

Remarks:



DP-4A

Project/Site: Fire Station #10, parcel 1266200341, 1223 112th Ave NE	City/County: Bellevue / King County Sampling date: 3/25/2019
Applicant/Owner: City of Bellevue / Prasad	State: WA Sampling Point: 4A
Investigator(s): Nell Lund, Logan Dougherty	Section, Township, Range: SE S 29, T 25N, R 5E
Landform (hillslope, terrace, etc): hillslope	Local relief (concave, convex, none): None Slope (%):<5%
Subregion (LRR): A Lat: - Lor	g: Datum:
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (A	mC) 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 \boxtimes , Soil \boxtimes , or Hydrology \boxtimes significantly disturbed?	Are "Normal Circumstances" present on the site? $\ \square$ Yes $\ \boxtimes$ No
Are Vegetation \Box , Soil \Box , or Hydrology \Box naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampli	ng point locations, transects, important features, etc.

Remarks: King County iMAP aerial photographs show the former pond was filled in 2017.												
Wetland Hydrology Present?	Yes		No	\boxtimes								
Hydric Soils Present?			No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🛛					
Hydrophytic Vegetation Present?	Yes	\boxtimes	No 🗆									

Adjacent to obvious fill pile, dirt and rocks

Troo Stratum (Diat cizo: 5 m diamator)	Absolute	Dominant	Indicator	Dominance Test worksheet:	1	
1 Prunus emarginata	% Cover 5	N*	FACU	that are OBL, FACW, or FAC:	2	(A)
2 3				Total Number of Dominant Species Across all Strata:	2	(B)
4*rooted upslope, opposite		= Total Co	ver	Percent of Dominant Species that are OBL, FACW, or FAC:	100) (A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter) 1. 2. 3. 4				Prevalence Index worksheet Total % Cover of: OBL species FACW species FAC species	t: <u>Multiply by:</u> x 1 = x 2 = x 3 =	
5		= Total Co	vor	FACU species	x 4 =	<u> </u>
Herb Stratum (Plot size: 1-m diameter)	-			Column Totals:	(A)	(B)
1. <u>Trifolium repens</u> 2. Lawn grass	<u>40</u> 30	Y Y	FAC FAC	Prevalence Index = B/A =		
3. Rumex crispus	3	Ν		Hydrophytic Vegetation	Indicators:	
4				1 – Rapid Test for Hydrop	ohytic Vegeta	tion
5					50%	
6				\square 3 – Prevalence Index is \leq	3.0' stiene ¹ (Drevie	la auguarting
8				data in Remarks or o	n a separate :	sheet)
9				\Box 5 – Wetland Non-Vascula	ar Plants ¹	
10.				Problematic Hydrophytic	Vegetation ¹ (I	Explain)
11.				¹ Indicators of hydric soil and v	vetland hydrol	logy must be
	73	= Total Co	ver	present, unless disturbed or p	roblematic.	0,
Woody Vine Stratum (Plot size: 3-m diameter)		_				
1				Hydrophytic		
2				Vegetation Ye	s 🛛 🛛 N	• 🗆
% Bare Ground in Herb Stratum:		= Total Co	ver	Present?		
Remarks:						

Interview Color (moist) % Color (moist) % Type1 Loc2 Texture Remark 0-10 10YR 3/3 100 Gravelly loamy sand Sand Gravelly sandy loam Sand 10-17 5 Y 4/1 30 Gravelly sandy loam Sand Sand 10-17 5 Y 4/1 30 Gravelly sandy loam Sand Sand 10 YR 3/1 70 Gravelly sandy loam Sand Sand Sand	<s< th=""></s<>
0-10 10YR 3/3 100 Gravelly loamy sand 10-17 5 Y 4/1 30 Gravelly sandy loam 10 YR 3/1 70 Gravelly sandy loam 10 YR 3/2 70	
10-17 5 Y 4/1 30 Gravelly sandy loam 10 YR 3/1 70 Gravelly sandy loam Image: 1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Loc: PL=Pore Lining, M=Matrix.	
10 YR 3/1 70 Gravelly sandy loam	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Loc: PL=Pore Lining, M=Matrix.	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Loc: PL=Pore Lining, M=Matrix.	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Loc: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric So	ils³:
□ Histosol (A1) □ Sandy Redox (S5) □ 2cm Muck (A10)	
□ Histic Epipedon (A2) □ Stripped Matrix (S6) □ Red Parent Material (TF2)	
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12))
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Matrix (F3)	
\square Thick Dark Surface (A12) \square Redox Dark Surface (F6) ³ Indicators of hydrophytic vegetation ar	nd
□ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present	, unless
□ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) disturbed or problematic.	
Restrictive Layer (if present): Hydric soil Type: Yes Type: Present2	
Depth (inches):	
HYDROLOGY	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply) Secondary Indicators (2 or more required)	red)
Surface water (A1) High Water Table (A2) Water Stained Leaves (except MLRA 1, 2, 4A A & 4B) (ML A & 4B) (R9)	.RA 1,
□ Saturation (A3) □ Salt Crust (B11) □ Drainage Patterns (B10)	
U Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2)	
□ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Saturation Visible on Aerial Imag	ery (C9)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Geomorphic Position (D2)	
□ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Shallow Aquitard (D3)	
□ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR	A)
□ Inundation Visible on Aerial Imagery (B7) □ Other (explain in remarks) □ Frost-Heave Hummocks	-,
□ Sparsely Vegetated Concave Surface (B8)	
Field Observations:	
Surface Water Dresents - Yoo - No - Depth (in):	
Surface Water Present? Tes D No Depth (in):	_
Water Table Present? Yes No Depth (in): Wetland Hydrology Water Table Present? Yes No Depth (in): Present?	\boxtimes
Surface water Present? Yes No Depth (in): Wetland Hydrology Present? Yes No No Depth (in): Present? Yes No No Depth (in): Present? Yes No No Image: No No Image: No </td <td>⊠</td>	⊠
Surface water Present? Yes No Depth (in): Wetland Hydrology Present? Yes No No Depth (in): Saturation Present? Yes No Depth (in): Present? Yes No Image: No No Image: No	×



DP-5A

Project/Site: Fire Station #10, parcel 1266200341, 1223 112th Ave Ne	E City/County: Bellevue /	King Cou	nty Sa	mpling date:	3/25/20	19
Project/Site: Fire Station #10, parcel 1266200341, 1223 112th Ave NE City/County: Bellevue / King County Sampling date: 3/25/2019 Applicant/Owner: City of Bellevue / Prasad State: WA Sampling Point: 5A nvestigator(s): Nell Lund, Logan Dougherty Section, Township, Range: SE S 29, T 25N, R 5E Landform (hillslope, terrace, etc): hillslope Local relief (concave, convex, none): concave Slope (%): <5%						
Investigator(s): Nell Lund, Logan Dougherty	Section, Township, Range:	SE S 29	, T 25N, I	R 5E		
Landform (hillslope, terrace, etc): hillslope	Local relief (concave, convex	, none):	concav	e Slop	e (%):	<5%
Subregion (LRR): A Lat: - Lor	ng:		Datum:	-		
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (A	AmC) NWI classific	ation:	None			
Are climatic / hydrologic conditions on the site typical for this time of year	r? 🛛 Yes 🛛 No (If no, exp	lain in rer	marks.)			
Are Vegetation \boxtimes , Soil \boxtimes , or Hydrology \boxtimes significantly disturbed?	Are "Normal Circumstance	es" preser	nt on the	site? 🗆 Yes	🛛 No	
Are Vegetation \Box , Soil \Box , or Hydrology \Box naturally problematic?	(If needed, explain any an	swers in F	Remarks.)		
SUMMARY OF FINDINGS - Attach site man showing sample	ing point locations transact	s import	tant feat	ures etc		

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

Hydrophytic Vegetation Present?	Yes	\boxtimes	No			
Hydric Soils Present?	Yes	\boxtimes	No	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗌
Wetland Hydrology Present?	Yes	\boxtimes	No			

Remarks: King County iMAP aerial photographs show the former pond was filled in 2017.

	Absoluto	Dominant	Indicator	Dominance Test worksheet			
Tree Stratum (Plot size: 5-m diameter)	% Cover	Species?	Status	Number of Dominant Species			
1. Prunus emarginata*	2	N	FACW	that are OBL, FACW, or FAC:	_	2	(A)
2.				Total Number of Dominant		2	. ,
3				Species Across all Strata:		2	(B)
4				Percent of Dominant Species		100	
^rooted out	2		ver	that are OBL, FACW, or FAC:			(A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter)				Prevalence Index worksheet:	:		
1				Total % Cover of:	Multiply I	by:	
2				OBL species	x 1 =		_
3				FACW species	x 2 =		
4.				FAC species	x 3 =		
5.				FACU species	x 4 =		-
		= Total Cov	ver	UPL species	x 5 =		-
Herb Stratum (Plot size: 1-m diameter)		-		Column Totals:	(A)		(B)
1. Lawn grass (pea)	40	Y	FAC	Drovelonce Index - R/A -			
2. Holcus lanatus	7	N	FAC	Prevalence muex - D/A -			
3. Trifolium repens	30	Y	FACW	Hydrophytic Vegetation	Indicator	s:	
4. Cardamine oligosperma	5	N	FAC	1 – Rapid Test for Hydropl	hytic Vege	etation	
5. Epilobium ciliatum	2	N	FACW	☑ 2 – Dominance Test is > 5	0%		
6. Aster sp.	2	N	N/A	□ $3 - Prevalence Index is ≤ 3$	3.0 ¹		
7.				🛛 👝 4 – Morphological Adaptat	ions ¹ (Pro	vide suppo	orting
8				data in Remarks or on	a separa	te sheet)	
9				5 – Wetland Non-Vascular	⁻ Plants ¹		
10				Problematic Hydrophytic V	egetation/	¹ (Explain))
11				¹ Indicators of hydric soil and we	etland hyd	drology mu	ist be
	86	= Total Co	ver	present, unless disturbed or pre-	oblematic	•	
Woody Vine Stratum (Plot size: 3-m diameter)		-					
1.				Hydrophytic			
2.				Vegetation Yes		No 🗆	
		= Total Co	ver	Present?	_		
% Bare Ground in Herb Stratum:		-					
Remarks:							

Profile Des	cription: (Desci	ribe to	the de	pth need	ded to o	docum	ent the indic	ator	or confirm the	absen	ce of indicators.)		
Depth (inches)	Color (moist)	o	/_	Color (moist)	Red	ox Features %	т	vne ¹ lo	nc ²	Texture	F	emarks
0-13	10 YR 4/2	9	0	7.5 YF	R 3/ 4		5		ype Le		Gravelly sandy		
0-13	5 Y 4/1	:	3	7.5 Y	R 4/6	2	(inclusions)				Clay loam		
13-18	10 YR 2/1	1(00								Sandy clay loam		
¹ Type: C=C	oncentration, D=	Deplet	tion, RN	/I=Reduc	ed Mati	ix, CS=	Covered or C	Coate	d Sand Grains.	² Lo	c: PL=Pore Lining, N	/I=Matrix.	
Hydric Soil	Indicators: (Ap	plicab	ole to a	ll LRRs,	unless	otherw	vise noted.)			Indi	cators for Problem	atic Hydr	ic Soils ³ :
□ Histos	ol (A1)				Sand	/ Redo>	(S5)				2cm Muck (A10)		
	Epipedon (A2)				Stripp	ed Mat	rix (S6) v Mineral (E1) (0)(0)			Red Parent Materia	al (TF2)	TE40)
	nistic (A3) ten Sulfide (A4)				Loam	y iviuck v Gleve	y Mineral (F1 ed Matrix (F2)) (exc)	ept MLRA T)		Other (Explain in R	Surface (emarks)	1F12)
□ Deplet	ed Below Dark S	Surface	e (A11)	\boxtimes	Deple	ted Ma	trix (F3)	/				omanto)	
□ Thick I	Dark Surface (A1	2)			Redo	k Dark S	Surface (F6)			³ Ind	icators of hydrophyt	ic vegetat	ion and
□ Sandy	Mucky Mineral (S1) S4)			Deple	ted Dai	rk Surface (Fi	7)			wetland hydrology n disturbed or problen	nust be pr natic.	esent, unless
Restrictive	Laver (if prese	nt):			T COO	Dopie					•		
Type:		,							Hydric so	oil	Yes 🛛	No	
Donth	(inches):								present	?			
Берш	(inches).												
Remarks:													
HYDROLO)GY												
Primary Ind	icators (minimun	tors: n of on	e requii	red: chec	k all tha	at apply)			Se	condary Indicators (2	2 or more	required)
□ Surfac	e water (A1)			Г	Wat	er-Stai	ned Leaves (excep	ot MLRA 1, 2, 4		Water-Stained L	eaves (B9) (MLRA 1,
High V	/ater Table (A2)			-	- & 4	B) (B9)				_	2,4A & 4B)	(D40)	
⊠ Satura	tion (A3) Marks (B1)			L		Crust ((B11) ertebrates (B	213)			Drainage Patterr	1S (B1U) er Table (C2)
	ent Deposits (B2)			∃ Aqu	roaen S	Sulfide Odor ((C1)			Saturation Visible	e on Aeria	Imagery (C9)
Drift D	eposits (B3)	,		E		dized R	hizospheres a	along	Living Roots (C	3) 🗆	Geomorphic Pos	sition (D2)	- 3- 9 ()
Algal N	/lat or Crust (B4)			[□ Pre	sence c	of Reduced Ir	on (C	4)		Shallow Aquitarc	l (D3)	
	eposits (B5)	C)		[ent Iror	n Reduction in	n Tille	d Soils (C6)		FAC-Neutral Tes	st (D5)	
	tion Visible on A	o) erial In	nagerv	(B7) [J Stui ∃ Oth	nted of er (expl	Stressed Pla lain in remark	ints (L (s)	$(\mathbf{LRR} \mathbf{A})$		Erost-Heave Hur	nas (D6) (mmocks	LRR A)
	ly Vegetated Co	ncave	Surface	e (B8)				(0)					
Field Obse	rvations:												
Surface Wa	ter Present?	Yes		No 🛛	Dep	th (in):			Wotland H	vdrolov			
Water Table	e Present?	Yes		No 🗆	Dep	th (in):	13"		Prese	ent?	Yes		No 🗌
Saturation F	Present?	Yes	\boxtimes	No 🗆	Dep	th (in):	11"						
Describe Re	ecorded Data (st	ream g	auge, r	nonitorin	g well,	aerial p	hotos, previo	us ins	pections), if ava	ailable:			
	, ,				- /	·	•		- **				
Remarks [.]													



DP-6A

Project/Site: Fire Station #10, parcel 1266200341, 1223 112th Av	ve NE	City/County: Bellevue	/ King Cou	unty S	ampling date:	3/25/20)19				
Applicant/Owner: City of Bellevue / Prasad			State:	WA	Sampling Point:	6A					
Investigator(s): Nell Lund, Logan Dougherty	S ^r	ection, Township, Range:	SE S 29	9, T 25N	, R 5E						
Landform (hillslope, terrace, etc): hillslope	Le	ocal relief (concave, conve	ex, none):	none	Slope	≠ (%):	<5%				
Subregion (LRR): A Lat:	Long:			Datum	n: <u>-</u>						
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (AmC) NWI classification: None											
Are climatic / hydrologic conditions on the site typical for this time of	f year?	⊠ Yes □ No (If no, e:	xplain in re	marks.)							
Are Vegetation \boxtimes , Soil \boxtimes , or Hydrology \boxtimes significantly disturbed?		Are "Normal Circumstan	ces" prese	nt on the	e site? 🗆 Yes 🛛 🛛	⊠ No					
Are Vegetation \Box , Soil \Box , or Hydrology \Box naturally problematic?		(If needed, explain any a	answers in	Remark	.s.)						
SUMMARY OF FINDINGS – Attach site map showing sa	ampling	g point locations, transe	cts, impor	rtant fea	atures, etc.						
Hydrophytic Vegetation Present? Yes 🛛 No											
Lludria Caila Dragont? Vag Ma		Is the Sampled Are	a								

Hydric Soils P	resent?	Yes	res ⊠ No 🗆			Is the Sampled Area within a Wetland?	Yes 🛛	No 🗌
Wetland Hydro	ology Present?	Yes	\boxtimes	No				
Remarks:	King County iMAP aerial p	hotogi	aphs	show t	he for:	ner pond was filled in 2017.		

<u>Tree Stratum</u> (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet Number of Dominant Species	:	3 (A)		
2				Total Number of Dominant Species Across all Strata:		3 (B)		
4		= Total Co	ver	Percent of Dominant Species that are OBL, FACW, or FAC	10	00 (A/B)		
Sapling/Shrub Stratum (Plot size: 3-m diameter) 1.				Prevalence Index workshee Total % Cover of: OBL species FACW species FAC species EACU species	et: <u>Multiply by</u> x 1 = x 2 = x 3 =	<u>y:</u>		
5		= Total Cov	ver	UPL species	_ x 4 = x 5 =			
Herb Stratum (Plot size: 1-m diameter)		-		Column Totals:	(A)	(B)		
1. Holcus lanatus	30	Y	FAC	Prevalence Index = B/A =				
2. Trifolium repens	30	Y	FAC	Trevalence index - D/A -				
3. <u>Pea (lawn grass)</u>	60	Y	FAC	Hydrophytic Vegetation	n Indicators	:		
4.				1 – Rapid Test for Hydro	phytic Veget	ation		
5				☑ 2 – Dominance Test is >	50%			
6.				\Box 3 – Prevalence Index is	≤ 3.0 ¹			
/				4 – Morphological Adaptations ¹ (Provide supporting				
0				□ 5 – Wetland Non-Vascul	ar Plants ¹	e sheel)		
5 10					Vegetation ¹	(Explain)		
11				¹ Indicators of hydric soil and	vetland hvdr	ology must be		
····		= Total Co	ver	present, unless disturbed or	problematic.	ology must be		
Woody Vine Stratum (Plot size: 3-m diameter)								
1.				Hydrophytic				
2.				Vegetation Ye	s 🛛 I	No 🗆		
		= Total Co	ver	Present?				
% Bare Ground in Herb Stratum:								
Remarks:								
Remarks.								

ches)	Color (moist)	0/_	Color	r (moiet)	Kedox Feature:	Type ¹	1 002		Texturo		Remarks
		% 05	7.5			Type.	LUC-		Gravelly sandy		Remarks
0-18	10 YR 3/1	95	7.5	1R 3/3	5	U	IVI		clay loam		
ype: C=C	oncentration, D=D	epletion,	RM=Redu	uced Matrix,	CS=Covered o	r Coated Sand	Grains.	² Loc:	PL=Pore Lining,	M=Mat	rix.
dric Soi	Indicators: (App	licable to	all LRRs	s, unless oth	nerwise noted.	.)		Indica	itors for Problen	natic H	lydric Soils':
HISTOS	0l (A1) Eninedon (A2)			Sandy Real Stringed	edox (S5) Matrix (S6)				CM MUCK (A10) Red Parent Materi	ial (TE:	2)
Black	Histic (A3)			Loamy M	lucky Mineral (F	F1) (except ML	RA 1)		ery Shallow Dark	k Surfa	-, ce (TF12)
Hydro	gen Sulfide (A4)] Loamy G	leyed Matrix (F	-2)	,		Other (Explain in F	Remark	(s)
Deplet	ed Below Dark Su	rface (A1	1) 🗆	Depleted	Matrix (F3)						
Thick	Dark Surface (A12	2) 4 \		Redox D	ark Surface (F6	6) (F 7)		³ Indica	ators of hydrophy	/tic veg	etation and
Sandy	Gleved Matrix (S	1) 1)		Depleted Reday D	Dark Surface ((F7)		dis	sturbed or problei	must be matic.	e present, uni
estrictive	Layer (if present	:):				,					
Type [.]						I H [,]	vdric soil		-	7 1	
1,900.									Yes 🖄	N	NoL
Depth	(inches):					F	present?		Yes 🖄		No 🗆
Depth emarks:	(inches):						present?		Yes ≱		
Depth emarks:	(inches):					F	vresent?		Yes ≱		No 🗆
Depth emarks: DROLC	(inches): DGY ydrology Indicato icators (minimum	ors: of one red	quired: ch	eck all that a	pply)		present?	Seco	Yes 2	(2 or m	No
Depth emarks: DROLC etland H imary Ind Surfac	(inches): DGY ydrology Indicato icators (minimum e water (A1)	ors: of one red	quired: ch	eck all that a	pply) Stained Leaves	F	A 1, 2, 4A	Seco	Yes 2	(2 or m Leaves	ore required) (B9) (MLRA
Depth emarks: DROLC etland H imary Ind Surfac High V	(inches): DGY ydrology Indicato icators (minimum e water (A1) Vater Table (A2)	ors: of one red	quired: ch	eck all that a	pply) Stained Leaves	E (except MLR	A 1, 2, 4A	Seco	Yes ndary Indicators (Water-Stained I 2, 4A & 4B)	(2 or m Leaves	ore required) (B9) (MLRA
Depth emarks: DROLO etland H imary Ind Surfac High V Satura	(inches): DGY ydrology Indicato icators (minimum e water (A1) Vater Table (A2) tion (A3)	ors: of one red	quired: ch	eck all that a Water & 4B) (Salt Cr	pply) Stained Leaves (B9) ust (B11)		resent?	Seco	Yes ≱ ndary Indicators (Water-Stained I 2, 4A & 4B) Drainage Patter	(2 or m Leaves rns (B1	No □ ore required) (B9) (MLRA 0) □
Depth emarks: DROLC etland H imary Ind Surfac High V Satura Water	(inches): DGY ydrology Indicato icators (minimum e water (A1) Vater Table (A2) tion (A3) Marks (B1)	ors: of one red	quired: ch	eck all that a Water & 4B)(Salt Cr Aquatio	pply) Stained Leaves (B9) ust (B11) c Invertebrates	<u>(B13)</u>	A 1, 2, 4A	Seco	Yes ≱ ndary Indicators (Water-Stained I 2, 4A & 4B) Drainage Patter Dry-Season Wa	(2 or m Leaves rns (B1 ater Tat	ore required) (B9) (MLRA 0) ole (C2)
Depth emarks: DROLO etland H imary Ind Surfac High V Satura Water Sedim	(inches): DGY ydrology Indicato icators (minimum e water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) opposits (B2)	ors: of one red	quired: ch	eck all that a Water & 4B) (Salt Cr Aquatic Hydrog	pply) Stained Leaves (B9) ust (B11) c Invertebrates gen Sulfide Odo	(B13) (B13) or (C1)	A 1, 2, 4A	Seco	Yes ≥ ndary Indicators (Water-Stained I 2, 4A & 4B) Drainage Patter Dry-Season Wa Saturation Visibl Coamerrhic Bo	(2 or m Leaves rns (B1 ater Tat le on A	ore required) (B9) (MLRA 0) ble (C2) erial Imagery (D2)
Depth Depth emarks: DROLO etland H imary Ind Surfac High V Satura Water Sedim Drift D Alga M	(inches): DGY ydrology Indicato icators (minimum e water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Act or Crust (B4)	ors: of one red	quired: ch	eck all that a Water & 4B) (Salt Cr Aquatio Hydrog Oxidize Presen	pply) Stained Leaves (B9) ust (B11) c Invertebrates jen Sulfide Odc ed Rhizospheres	(B13) or (C1) s along Living I	resent?	Seco	Yes ≱ ndary Indicators (Water-Stained L 2, 4A & 4B) Drainage Patter Dry-Season Wa Saturation Visibl Geomorphic Po Shallow Aquita	(2 or m Leaves rns (B1 ater Tat le on A besition (rd (D3)	ore required) (B9) (MLRA 0) ble (C2) erial Imagery (D2)
Depth emarks: DROLO etland Hy imary Ind Surfac High V Satura Water Sedim Drift D Algal M Iron D	(inches): DGY ydrology Indicato icators (minimum e water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	ors: of one red	quired: ch	eck all that a Water & 4B) (Salt Cr Aquatic Hydrog Oxidize Presen Recent	pply) Stained Leaves (B9) ust (B11) c Invertebrates gen Sulfide Odc ed Rhizospheres ice of Reduced	(B13) (B13) or (C1) s along Living I Iron (C4) n in Tilled Soils	Roots (C3)	Seco	Yes ≱ ndary Indicators (Water-Stained I 2, 4A & 4B) Drainage Patter Dry-Season Wa Saturation Visibl Geomorphic Po Shallow Aquitar FAC-Neutral Te	(2 or m Leaves rns (B1 ater Tat le on A osition (rd (D3) est (D5)	ore required) (B9) (MLRA 0) ble (C2) erial Imagery (D2)
Depth Depth emarks: DROLO etland Hy imary Ind Surfac High V Satura Water Sedim Drift D Algal N Iron Do Surfac	(inches): DGY ydrology Indicato icators (minimum e water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6)	ors: of one red	quired: ch	eck all that a Water & 4B) (Salt Cr Aquatio Hydrog Oxidize Presen Recent Stunted	pply) Stained Leaves (B9) ust (B11) c Invertebrates jen Sulfide Odc ed Rhizospheres ice of Reduced t Iron Reductior d or Stressed P	(B13) or (C1) s along Living I Iron (C4) n in Tilled Soils Plants (D1) (LR	Roots (C3) (C6) R A)	Seco	Yes Yes Yes Nater-Stained I 2, 4A & 4B) Drainage Patter Dry-Season Wa Saturation Visibl Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mou	(2 or m Leaves rns (B1 ater Tat le on A osition (rd (D3) est (D5) unds (D	ore required) (B9) (MLRA 0) ble (C2) erial Imagery (D2)) 06) (LRR A)
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Wetland Hydrology Present?

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

DP-7A

Project/Site: Fire Station #10, parcel 1266200341,	1223 112th Ave N	E City/County: Bellevue /	King County Sampling date: 3/25/2019
Applicant/Owner: City of Bellevue / Prasad		_	State: WA Sampling Point: 7A
Investigator(s): Nell Lund, Logan Dougherty		Section, Township, Range:	SE S 29, T 25N, R 5E
Landform (hillslope, terrace, etc): hillslope		Local relief (concave, convex	x, none): Slope (%):<5%
Subregion (LRR): A Lat:	Lo	ng:	Datum:
Soil Map Unit Name: Arents, Alderwood material,	6 to 15% slopes (A	AmC) NWI classific	ation: None
Are climatic / hydrologic conditions on the site typical	for this time of yea	r? ⊠ Yes □ No (If no, ex	olain in remarks.)
Are Vegetation $\boxtimes,$ Soil $\boxtimes,$ or Hydrology \boxtimes significant	ly disturbed?	Are "Normal Circumstanc	es" present on the site? \Box Yes \boxtimes No
Are Vegetation $\Box,$ Soil $\Box,$ or Hydrology \Box naturally p	roblematic?	(If needed, explain any a	swers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	o showing samp	ling point locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes	⊠ No □		
Hydric Soils Present? Yes	⊠ No □	Is the Sampled Area within a Wetland?	Yes 🗌 No 🖾

 \boxtimes

No

Remarks: King County iMAP aerial photographs show the former pond was filled in 2017.

Yes 🗆

Tree Stratum (Plot size: 5-m diameter) 1.	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet Number of Dominant Species that are OBL, FACW, or FAC Total Number of Dominant Species Across all Strata:	:	2 2	(A) (B)
4.		= Total Co	ver	Percent of Dominant Species that are OBL, FACW, or FAC	:	100	(A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter) 1.				Prevalence Index workshee Total % Cover of: OBL species FACW species FAC species FACU species FACU species	t: <u>Multiply</u> x 1 = x 2 = x 3 = x 4 =	<u>by:</u>	_
		= Total Co	ver	UPL species	x 5 =		_
Herb Stratum (Plot size: 1-m diameter)	05	V	EAC	Column Totals:	(A)		(B)
2 Trifolium repens	25	Y	FAC	Prevalence Index = B/A =			
3. Hypochaeris radicata	5	N	FACU	Hydrophytic Vegetation	n Indicato	rs:	
4. Rubus armeniacus	2	Ν	FAC	□ 1 – Rapid Test for Hydro	phytic Veg	getation	
5.				☑ 2 – Dominance Test is >	50%		
6.				3 – Prevalence Index is :	≤ 3.0¹		
7				🚽 🛛 4 – Morphological Adapt	ations ¹ (Pr	ovide sup	porting
8				data in Remarks or c	on a separa	ate sheet)	
9				5 – Wetland Non-Vascul	ar Plants'	4	
10				Problematic Hydrophytic	Vegetatio	n' (Explai	n)
11				Indicators of hydric soil and	wetland hy	drology m	iust be
	127	= Total Co	ver	present, unless disturbed of p	lopiemali	С.	
<u>Woody Vine Stratum</u> (Plot size: 3-m diameter)							
1				Hydrophytic		N. 🗆	
2		- Total Ca	vor	Procent2	es 🖾	NO 🗆	
% Bare Ground in Herb Stratum:		_ = 10(a) CO	VEI	Fiesent:			
Remarks:							

Sampling Point: DP-7A

(inches)	Matrix		•	Bodoy Eosturo			e of indicators.)	
	Color (moist)	%	Color (me	oist) %	Type ¹	Loc ²	Texture F	Remarks
0-6	10 yR 3/1	93	7.5 YR 3	3/4 7	С	М	Sandy loam	
6-10	10 YR 2/1	100					Sandy loam	
40.40	0.5 \(1/0	07	75.00	4/0				
10-16	2.5 Y 4/2	97	7.5 YR 4	4/6 3			Loamy sand	
¹ Type: C=C	oncentration, D=D	epletion, F	RM=Reduced	d Matrix, CS=Covered or	r Coated Sand Grai	ins. ² Loc:	PL=Pore Lining, M=Matrix	ζ.
Hydric Soil	Indicators: (App	licable to	all LRRs, ur	nless otherwise noted.)	Indic	ators for Problematic Hy	dric Soils ³ :
Histos	ol (A1)			Sandy Redox (S5)			2cm Muck (A10)	
□ Histic I	Epipedon (A2)			Stripped Matrix (S6)			Red Parent Material (TF2)	
Black I	Histic (A3)			Loamy Mucky Mineral (F	-1) (except MLRA 1)	Very Shallow Dark Surface	(TF12)
	gen Sulfide (A4)	faaa (11		Loamy Gleyed Matrix (F: Depleted Matrix (F2)	2)		Other (Explain in Remarks))
	Dark Surface (A12			Redox Dark Surface (F6	;)	³ India	ators of hydronhytic veget	ation and
□ Sandy	Mucky Mineral (S	, 1)		Depleted Dark Surface (, F7)	W	etland hydrology must be i	present, unless
□ Sandy	Gleyed Matrix (S4	·)		Redox Depressions (F8))	d	isturbed or problematic.	
Restrictive	Layer (if present):						
Type:					Hydric	soil	Yes 🛛 No	•
Denth	(inches):				prese	ent (
IYDROLC	DGY							
HYDROLC Wetland Hy Primary Ind	OGY ydrology Indicato icators (minimum o	rs: of one req	uired: check	all that apply)		Seco	ondary Indicators (2 or mor	e required)
HYDROLC Wetland Hy Primary Ind	DGY ydrology Indicato icators (minimum o e water (A1)	rs: of one req	uired: check	all that apply) Water Stained Leaves	: (except MLRA 1,	Seco 2,4A	ondary Indicators (2 or mor Water-Stained Leaves (E	e required) 39) (MLRA 1,
HYDROLC Wetland Hy Primary Ind Surfac High W	DGY ydrology Indicato icators (minimum o e water (A1) Vater Table (A2)	rs: of one req	uired: check	all that apply) Water Stained Leaves & 4B) (B9)	: (except MLRA 1,	Seco 2, 4A	ondary Indicators (2 or mor Water-Stained Leaves (E 2, 4A & 4B)	e required) 39) (MLRA 1,
HYDROLC Wetland Hy Primary Ind Surfac High W Satura	OGY ydrology Indicato icators (minimum of e water (A1) vater Table (A2) tion (A3)	rs: of one req	uired: check	all that apply) Water Stained Leaves & 4B) (B9) Salt Crust (B11)	; (except MLRA 1,	Secc 2, 4A	ondary Indicators (2 or mor Water-Stained Leaves (E 2, 4A & 4B) Drainage Patterns (B10)	e required) 39) (MLRA 1,
HYDROLC Wetland Hy Primary Ind Surfac High W Satura Water Sadim	DGY ydrology Indicato icators (minimum of e water (A1) Vater Table (A2) tion (A3) Marks (B1) ont Doposite (B2)	rs: f one req	uired: check	all that apply) Water Stained Leaves & 4B) (B9) Salt Crust (B11) Aquatic Invertebrates	; (except MLRA 1, (B13)	Secc 2, 4A	ondary Indicators (2 or mor Water-Stained Leaves (F 2, 4A & 4B) Drainage Patterns (B10) Dry-Season Water Table	e required) 39) (MLRA 1,
HYDROLC Wetland Hy Primary Ind Surfac High W Satura Water Sedime Drift D	DGY ydrology Indicato icators (minimum of e water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	rs: of one req	uired: check	all that apply) Water Stained Leaves & 4B) (B9) Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizospheres	(B13) (C1) (C1)	Seco 2, 4A	ondary Indicators (2 or mor Water-Stained Leaves (E 2, 4A & 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D)	e required) 39) (MLRA 1, e (C2) ial Imagery (C9
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DP-8A

Project/Site: Fire Station #10, parcel 1266200341, 1223 112th Ave NE	<u> E</u> City/County: Bellevue / King County Sampling date: 3/25/2019
Applicant/Owner: City of Bellevue / Prasad	State: WA Sampling Point: 8A
Investigator(s): Nell Lund, Logan Dougherty	Section, Township, Range: SE S 29, T 25N, R 5E
Landform (hillslope, terrace, etc): hillslope	Local relief (concave, convex, none): <u>convex</u> Slope (%): <u><5%</u>
Subregion (LRR): A Lat: - Lor	ıg: Datum:
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (A	MC) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year	$i?$ \boxtimes Yes \Box No (If no, explain in remarks.)
Are Vegetation \boxtimes , Soil \boxtimes , or Hydrology \boxtimes significantly disturbed?	Are "Normal Circumstances" present on the site? \Box Yes \boxtimes No
Are Vegetation \Box , Soil \Box , or Hydrology \Box naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampli	ing point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes 🛛 No 🗆	

Remarks: King County iMAP aeria	l photog	raphs	show	the for	ner pond was filled in 2017.		
Wetland Hydrology Present?	Yes		No	\boxtimes			
Hydric Soils Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🛛
Hydrophytic vegetation Present?	res	X	INO				

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 5-m diameter)	% Cover	Species?	Status	Number of Dominant Species	5
1. Ornamental conifer 1	20	Y	FAC	that are OBL, FACW, or FAC:	(A)
2. Ornamental coniter 2	10	Y	FAC	Total Number of Dominant	5 (D)
3				Species Across an Strata.	(B)
4		Tatal Oa		Percent of Dominant Species	100
	30		ver	that are OBL, FACW, or FAC:	(A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter)				Prevalence Index worksheet:	
1. Ornamental conifer 1	2	Y	FAC	Total % Cover of:	Multiply by:
2. Ornamental conifer 2	2	Y	FAC	OBL species	x 1 =
3				FACW species	x 2 =
4.				FAC species	x 3 =
5.				FACU species	x 4 =
	4	= Total Cov	ver	UPL species	x 5 =
Herb Stratum (Plot size: 1-m diameter)		-		Column Totals:	(A) (B)
1. Lawn grass	95	Y	FAC	Provalance Index - B/A -	
2. Juncus effusus	5	Ν	FACW	Flevalence index – B/A –	
3. Equisetum telmateia	2	Ν	FACW	Hydrophytic Vegetation	Indicators:
4. Ranunculus repens	10	Ν	FAC	1 – Rapid Test for Hydroph	hytic Vegetation
5. Trifolium repens	5	Ν	FAC	2 – Dominance Test is > 5	0%
6				\Box 3 – Prevalence Index is \leq 3	3.0 ¹
7				🛛 🗤 4 – Morphological Adaptat	ions ¹ (Provide supporting
8				data in Remarks or on	a separate sheet)
9				5 – Wetland Non-Vascular	Plants ¹
10				Problematic Hydrophytic V	/egetation ¹ (Explain)
11				¹ Indicators of hydric soil and we	etland hydrology must be
	117	= Total Cov	ver	present, unless disturbed or pro	oblematic.
Woody Vine Stratum (Plot size: 3-m diameter)					
1				Hydrophytic	
2				Vegetation Yes	No 🗆
		= Total Co	ver	Present?	
% Bare Ground in Herb Stratum:					
Remarks:					

optil	Color (moiot)	0/	Color (R moint	edox Features	no1	2	Toxture	-	omorko
0-16	7.5 YR 3/1	<u>%</u> 100	Color (I	moist)	% Iy	pe' Loc	.2	Gravelly	K	emarks
								Sandy Ioann		
(ne: C=C	oncentration D=C	enletion (RM=Reduc	ed Matrix C	S=Covered or Coa	ted Sand Grains	² L oc:	PI = Pore Lining N	/=Matrix	
dric Soi	Indicators: (App	licable to	all LRRs,	unless othe	erwise noted.)		Indica	tors for Problem	atic Hyd	Iric Soils ³ :
Histos Histic Black Hydro Deplet	ol (A1) Epipedon (A2) Histic (A3) gen Sulfide (A4) ed Below Dark Su	rface (A11		Sandy Rec Stripped M Loamy Mu Loamy Gle Depleted M	dox (S5) latrix (S6) cky Mineral (F1) (e eyed Matrix (F2) Matrix (F3)	xcept MLRA 1)	□ 2 □ R □ V □ C	cm Muck (A10) led Parent Materia ery Shallow Dark other (Explain in R	al (TF2) Surface Remarks)	(TF12)
Thick Sandy Sandy	Dark Surface (A12 Mucky Mineral (S Gleyed Matrix (S4) 1) })		Redox Dar Depleted I Redox Dep	oressions (F6) Dark Surface (F7)		³ Indica we dis	ators of hydrophyt etland hydrology n sturbed or problen	tic vegeta nust be p natic.	ation and present, unl
strictive	Layer (if present):				Hydric soi	1	_	-	_
Type:							•	Vac	l No	
Denth	()					present?		Tes 🗆		
Depth emarks:	(inches):					_ present?				
Depth emarks: DROLC	(inches):					present?				
Depth emarks: DROLC /etland H	(inches): DGY ydrology Indicato icators (minimum	o rs: of one req	uired: chec	k all that ap	oly)	_ present?	Seco	ndary Indicators (2	2 or more	e required)
Depth emarks: DROLC etland H imary Ind Surfac	(inches): DGY ydrology Indicato icators (minimum e water (A1)	o rs: of one req	uired: chec	k all that ap	oly) lained Leaves (exe	present?	Secon	ndary Indicators (2 Water-Stained L	2 or more eaves (E	e required) 99) (MLRA
Depth emarks: DROLC etland H imary Ind Surfac High V Satura	(inches): DGY ydrology Indicato icators (minimum e water (A1) vater Table (A2) tion (A3)	r s: of one req	uired: chec	k all that app Water S & 4B) (B Salt Cour	oly) tained Leaves (exc 9) st (B11)	present?	Secol	ndary Indicators (2 Water-Stained L 2, 4A & 4B) Drainage Patterr	2 or more eaves (E	e required) 9) (MLRA
Depth emarks: DROLC etland H imary Ind Surfac High V Satura Water	(inches): DGY ydrology Indicato icators (minimum e water (A1) vater Table (A2) tion (A3) Marks (B1)	o rs: of one req	uired: chec	k all that ap Water S & 4B) (E Salt Cru: Aquatic	oly) tained Leaves (exc 9) st (B11) Invertebrates (B13	present?	Secol	ndary Indicators (2 Water-Stained L 2, 4A & 4B) Drainage Patterr Dry-Season Wat	2 or mor eaves (E ns (B10) ter Table	e required) 39) (MLRA (C2)
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DP-9A

Project/Site: Fire Station #10, parcel 1266200341, 1223 112th	Ave NE	City/County: Bellevue	/ King Cou	unty S	Sampling date:	3/25/20)19
Applicant/Owner: City of Bellevue / Prasad			State:	WA	Sampling Point	: 9A	
Investigator(s): Nell Lund, Logan Dougherty		Section, Township, Range:	SE S 29	9, T 25N	, R 5E		
Landform (hillslope, terrace, etc): hillslope		Local relief (concave, conve	ex, none):	conca	ave Slope	e (%):	<5%
Subregion (LRR): A Lat: -	Lor	ıg:		Datum	n: <u>-</u>		
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% s	lopes (A	.mC) NWI classifi	cation:	None			
Are climatic / hydrologic conditions on the site typical for this time	e of year	r? 🛛 Yes 🛛 No (If no, e)	kplain in re	marks.)			
Are Vegetation \boxtimes , Soil \boxtimes , or Hydrology \boxtimes significantly disturbed	1?	Are "Normal Circumstan	ces" prese	nt on the	e site? □ Yes ∣	🛛 No	
Are Vegetation $\Box,$ Soil $\Box,$ or Hydrology \Box naturally problematic?	?	(If needed, explain any a	inswers in	Remark	s.)		
SUMMARY OF FINDINGS – Attach site map showing	sampli	ng point locations, transe	cts, impoi	rtant fea	atures, etc.		
Hydrophytic Vegetation Present? Yes 🛛 No							
		Is the Sampled Are	а	-			

Hydric Soils P Wetland Hydro	resent? blogy Present?	Yes Yes	\boxtimes	No No		Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Remarks:	King County iMAP aerial	photog	raphs	show t	he for	mer pond was filled in 2017.		

<u>Tree Stra</u> 1. <u>Pse</u> 2. 3. 4.	<u>atum</u> (Plot size: 5-m diameter) eudotsuga menziesii*	Absolute % Cover 5	Dominant Species? N	Indicator Status FACU	Dominance Test worksheet Number of Dominant Species that are OBL, FACW, or FAC Total Number of Dominant Species Across all Strata: Percent of Dominant Species	: 	2	(A) (B)
*roo	oted out	5	= Total Co	ver	that are OBL, FACW, or FAC		100	(A/B)
Sapling/S 1. 2. 3. 4. 5.	<u>Shrub Stratum</u> (Plot size: 3-m diameter)		- Total Co		Prevalence Index workshee Total % Cover of: OBL species FACW species FAC species FACU species FACU species	t: <u>Multipl</u> x 1 = x 2 = x 3 = x 4 =	<u>y by:</u>	
Herb Str	atum (Plot size: 1-m diameter)			ver	Column Totals	(A) = (A)		— (B)
1. Lav	vn grass	95	Y	FAC	Dravalance index = D/Λ =	(,,)		(2)
2. <i>Rai</i>	nunculus repens	30	Y	FAC	Prevalence index = B/A =			
3. <i>Jun</i>	ncus effusus	10	Ν	FACW	Hydrophytic Vegetation	Indicate	ors:	
4. <u>Cirs</u>	sium arvense	2	N	FAC	□ 1 – Rapid Test for Hydro	phytic Ve	getation	
5					≥ 2 – Dominance Test is >	50%		
6 7 8 9 10 11		137	= Total Co	ver	 3 – Prevalence Index is set and the set of the set of	≤ 3.0 ¹ ations ¹ (P n a sepa ar Plants ¹ Vegetatio vetland h vroblemat	rovide supp rate sheet) on ¹ (Explair ydrology m ic.	oorting ו) ust be
Woody \	/ine Stratum (Plot size: 3-m diameter)							
1. 2 % Bare (Ground in Herb Stratum:		= Total Co	ver	Hydrophytic Vegetation Ye Present?	s 🛛	No 🗌	
Remarks	5:							

Jepth	Matrix			<u>Re</u>	edox Features					
(inches)	Color (moist)	%	Color (r	noist)	% Typ	e ¹ Loc	2	Texture	Ren	narks
0-6	2.5 Y 4/2	95	7.5 YF	२ ३/३	5 C	: М		loam+cobbles		
6-18	10 YR 2/1	100						Sandy loam		
¹ Type: C=C	Concentration D=I	Depletion	RM=Reduce	ed Matrix C	S=Covered or Coat	ed Sand Grains	² l oc:	PI =Pore Lining	M=Matrix	
Hydric Soi	I Indicators: (Ap	olicable to	all LRRs,	unless othe	rwise noted.)	ound oralle.	Indica	itors for Problem	matic Hydric	: Soils ³ :
□ Histos	ol (A1)			Sandy Red	lox (S5)		□ 2	cm Muck (A10)	-	
Histic	Epipedon (A2)			Stripped M	atrix (S6)			Red Parent Mater	ial (TF2)	
Black	Histic (A3)			Loamy Muc	cky Mineral (F1) (ex	cept MLRA 1)		ery Shallow Darl	k Surface (T	F12)
Hydrog Deplet	gen Sulfide (A4)	urface (A1	⊥ 1) ⊠	Loamy Gie	yed Matrix (F2) Astrix (F3)			other (Explain in i	Remarks)	
□ Thick	Dark Surface (A1)	2)	') <u> </u>	Redox Dar	k Surface (F6)		³ Indica	ators of hydrophy	tic vegetatio	on and
Sandy	Mucky Mineral (S	-) 51)		Depleted D	ark Surface (F7)		we	etland hydrology	must be pre	sent, unles
Sandy	Gleyed Matrix (S	4)		Redox Dep	pressions (F8)	T	dis	sturbed or proble	matic.	
Restrictive	Layer (if presen	t):								
Туре:						Hydric soi	I	Yes 🛛	No 🛛	
Denth						nresent?				
Depth	(inches):					present?				
Deptn	(inches):					_ present?				
Remarks:	(inches):					_ present?				
Deptn Remarks:	(inches):					_ present?				
Remarks:	(inches):					_ present?				
YDROLC	(inches):					present?				
YDROLC Vetland H Primary Ind	(inches): DGY ydrology Indicat licators (minimum	ors:	Juired: check	k all that app	bly)	_ present?	Seco	ndary Indicators	(2 or more re	equired)
YDROLO	(inches): DGY ydrology Indicat licators (minimum re water (A1)	ors: of one req	ιuired: checl	k all that app	oly) ained Leaves (exc	ept MLRA 1, 2, 4/	Seco	ndary Indicators Water-Stained	(2 or more re Leaves (B9)	equired) (MLRA 1,
YDROLO Wetland H Primary Ind Surfac Migh V	(inches): DGY ydrology Indicat licators (minimum je water (A1) Vater Table (A2)	ors: of one req	ıuired: checl	k all that app Water St & 4B) (B	oly) ained Leaves (exc 9)	- present?	Seco 4 □	ndary Indicators Water-Stained I 2, 4A & 4B)	(2 or more re Leaves (B9)	equired) (MLRA 1,
VDROLC YDROLC Wetland H Primary Ind Surfac X High V Satura	(inches): DGY ydrology Indicat licators (minimum we water (A1) Vater Table (A2) tition (A3)	ors: of one req	iuired: checl	k all that app Water St & 4B) (B Salt Crus	oly) ained Leaves (exc 9) st (B11)	ept MLRA 1, 2, 4/	Seco	ndary Indicators Water-Stained 2, 4A & 4B) Drainage Patter	(2 or more re Leaves (B9) rns (B10)	equired) (MLRA 1,
Deptn Remarks: YDROL(Wetland H; Primary Ind Surfac Might V Satura Water Water	(inches): DGY ydrology Indicat licators (minimum re water (A1) Vater Table (A2) tion (A3) Marks (B1)	ors: of one req	iuired: checl	k all that app Water St & 4B) (B Salt Crus Aquatic I	bly) ained Leaves (exc 9) st (B11) nvertebrates (B13)	ept MLRA 1, 2, 4/	Seco	ndary Indicators Water-Stained I 2, 4A & 4B) Drainage Patter Dry-Season Wa	(2 or more re Leaves (B9) rns (B10) ater Table (C	equired) (MLRA 1,
Deptn Remarks: YDROL(Wetland H Primary Ind Surfac High V Satura Water Sedim Sedim Sedim	(inches): DGY ydrology Indicat licators (minimum re water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) consists (B2)	ors: of one req	iuired: checl	k all that app Water St & 4B) (B Salt Crus Aquatic I Hydroger	oly) ained Leaves (exc 9) st (B11) nvertebrates (B13) n Sulfide Odor (C1)	ept MLRA 1, 2, 4/	Seco t	ndary Indicators Water-Stained I 2, 4A & 4B) Drainage Patter Dry-Season Wa Saturation Visib	(2 or more re Leaves (B9) rns (B10) ater Table (C le on Aerial I	equired) (MLRA 1, 2) magery (CS
Deptn Remarks: YDROL(Wetland H Primary Ind Surfac High V Satura Water Sedim Drift D Algal N	(inches): DGY ydrology Indicat licators (minimum re water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	ors: of one req	iuired: checl	k all that app Water St & 4B) (B Salt Crus Aquatic I Hydroger Oxidized	oly) ained Leaves (exc 9) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres alon	ept MLRA 1, 2, 44	Seco	ndary Indicators Water-Stained I 2, 4A & 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Pc Shallow Aquita	(2 or more re Leaves (B9) rns (B10) ater Table (C le on Aerial I osition (D2) rd (D3)	equired) (MLRA 1, 2) magery (C
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Veptn Remarks: YDROL(Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Algal N Iron D Surfac	(inches): DGY ydrology Indicat licators (minimum re water (A1) Vater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) vlat or Crust (B4) eposits (B5) re Soil Cracks (B6)	ors: of one rec	juired: checl	k all that app Water St & 4B) (B Salt Crus Aquatic I Hydroger Oxidized Presence Recent Ir Stunted of	oly) ained Leaves (exc 9) st (B11) nvertebrates (B13) n Sulfide Odor (C1) Rhizospheres alon e of Reduced Iron (ron Reduction in Tii or Stressed Plants	present? present? pt MLRA 1, 2, 4/ pt MLRA 1,	Seco 4	ndary Indicators Water-Stained I 2, 4A & 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC-Neutral Te Raised Ant Mot	(2 or more re Leaves (B9) rns (B10) ater Table (C le on Aerial I osition (D2) rd (D3) est (D5) unds (D6) (L	equired) (MLRA 1, :2) magery (C RR A)
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NE City/County: Bellevue / King County Sampling date: 3/25/2019
State: WA Sampling Point: 10A
Section, Township, Range: SE S 29, T 25N, R 5E
Local relief (concave, convex, none): Slope (%): <5%
_ong: Datum:
(AmC) NWI classification: None
ear? 🖂 Yes 🛛 No (If no, explain in remarks.)
Are "Normal Circumstances" present on the site? $\ \square$ Yes $\ \boxtimes$ No
(If needed, explain any answers in Remarks.)
pling point locations, transects, important features, etc.

Remarks: King County iMAP aerial	photog	raphs	show	the for	mer pond was filled in 2017.		
Wetland Hydrology Present?	Yes	\boxtimes	No				
Hydric Soils Present?	Yes	\boxtimes	No		Is the Sampled Area within a Wetland?	Yes 🛛	No 🗌
Hydrophytic Vegetation Present?	Yes	\boxtimes	No				

<u>Tree Stratum</u> (Plot size: 5-m diameter) 1. <u>Pseudotsuga menziesii</u> 2. Prunus emarginata	Absolute % Cover 85 60	Dominant Species? Y Y	Indicator Status FACU FACU	Dominance Test worksheet: Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant	(A)
3.				Species Across all Strata:	5 (B)
4.	145	= Total Co	ver	Percent of Dominant Species that are OBL, FACW, or FAC:	60 (A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter)				Prevalence Index worksheet	::
1. Rubus armeniacus	25	Y	FAC	Total % Cover of:	Multiply by:
2.				OBL species	x 1 =
3.				FACW species	x 2 =
4				FAC species	x 3 =
5				FACU species	x 4 =
	25	= Total Co	ver	UPL species	x 5 =
Herb Stratum (Plot size: 1-m diameter)		-		Column Totals:	(A) (B)
1. Lawn grass	95	Y	FAC	Prevalence Index = B/A =	
2. Ranunculus repens	60	Y	FAC		
3				Hydrophytic Vegetation	Indicators:
4				□ 1 – Rapid Test for Hydrop	hytic Vegetation
5				\boxtimes 2 – Dominance Test is > 5	50%
6				□ $3 - Prevalence Index is ≤$	3.0 ¹
7		. <u> </u>		4 – Morphological Adapta	tions ¹ (Provide supporting
8				data in Remarks or or	n a separate sneet)
9				5 – vvetiano inon-vascula	r Plants
10					vegetation (Explain)
11	455	- Tatal Ca		Indicators of nyaric soil and w	etland nyarology must be
Woody Vine Stratum (Plot size: 3-m diameter)	155		ver	present, unless disturbed or pr	
1				Hydrophytic	
2				Vegetation Yes	s 🛛 No 🗌
% Bare Ground in Herb Stratum		_ = Total Cov	ver	Present?	
				<u> </u>	
Remarks:					

Sampling Point: DP-10A

Profile Description: (Describe to	o the dep	oth needed	I to document the indic	ator or confirm	n the abse	nce of indicators.)	
(inches) Color (n	<u>/latrix</u>	0/2	Color (moi	Redox Features		1 oc^2	Texture	Remarks
0-18 10 Yr	3/1 9	93	2.5 YR 4	/2 5	D	M	Gravelly	Remains
0-18			7.5 YR 3/	4 2	С	М	Gravelly	
					-		sandy loam	
¹ Type: C=Concentratio	on, D=Deple	tion, RM	=Reduced	Matrix, CS=Covered or C	Coated Sand G	rains. ² L	oc: PL=Pore Lining, M=	=Matrix.
Hydric Soil Indicators	s: (Applical	ble to all	LRRs, unl	less otherwise noted.)		Inc	dicators for Problema	tic Hydric Soils ³ :
Histosol (A1)				andy Redox (S5)			2cm Muck (A10)	
□ Histic Epipedon (A2)			tripped Matrix (S6)			Red Parent Material	(TF2)
Black Histic (A3)				oamy Mucky Mineral (F1)	(except MLRA	\ 1) □	Very Shallow Dark S	Surface (TF12)
Hydrogen Sulfide	(A4)			oamy Gleyed Matrix (F2)			Other (Explain in Re	marks)
Depleted Below I	Dark Surface	e (A11)		epleted Matrix (F3)		3.		
	ce (A12)			edox Dark Surface (F6)		° Ir	idicators of hydrophytic	c vegetation and
	ieral (S1)			epleted Dark Surface (F)		disturbed or problema	asi de present, uniess
Restrictive Laver (if r								
Type [.]					Hyd	ric soil	Ves X	
-) po:					pre	sent?		
Depth (inches):								
HYDROLOGY								
HYDROLOGY Wetland Hydrology In Primary Indicators (min	ndicators:	ne require	ed: check a	ll that apply)		S	econdary Indicators (2	or more required)
HYDROLOGY Wetland Hydrology In Primary Indicators (min	ndicators: nimum of or	ne require	ed: check a	II that apply)	except MLRA	S 1, 2, 4A	econdary Indicators (2	or more required) aves (B9) (MLRA 1,
HYDROLOGY Wetland Hydrology In Primary Indicators (min Surface water (A' High Water Table	ndicators: nimum of or 1) (A2)	ne require	ed: check a	II that apply) Water Stained Leaves (& 4B) (B9) Selt Crust (B11)	except MLRA	<u>S</u> 1, 2, 4A	econdary Indicators (2 Water-Stained Lea 2, 4A & 4B)	or more required) aves (B9) (MLRA 1,
HYDROLOGY Wetland Hydrology II Primary Indicators (min Surface water (Ar High Water Table Saturation (A3)	ndicators: nimum of or 1) (A2)	ne require	ed: check a	II that apply) Water Stained Leaves (& 4B) (B9) Salt Crust (B11)	except MLRA	S 1, 2, 4A	econdary Indicators (2 Water-Stained Lea 2, 4A & 4B) Drainage Patterns	or more required) aves (B9) (MLRA 1, s (B10) r Table (C2)
HYDROLOGY Wetland Hydrology II Primary Indicators (min Surface water (A' High Water Table Saturation (A3) Water Marks (B1) Sediment Depending	ndicators: nimum of or 1) (A2)	ne require	ed: check a	II that apply) Water Stained Leaves (& 4B) (B9) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Oder (B	except MLRA	S 1, 2, 4A	econdary Indicators (2 Water-Stained Le: 2, 4A & 4B) Drainage Patterns Dry-Season Wate	or more required) aves (B9) (MLRA 1, s (B10) rr Table (C2) on Aprial Imagony (C0)
HYDROLOGY Wetland Hydrology II Primary Indicators (mii Surface water (A' High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3)	ndicators: nimum of or 1) (A2) is (B2)	ne require	ed: check a	II that apply) Water Stained Leaves (& 4B) (B9) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Ovidized Phizespheres a	except MLRA- 13) C1)	S 1, 2, 4A	econdary Indicators (2 Water-Stained Lea 2, 4A & 4B) Drainage Patterns Dry-Season Wate Saturation Visible	or more required) aves (B9) (MLRA 1, s (B10) r Table (C2) on Aerial Imagery (C9) tion (C2)
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HYDROLOGY Wetland Hydrology II Primary Indicators (min Surface water (A' High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	ndicators: nimum of or (A2) ts (B2) t (B4)	ne require	ed: check a	II that apply) Water-Stained Leaves (& 4B) (B9) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Iro Percent Iron Reduction ir	13) C1) long Living Rom on (C4) Tilled Soils (C	S 1, 2, 4A ots (C3)	econdary Indicators (2 Water-Stained Lea 2, 4A & 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of EAC. Neutral Test	or more required) aves (B9) (MLRA 1, s (B10) rr Table (C2) on Aerial Imagery (C9) tion (D2) (D3)
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HYDROLOGY Wetland Hydrology In Primary Indicators (min Surface water (A' High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Surface Soil Crac Jundation Visible	ndicators: nimum of or (A2) ts (B2) t (B4)) ks (B6) s on Aerial I	ne require	ed: check a	II that apply) Water Stained Leaves (& 4B) (B9) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (Oxidized Rhizospheres a Presence of Reduced Irc Recent Iron Reduction ir Stunted or Stressed Plan Other (explain in remark	13) C1) long Living Rod nn (C4) n Tilled Soils (C nts (D1) (LRR	S 1, 2, 4A ots (C3) (C6) A)	econdary Indicators (2 Water-Stained Lea 2, 4A & 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	or more required) aves (B9) (MLRA 1, s (B10) or Table (C2) on Aerial Imagery (C9) tion (D2) (D3) (D5) ds (D6) (LRR A) imacks
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DP-11A

Project/Site: Fire Station #10, parcel 1266200341, 1223 112th Ave NE	City/County: Bellevue	/ King Cour	nty Samp	ling date:	3/25/20	19
Applicant/Owner: City of Bellevue / Prasad		State:	WA Sa	mpling Point:	11A	
Investigator(s): Nell Lund, Logan Dougherty	Section, Township, Range:	SE S 29	, T 25N, R 5	E		
Landform (hillslope, terrace, etc): hillslope	Local relief (concave, conve	ex, none):	convex	Slope	(%):	>5%
Subregion (LRR): A Lat: - Lon	g:		Datum:	-		
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (A	mC) NWI classif	ication:	None			
Are climatic / hydrologic conditions on the site typical for this time of year	? 🛛 Yes 🛛 No (If no, e	xplain in rer	marks.)			
Are Vegetation \boxtimes , Soil \boxtimes , or Hydrology \boxtimes significantly disturbed?	Are "Normal Circumstan	ces" preser	nt on the site	? 🗆 Yes 🛛	No	
Are Vegetation \Box , Soil \Box , or Hydrology \Box naturally problematic?	(If needed, explain any a	answers in F	Remarks.)			
SUMMARY OF FINDINGS – Attach site map showing sampli	ng point locations, transe	cts, import	tant feature	s, etc.		

Hydrophytic Vegetation Present?	Yes	No	\boxtimes			
Hydric Soils Present?	Yes	No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🛛	No 🛛
Wetland Hydrology Present?	Yes	No	\boxtimes			

Remarks: King County iMAP aerial photographs show the former pond was filled in 2017.

May be beyond fill, hard to tell.

Tree Stratum (Plot size: 5-m diameter) 1. Pseudotsuga menziesii 2. Prunus emarginata	Absolute % Cover 50 60	Dominant Species? Y Y	Indicator Status FACU FACU	Dominance Test workshow Number of Dominant Specthat are OBL, FACW, or Fi Total Number of Dominant	eet: iles 2 (A AC: 4	A)
3				Species Across all Strata:	(E	B)
4	110	= Total Co	ver	Percent of Dominant Spec that are OBL, FACW, or FA	ies 50 AC: (A	A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter) 1. Ornamental pampa grass 2.	5	Y	FAC*	Prevalence Index worksh Total % Cover of: OBL species FACW species FAC species	Multiply by: x 1 = x 2 = x 3 =	
5.				FACU species	x 4 =	
	5	= Total Cov	ver	UPL species	x 5 =	
Herb Stratum (Plot size: 1-m diameter)				Column Totals:	(A)	(B)
1. Lawn grass	98	Y	FAC	Prevalence Index = B/A =		
2. Rubus armeniacus	5	<u>N</u>	FAC	Librahan butin Manatat	ion Indiantono.	
3. Ranunculus repens	10	IN	FACW	Hydrophytic vegetat	ion indicators:	
				1 Rapid Test for Hyd	trophytic Vegetation	
45				\square 1 – Rapid Test for Hyd	drophytic Vegetation	
4 5 6				 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 	drophytic Vegetation s > 50% is ≤ 3.0^1	
4. 5. 6. 7.				 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 4 – Morphological Ada 	drophytic Vegetation s > 50% is ≤ 3.0 ¹ aptations ¹ (Provide support	ting
4				 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 4 – Morphological Ada data in Remarks d 	drophytic Vegetation s > 50% is ≤ 3.0^1 aptations ¹ (Provide support or on a separate sheet)	ting
4. 5. 6. 7. 8. 9.				 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vase 	drophytic Vegetation s > 50% is $\le 3.0^1$ aptations ¹ (Provide support or on a separate sheet) cular Plants ¹	ting
4. 5. 6. 7. 8. 9. 10.				 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 4 – Morphological Ada data in Remarks data in Remarks data 5 – Wetland Non-Vast Problematic Hydrophy 	drophytic Vegetation s > 50% is $\leq 3.0^1$ aptations ¹ (Provide support or on a separate sheet) cular Plants ¹ rtic Vegetation ¹ (Explain)	ting
4. 5. 6. 7. 8. 9. 10. 11.				 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 4 – Morphological Ada data in Remarks data in Remarks data 5 – Wetland Non-Vase Problematic Hydrophy ¹Indicators of hydric soil ar 	drophytic Vegetation s > 50% is $\leq 3.0^1$ aptations ¹ (Provide support or on a separate sheet) cular Plants ¹ rtic Vegetation ¹ (Explain) nd wetland hydrology must a proclamatic	ting t be
4		_ = Total Cov	ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vase Problematic Hydrophy ¹Indicators of hydric soil ar present, unless disturbed of 	drophytic Vegetation s > 50% is ≤ 3.0 ¹ aptations ¹ (Provide support or on a separate sheet) cular Plants ¹ tic Vegetation ¹ (Explain) nd wetland hydrology must or problematic.	ting t be
4	113	_ = Total Cov	ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 4 – Morphological Ada data in Remarks d 5 – Wetland Non-Vase Problematic Hydrophy ¹Indicators of hydric soil ar present, unless disturbed of 	drophytic Vegetation s > 50% is ≤ 3.0 ¹ aptations ¹ (Provide support or on a separate sheet) cular Plants ¹ tic Vegetation ¹ (Explain) nd wetland hydrology must or problematic.	ting t be
4	113	_ = Total Cov	ver	 1 – Rapid Test for Hyd 2 – Dominance Test is 3 – Prevalence Index 4 – Morphological Ada data in Remarks of 5 – Wetland Non-Vase Problematic Hydrophy ¹Indicators of hydric soil ar present, unless disturbed of Hydrophytic Vegetation Present? 	drophytic Vegetation s > 50% is ≤ 3.0 ¹ aptations ¹ (Provide support or on a separate sheet) cular Plants ¹ tric Vegetation ¹ (Explain) ind wetland hydrology must or problematic. Yes □ No ⊠	ting t be

Profile Des	scription: (Descr	ibe to t	the dept	h need	ed to docum	ent the indicator	or confirm the ab	sence	of indicators.)	
(inches)	Color (moist)	%		Color (n	noist)	% Type	Loc ²		Texture	Remarks
0-9	10 YR 2/2	10	0						Sandy loam	
9-14	2.5 Y 4/2	98	}	7.5 YR	4/4	2			Sandy	
• • •			·			_			loam+cobble	
								0		
¹ Type: C=C	Concentration, D=	Depleti	on, RM=	Reduce	ed Matrix, CS=	Covered or Coate	d Sand Grains.	² Loc:	PL=Pore Lining, M=	Matrix.
Hydric Soi	I Indicators: (Ap	plicabl	e to all l	.RRs, ι		Vise noted.)			ators for Problemat	ic Hydric Soils ³ :
□ Histos	Epipedon (A2)				Stripped Mat	rix (S6)			Red Parent Material ((TF2)
Black	Histic (A3)				Loamy Muck	y Mineral (F1) (exe	cept MLRA 1)	□ V	/ery Shallow Dark Si	urface (TF12)
□ Hydro	gen Sulfide (A4)				Loamy Gleye	d Matrix (F2)			Other (Explain in Rer	narks)
Deplei Deplei Thick	ted Below Dark S Dark Surface (A1	urface	(A11)		Depleted Mai	trix (F3) Surface (E6)		³ India	ators of hydrophytic	vegetation and
□ Sandy	Mucky Mineral (2) S1)			Depleted Dar	k Surface (F7)		We	etland hydrology mu	st be present, unless
□ Sandy	Gleyed Matrix (S	64)			Redox Depre	essions (F8)		dis	sturbed or problema	tic.
Restrictive	e Layer (if preser	nt):								
Type:							Hydric soil		Yes 🛛	No 🛛
Depth	(inches):						presenti			
Domorko										
Remarks.										
HYDROLO	DGY									
Wetland H Primary Inc	ydrology Indicat licators (minimum	ors: of one	required	I: check	all that apply)		Seco	ndary Indicators (2 c	or more required)
□ Surfac	e water (A1)		- 1		Water-Stair	, ned Leaves (exce	pt MLRA 1, 2, 4A	_	Water-Stained Lea	ves (B9) (MLRA 1 ,
High V	Vater Table (A2)				& 4B) (B9)	,			2, 4A & 4B)	
□ Satura	ation (A3)				Salt Crust ((B11)			Drainage Patterns	(B10)
□ Water	Marks (B1)	`			Aquatic Inv	ertebrates (B13)			Dry-Season Water	able (C2)
	enosits (B3))			Oxidized R	hizospheres along	Living Roots (C3)		Geomorphic Positi	on (D2)
□ Algal N	Mat or Crust (B4)				Presence of	of Reduced Iron (C	(4)		Shallow Aquitard (I	D3)
□ Iron D	eposits (B5)				Recent Iror	n Reduction in Tille	ed Soils (C6)		FAC-Neutral Test	(D5)
□ Surfac	e Soil Cracks (Be	5) 	(5	_\	Stunted or	Stressed Plants (I	01) (LRR A)		Raised Ant Mound	s (D6) (LRR A)
	ation Visible on A	erial Im	agery (B	/) ∐ ⊡9)	Other (expl	ain in remarks)			Frost-Heave Humr	nocks
	ervations:	licave c	Surface (50)						
Surface Mic	ator Brogont?	Voc			Donth (in):					
Motor Tobl		Voo			Depth (in):		Wetland Hydr	ology	Yes [
		Vac					Present	1		
Saturation (includes ca	resent? apillary fringe)	res			Deptn (in):					
Describe R	ecorded Data (st	ream da	auge, mo	nitorinc	well, aerial p	hotos, previous in	spections), if availa	ble:		
			J - ,		, , , P	, p		-		
	D									
Remarks:	Damp at botto	om, not	saturate	נ						



Project/Site: Fire Station #10, parcel 1266200341, 1213 112th Ave NE	City/County: Bellevue / King County Sampling date: 04/09/2019
Applicant/Owner: City of Bellevue	State: WA Sampling Point: 12
Investigator(s): Nell Lund	Section, Township, Range:SE S 29, T 25N, R 5E
Landform (hillslope, terrace, etc): hillslope	Local relief (concave, convex, none): <u>concave</u> Slope (%): <u><5%</u>
Subregion (LRR): A Lat: - Lor	g: Datum:
Soil Map Unit Name: Arents, Alderwood material, 6 to 15% slopes (A	mC) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of yea	? \boxtimes Yes \Box No (If no, explain in remarks.)
Are Vegetation \Box , Soil \Box , or Hydrology \Box significantly disturbed?	Are "Normal Circumstances" present on the site? $\ igtriangle$ Yes $\ \Box$ No
Are Vegetation \Box , Soil \Box , or Hydrology \Box naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampl	ng point locations, transects, important features, etc.

Hydrophytic V	egetation Present?	Yes	\boxtimes	No				
Hydric Soils F	Yes	\boxtimes	No		Is the Sampled Area within a Wetland?	Yes 🗌	No 🛛	
Wetland Hydrology Present?		Yes		No	\boxtimes			
Remarks: Click here to enter text.								

Tree Stratum (Plot size: 5-m diameter)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species that are OBL, FACW, or FAC:	: 	3	(A)
2				Total Number of Dominant Species Across all Strata:		3	(B)
4.		= Total Co	ver	Percent of Dominant Species that are OBL, FACW, or FAC:		100	(A/B)
Sapling/Shrub Stratum (Plot size: 3-m diameter) 1. Ornamental fruit tree 2.	15	Y	FAC*	Prevalence Index worksheet Total % Cover of: OBL species FACW species FAC species EACU species	t: <u>Multiply</u> x 1 = x 2 = x 3 = x 4 =	<u>/ by:</u>	_
		= Total Co	ver	UPL species	x 5 =		-
Herb Stratum (Plot size: 1-m diameter)		-		Column Totals:	(A)		(B)
1. Lawn grass	80	<u> Y </u>	FAC*	Prevalence Index = B/A =			
2. Ranunculus repens	80	<u> </u>		Hydrophytic Vegetation	Indicato	vre:	
A Plantago lanceolata	trace	N	FACU	\square 1 – Rapid Test for Hydror	hvtic Ve	netation	
5			17,00	\boxtimes 2 – Dominance Test is >	50%	gotation	
6.				☐ 3 – Prevalence Index is ≤	3.0 ¹		
7.				4 – Morphological Adapta data in Remarks or o	ations ¹ (Pi n a separ	rovide supp ate sheet)	oorting
9.				5 – Wetland Non-Vascula	r Plants ¹	,	
10.				Problematic Hydrophytic	Vegetatic	on ¹ (Explair	ו)
11.				¹ Indicators of hydric soil and v	vetland hy	ydrology m	ust be
	165+	= Total Co	ver	present, unless disturbed or p	roblemati	ic.	
Woody Vine Stratum (Plot size: 3-m diameter)							
1				Hydrophytic			
2		= Total Co	ver	Vegetation Ye Present?	s 🛛	No 🗌	
% Bare Ground in Herb Stratum:							
Remarks: *Presumed FAC							

Sampling Point: DP-12

Profile De:	scription: (Descrif	be to the d	lepth needed	d to document the indicato	r or confirm the al	bsence of indicators.)	
Depth	Matrix			Redox Features		· · ·	. .
(inches)	Color (moist)	%	Color (mo	vist) % Typ	<u>e¹ Loc²</u>	² Texture	Remarks
0-8	7.5 YR 2.5/2	100				Gravelly sandy loam	
						Gravelly	
8-14	7.5 YR 2.5/2	95	7.5 YR 4	/6 5 C	, М	sandy loam	
I							
¹ Type: C=C	Concentration, D=D	epletion, R	M=Reduced	Matrix, CS=Covered or Coa	ted Sand Grains.	² Loc: PL=Pore Lining	, M=Matrix.
Hydric Soi	il Indicators: (App	licable to a	all LRRs, un	less otherwise noted.)		Indicators for Proble	matic Hydric Soils ³ :
Histos	sol (A1)		□ S	andy Redox (S5)		□ 2cm Muck (A10)	-
□ Histic	Epipedon (A2)		🗆 S	stripped Matrix (S6)		Red Parent Mate	rial (TF2)
Black	Histic (A3)			oamy Mucky Mineral (F1) (e	xcept MLRA 1)	Very Shallow Dar	rk Surface (TF12)
🗆 Hydro	ogen Sulfide (A4)			oamv Gleved Matrix (F2)		Other (Explain in	Remarks)
Deple	eted Below Dark Sur	rface (A11)) 🗆 🗅	Depleted Matrix (F3)			, , , , , , , , , , , , , , , , , , ,
□ Thick	Dark Surface (A12))	× P	Redox Dark Surface (F6)		³ Indicators of hydroph	vtic vegetation and
□ Sandy	v Mucky Mineral (S	1)		Depleted Dark Surface (F7)		wetland hydrology	/ must be present, unless
□ Sandy	y Gleyed Matrix (S4	,)		Redox Depressions (F8)		disturbed or proble	ematic.
Restrictive	e Laver (if present):					
Type	, Lajer (n. j				Hydric soil	l Voc	
i ype.					present?	Tes	
Depth	(inches):						
Remarks:	Encountered col	bles at ab	out 14" depth	 ו			
Normania.	Elloundred et.	Dico at a.	Juli + acpa.	1			
L							
	OGY						
Wetland H	lydrology Indicato	rs:	· · · · · · · · · · · · · · · ·				
Primary inc	dicators (minimum c	of one requ	ired: check a	ill that apply)		Secondary Indicators	(2 or more requirea)
□ Surfac	ce water (A1)			Water-Stained Leaves (exc	ept MLRA 1, 2, 4A	Water-Stained	Leaves (B9) (MLRA 1,
High V	Water Table (A2)			& 4B) (B9)		2,4A & 4B)	
Satura	ation (A3)			Salt Crust (B11)		Drainage Patte	erns (B10)
□ Water	r Marks (B1)			Aquatic Invertebrates (B13)		Dry-Season W	ater Table (C2)
Sedim	nent Deposits (B2)			Hydrogen Sulfide Odor (C1))	Saturation Visil	ole on Aerial Imagery (C9
Drift D	Jeposits (B3)			Oxidized Rhizospheres alon	g Living Roots (C3)	Geomorphic P	osition (D2)
🗆 Algal '	Mat or Crust (B4)			Presence of Reduced Iron (C4)	Shallow Aquita	ard (D3)

Recent Iron Reduction in Tilled Soils (C6)

- Recent Iron Reduction in Tilled Soils (C6)
 Stunted or Stressed Plants (D1) (LRR A)
- □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Imagery (B7) □ Other (explain in remarks)

□ Inundation Visible on A	□ Inundation Visible on Aerial Imagery (B7) □ Other (explain in remarks) □ Frost-Heave Hummocks								
□ Sparsely Vegetated Concave Surface (B8)									
Field Observations:									
Surface Water Present? Yes Do No Depth (in):									
Water Table Present?	Yes		No	\boxtimes	Depth (in):	8" BGS	Present?	Yes 🗌	No 🛛
Saturation Present? (includes capillary fringe)	Yes		No	\boxtimes	Depth (in):	3" BGS			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks: Moist, not saturated despite recent rain									

□ Iron Deposits (B5)

□ FAC-Neutral Test (D5)

□ Raised Ant Mounds (D6) (LRR A)

RATING SUMMARY – Western Washington

Name of wetland (or ID #): <u>Bellevue Fire Station #10 - Wetland A</u> Date of site visit: <u>8/17/18, 3/25/19</u> Rated by: <u>Nell Lund, Logan McClish</u> Trained by Ecology? \boxtimes Y \Box N Date of training: 06/2014

HGM Class used for rating: Slope Wetland has multiple HGM classes?
U Y
N

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map: <u>Google Earth</u>

OVERALL WETLAND CATEGORY (based on functions \square or special characteristics \square)

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		Hy	ydrolo	ogic	Habitat		at		
	Circle the appropriate ratings									
Site Potential	Н	М	L	Н	М	L	Н	М	L	
Landscape Potential	Н	M	L	Н	M	L	Н	М	L	
Value	Н	M	L	Н	M	L	Н	Μ	L	ΤΟΤΑ
Score Based on Ratings		5			5			3		13

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M

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	CATE	GORY	
Estuarine	Ι	II	
Wetland of High Conservation Value		Ι	
Bog		Ι	
Mature Forest		I	
Old Growth Forest		Ι	
Coastal Lagoon	Ι	II	
Interdunal	I II	III IV	
None of the above		\boxtimes	

Maps and figures required to answer questions correctly for Western Washington

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	1
(can be added to figure above)		T
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	2
polygons for accessible habitat and undisturbed habitat		5
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	5

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?

 \boxtimes 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) 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.

YES – The wetland class is **Flats** \boxtimes NO – go to 3 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; \Box At least 30% of the open water area is deeper than 6.6 ft (2 m).

 \boxtimes 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?
 - \boxtimes 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**.

 \Box 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.

YES – Freshwater Tidal Fringe

□ 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.*

 \Box 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.

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

SLOPE WETLANDS		
water Quality Functions - Indicators that the site functions to improve	water quality	
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation 100 ft of horizontal distance)	on for every	
□ Slope is 1% or less	points = 3	1
\Box Slope is > 1%-2%	points = 2	-
⊠ Slope is > 2%-5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Y	es = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:		
Choose the points appropriate for the description that best fits the plants in the wetland. Dense	means you	
have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and pla	nts are higher	
than 6 in.		
\Box Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	3
Dense, uncut, herbaceous plants > ½ of area	points = 3	
\Box Dense, woody, plants > $\frac{1}{2}$ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
\square Does not meet any of the criteria above for plants	points = 0	
Total for S 1Add the points in th	e boxes above	4

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

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water	r quality function of the site?	
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
	\boxtimes Yes = 1 \square No = 0	Ţ
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources	□Yes = 1 ⊠ No = 0	0
Total for S 2	Add the points in the boxes above	1

Rating of Landscape Potential If score is: $\square 1-2 = M \square 0 = L$

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
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?	
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.	1
S 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 unit is found.	0
Total for S 3Add the points in the boxes above	0

Rating of Value If score is: $\Box 2-4 = H \quad \boxtimes 1 = M \quad \Box 0 = L$

Record the rating on the first page

Note: Site is in the Sturtevant Creek Basin. Drainage basin: Mercer Slough. Mercer Slough is on 303d list.

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosi		
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 >1/8_g in), or dense enough, to remain erect during surface flows. □ Dense, uncut, rigid plants cover > 90% of the area of the wetland 	0	
\boxtimes All other conditions points = 0		
Rating of Site Potential If score is: $\Box 1 = \mathbf{M} \otimes 0 = \mathbf{L}$ Record the rating on the		

S 5.0. Does the landscape have the potential to support the hydrologic functions of the	e site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that grunoff?	generate excess surface ⊠Yes = 1 □ No = 0	1
Rating of Landscape Potential If score is: $\square 1 = \mathbf{M} \square 0 = \mathbf{L}$	Record the rating on t	he 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) □ Surface flooding problems are in a sub-basin farther down-gradient □ No flooding problems anywhere downstream 	1
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	
Total for S 6Add the points in the boxes above	1

Rating of Value If score is: $\Box 2-4 = H \boxtimes 1 = M \Box 0 = L$

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. □ Aquatic bed □ Structures or more: points = 4 □ Scrub-shrub (areas where shrubs have > 30% cover) □ Forested (areas where trees have > 30% cover) □ If the unit has a Forested class, check if: 	0
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). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland 2 points Lake Fringe wetland 2 points Freshwater tidal wetland 2 points	1
H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft ² . 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 □ 5 - 19 species □ < 5 species	2
 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. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i> ✓ None = 0 points ✓ Low = 1 point ✓ Moderate = 2 points All three diagrams in this row are HIGH = 3points 	0

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
□ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
☑ Standing snags (dbh > 4 in) within the wetland.	
Undercut banks are present for at least 6.6 ft (2 m) AND/OR 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).	
□ 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 (cut shrubs or trees that have not yet weathered where wood is exposed).	1
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians).	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata).	
Total for H 1Add the points in the boxes above	4
Rating of Site Potential If score is: \Box 15-18 = H \Box 7-14 = M \boxtimes 0-6 = L Record the rating on t	he first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(%moderate and low intensity land uses)/2] = % + (%/2) = % If total accessible habitat is: $\square > 1/3$ (33.3%) of 1 km Polygon points = 3 0 □ 20-33% of 1 km Polygon points = 2 □ 10-19% of 1 km Polygon points = 1 ⊠ < 10% of 1 km Polygon points = 0H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(%moderate and low intensity land uses)/2 = % + (%/2) = % □ Undisturbed habitat > 50% of Polygon points = 30 □ Undisturbed habitat 10-50% and in 1-3 patches points = 2 \Box Undisturbed habitat 10-50% and > 3 patches points = 1 ☑ Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If -2 ≥ >50% of 1 km Polygon is high intensity land use points = (-2) $\Box \leq 50\%$ of 1 km Polygon is high intensity points = 0 -2 Total for H 2 Add the points in the boxes above

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

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only	the highest score	
that applies to the wetland being rated.		
Site meets ANY of the following criteria:	points = 2	
\Box It has 3 or more priority habitats within 100 m (see next page)		
\Box It provides habitat for Threatened or Endangered species (any plant or animal on the	e state or federal lists)	
It is mapped as a location for an individual WDFW priority species		0
\Box It is a Wetland of High Conservation Value as determined by the Department of Natu	ural Resources	
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		
\square Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	
Pating of Value If score is: $\square 2 - H \square 1 - M \square 0 - I$	Record the rating on t	he first nage

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u> or access the list from here: <u>http://wdfw.wa.gov/conservation/phs/list/</u>)

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.

 \Box **Old-growth/Mature forests:** <u>Old-growth west of Cascade crest</u> – 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. <u>Mature forests</u> – 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.

 \Box **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
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
The dominant water regime is tidal,	
□ Vegetated, and	
\Box With a salinity greater than 0.5 ppt \Box Yes –Go to SC 1.1 \boxtimes No= Not an estuarine wetland	
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?	Cat. I
□Yes = Category I □No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
□ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has	Cat. I
less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	
\Box At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or	Cat. II
\Box The wetland has at least two of the following features: tidal channels, depressions with open water.	
or contiguous freshwater wetlands.	
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? \Box Yes – Go to SC 2.2 \Box No – Go to SC 2.3	
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
http://www.dnr.wa.gov/NHPwetlandviewer UYes = Category I No = Not a WHCV	Cat. I
bttp://file.dpr.wa.gov/publications/amp.nb. wetlands.trs.ndf	
$\Box Yes - Contact WNHP/WDNR and go to SC 2.4 \Box No = Not a WHCV$	
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?	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
SC 3.1. Does an area within the wetiand unit have organic soil horizons, either peats or mucks, that compose 16 in or	
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? \Box Yes – Go to SC 3.3 \Box No = Is not a bog	
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%	Cat. I
cover of plant species listed in Table 4? \Box Yes = Is a Category I bog \Box No – Go to SC 3.4	
NOTE: 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.	
western hemlock lodgenole nine quaking aspen. Engelmann spruce, or western white nine AND any of the	
species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?	
□Yes = Is a Category I bog □No = Is not a bog	

SC 4.0. Forested Wetlands	
 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? <i>If you answer YES you will still need to rate the wetland based on its functions.</i> Old-growth forests (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. Mature forests (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). 	Cat. I
□Yes = Category I ⊠No = Not a forested wetland for this section	
SC 5.0. Wetlands in Coastal Lagoons Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? □ 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 □ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) □Yes – Go to SC 5.1 ⊠No = Not a wetland in a coastal lagoon SC 5.1. Does the wetland meet all of the following three conditions? □ 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). □ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland. □ The wetland is larger than ¹ / ₁₀ ac (4350 ft ²)	Cat. I Cat. II
Yes = Category I	
SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas: Long Beach Peninsula: Lands west of SR 103 Gravland-Westport: Lands west of SR 105	Cat I
 Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1 No = not an interdunal wetland for rating 	Cat. II
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)? □Yes = Category I □No – Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	Cat. III
□ Yes = Category II □ No – Go to SC 6.3 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? □ Yes = Category III □ No = Category IV	Cat. IV
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	NA

Wetland name or number: _Click here to enter text.__

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2014 Ecology Wetland Rating Form Figures

FIRE STATION #10 / CITY OF BELLEVUE

Wetland A (Slope)	1
Figure 1. Cowardin plant classes – H1.1, H1.4; and Plant cover of dense and rigid trees, shrubs, an herbaceous plants – S1.3, S4.1	d 1
Figure 2. Hydroperiods and area 150-feet uphill– H1.2, S2.1, S5.1	2
Figure 3. Undisturbed habitat and moderate-low intensity land uses within 1 km from wetland ed including polygon for accessible habitat – H2.1, H2.2, H2.3	ge 3
Figure 4. Screen-capture of 303(d) listed waters in basin – S3.1, S3.2	4
Figure 5. Screen-capture of WQ improvement projects for sub-basin in which unit is found (none) \$3.3	– 5

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WETLAND A (SLOPE)



Figure 1. Cowardin plant classes – H1.1, H1.4; and Plant cover of dense and rigid trees, shrubs, and herbaceous plants – S1.3, S4.1

Features depicted are not to scale. Sketches are based on available data and best professional judgment.



Figure 2. Hydroperiods and area 150-feet uphill– H1.2, S2.1, S5.1

Features depicted are not to scale. Sketches are based on available data and best professional judgment.



Figure 3. Undisturbed habitat and moderate-low intensity land uses within 1 km from wetland edge including polygon for accessible habitat – H2.1, H2.2, H2.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.


Figure 4. Screen-capture of 303(d) listed waters in basin – S3.1, S3.2

Features depicted are not to scale. Sketches are based on available data and best professional judgment.



Figure 5. Screen-capture of WQ improvement projects for sub-basin in which unit is found (none) – S3.3

Features depicted are not to scale. Sketches are based on available data and best professional judgment.

Appendix B

Mitigation Plan





INVASIVE VEGETATION: KNOTWEED, THISTLE, ENGLISH HOLLY, LAUREL, HIMALAYAN BLACKBERRY, ENGLISH IVY, BINDWEED - 5,190 SF

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- 1. CRITICAL AREAS DELINEATED BY THE WATERSHED COMPANY ON AUGUST 20, 2018 AND MARCH 25TH, 2019.
- WETLAND SURVEYED BY DAVID EVANS AND ASSOCIATES, INC. IN SEPTEMBER 2018 AND APRIL 2019.
- 3. ARBORIST REPORT BY TREE SOLUTIONS, INC. 2940 WESTLAKE AVE. N, SUITE #200, SEATTLE, WA 98109, DATED JUNE 4TH, 2019

Bohlin Cywinski Jackson	
Swift Company	
Coughlin Porter Lundeen STRUCTURAL	
PCS Structural Solutions	
ELECTRICAL	
ACOUSTICAL	
A3 Acoustics SUSTAINABILITY	
Brightworks ENERGY MODELING AND ANALYSIS	
Solarc Energy Group	
WATERPROOFING	
COST ESTIMATING	
TRAFFIC	
WETLAND CONSULTANT	
The Watershed Company	
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IMPACTS LEGEND



PRE-EXISTING DEVELOPMENT - 2,280 SF PROPOSED DEVELOPMENT - 2,465 SF PAPER FILL 1,209 SF

PERMANENT BUFFER IMPACTS 5,058 SF

479 SF

<u>PLAN LEGEND</u>

	WETLAND BUFFER (40-FT)
<u> </u>	PROJECT PARCEL BOUNDARIES
	DELINEATED WETLAND BOUNDARY

WETLAND FILL

NOTES 1. ARBORIST REPORT BY TREE SOLUTIONS, INC. 2940 WESTLAKE AVE. N, SUITE #200, SEATTLE, WA 98109, DATED JUNE 4TH, 2019

ARCHITECT Bohlin Cywinski Jackson		
LANDSCAPE Swift Company		
CIVIL Coughlin Porter Lundeen		
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MECHANICAL Hargis		
ELECTRICAL TFWB Engineers		
ACOUSTICAL A3 Acoustics		
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COST ESTIMATING RLB Robinson		
TRAFFIC Transpo Group		
WETLAND CONSULTANT The Watershed Company		
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MITIGATION LEGEND

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BUFFER ENHANCEMENT	16,402 SF
BUFFER EXPANSION	
WITH ENHANCEMENT	5,058 SF
WETLAND CREATION	479 SF
WETLAND ENHANCEMENT AREA	8,527 SF
	·

<u>PLAN LEGEND</u>

WETLAND BUFFER (40-FT)
 MODIFIED WETLAND BUFFER/ CRITICAL AREA FENCE (SEE DETAIL 1; W7)
 PROJECT PARCEL BOUNDARIES
 PROPOSED WETLAND BOUNDARY

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HABITAT FEATURE LEGEND



DOWN LOG WITH ROOT WAD (SEE DETAIL 3; W7)

SMALL LOG//WOOD DEBRIS //HABITAT PILE S EXISTING DECIDUOUS/CONIFER SNAG (SEE DETAIL 2; W7)

<u>GRADING LEGEND</u>

PLAN LEGEND

·····	MODIFIED WETLAND BUFFER
	PROJECT PARCEL BOUNDARIES
	PROPOSED WETLAND BOUNDARY
	EXISTING CONTOUR
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PLANTIN	NG AREAS OVERVIEW	
	BUFFER PLANTING MIX A GAULTHERIA SHALLON / SALAL MAHONIA NERVOSA / OREGON GRAPE ROSA GYMNOCARPA / DWARF ROSE RUBUS PARVIFLORUS / THIMBLEBERRY VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	2,661 SF
	BUFFER PLANTING MIX B ACER CIRCINATUM / VINE MAPLE FRANGULA PURSHIANA / CASCARA GAULTHERIA SHALLON / SALAL POLYSTICHUM MUNITUM / WESTERN SWORD FERN PSEUDOTSUGA MENZIESII / DOUGLAS-FIR ROSA PISOCARPA / CLUSTERED ROSE TSUGA HETEROPHYLLA / WESTERN HEMLOCK	7,350 SF
	<u>BUFFER PLANTING MIX C</u> ACER MACROPHYLLUM / BIG-LEAF MAPLE GAULTHERIA SHALLON / SALAL MAHONIA AQUIFOLIUM / OREGON GRAPE POLYSTICHUM MUNITUM / WESTERN SWORD FERN PSEUDOTSUGA MENZIESII / DOUGLAS-FIR SYMPHORICARPOS ALBUS / COMMON SNOWBERRY	11,453 SF
	WETLAND PLANTING MIX A ATHYRIUM FILIX-FEMINA / COMMON LADY FERN BLECHNUM SPICANT / DEER FERN CAREX OBNUPTA / SLOUGH SEDGE JUNCUS ENSIFOLIUS / DAGGERLEAF RUSH OENANTHE SARMENTOSA / WATER PARSLEY SCIRPUS MICROCARPUS / SMALL FRUITED BULRUSH VERONICA AMERICANA / AMERICAN SPEEDWELL	5,590 SF
	WETLAND PLANTING MIX B CORNUS STOLONIFERA / RED TWIG DOGWOOD FRAXINUS LATIFOLIA / OREGON ASH LONICERA INVOLUCRATA / TWINBERRY PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK PICEA SITCHENSIS / SITKA SPRUCE RUBUS SPECTABILIS / SALMONBERRY THUJA PLICATA / WESTERN RED CEDAR VIBURNUM EDULE / HIGHBUSH CRANBERRY	3,316 SF

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TYPICAL WETLAND MIX A SCALE 1" = 10'



TYPICAL BUFFER MIX A SCALE 1" = 10'

- 20' -

SCALE 1" = 10'

_____ 20' _____

TYPICAL BUFFER MIX B SCALE 1" = 10'

SIZE

TYPICAL WETLAND MIX B



TYPICAL BUFFER MIX C SCALE 1" = 10'

REMARKS

SPACING QTY

PLANTING SCHEDULE EES COMMON / BOTANICAL NAME

(\gg)	CASCARA / FRANGULA PURSHIANA	1.5" CAL.	AS SHOWN	29	
	OREGON ASH / FRAXINUS LATIFOLIA	1.5" CAL.	AS SHOWN	29	
y + + + + + + + + + + + + + + + + + + +	SITKA SPRUCE / PICEA SITCHENSIS	5 GALLON	AS SHOWN	45	
	DOUGLAS-FIR / PSEUDOTSUGA MENZIESII	5 GALLON	AS SHOWN	108	
	WESTERN RED CEDAR / THUJA PLICATA	5 GALLON	AS SHOWN	108	
	WESTERN HEMLOCK / TSUGA HETEROPHYLLA	5 GALLON	AS SHOWN	29	
NATIVE SHRUBS	COMMON / BOTANICAL NAME	SIZE	SPACING	QTY	REMARK
	VINE MAPLE / ACER CIRCINATUM	1 GALLON	96" o.c.	60	
\bigcirc	RED TWIG DOGWOOD / CORNUS STOLONIFERA	1 GALLON	48" o.c.	488	
()	TWINBERRY / LONICERA INVOLUCRATA	1 GALLON	48" o.c.	488	
	PACIFIC NINEBARK / PHYSOCARPUS CAPITATUS	1 GALLON	72" o.c.	60	
\bigcirc	CLUSTERED ROSE / ROSA PISOCARPA	1 GALLON	48" o.c.	269	
	SALMONBERRY / RUBUS SPECTABILIS	1 GALLON	48" o.c.	488	
•	COMMON SNOWBERRY / SYMPHORICARPOS ALBUS	1 GALLON	72" o.c.	488	
	HIGHBUSH CRANBERRY / VIBURNUM EDULE	1 GALLON	48" o.c.	60	
۲	WESTERN SWORD FERN / POLYSTICHUM MUNITUM	1 GALLON	24" o.c.	777	
GROUND COVERS	COMMON / BOTANICAL NAME	SIZE	SPACING	QTY	REMARK
	COMMON LADY FERN / ATHYRIUM FILIX-FEMINA	1 GALLON	24" o.c.	401	
	DEER FERN / BLECHNUM SPICANT	1 GALLON	24" o.c.	401	
	SLOUGH SEDGE / CAREX OBNUPTA	PLUG	12" o.c.	868	
	SALAL / GAULTHERIA SHALLON	1 GALLON	24" o.c.	401	
	SWORDLEAF RUSH / JUNCUS ENSIFOLIUS	1 GALLON	24" o.c.	401	
	WATER PARSLEY / OENANTHE SARMENTOSA	PLUG	12" o.c.	868	

SMALL-FRUITED BULRUSH / SCIRPUS MICROCARPUS PLUG

12" o.c. 868

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- <u>OTES:</u> SIGNAGE TO APPEAR LIKE IMAGE AND SIZES NOTED ON THE LEFT WITH A GREEN
- FABRICATED IN ALUMINUM, BY A CITY APPROVED VENDOR, SUCH AS REDMOND SIGNS, (425) 883-9944 OR EQUIVALENT
- SIGNAGE TO BE PLACED ON FENCING WHERE NOTED ON THE PLANS AND PER SPECIFICATIONS.



Scale: NTS

ARCHITECT Bohlin Cywinski Jackson	
LANDSCAPE Swift Company	
CIVIL Coughlin Porter Lundeen	
STRUCTURAL PCS Structural Solutions	
MECHANICAL Hargis	
ELECTRICAL TFWB Engineers	
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MITIGATION NOTES

THIS PLAN HAS BEEN PREPARED AS MITIGATION FOR MODIFICATION TO THE CRITICAL AREA, WETLAND, AND WETLAND BUFFER, PER BELLEVUE LUC 20.25H.220. THE IMPACTS TO THE WETLAND AND BUFFER ARE TO ACCOMMODATE THE CONSTRUCTION OF A NEW FIRE STATION. THIS WORK WILL OVERLAP WITH DEGRADED WETLAND DISTRUBED BY THE PRIOR PROPERTY OWNER. THE CURRENT OWNER, CITY OF BELLEVUE, SEEKS TO RESTORE THE WETLAND AND BUFFER AND MAKE IT AN ASSESS FOR THE SITE AS THE FIRE STATION IS BUILT. THIS PROPOSAL WILL FILL A TOTAL OF 479 SQUARE FEET OF WETLAND, CONVERT 1,209 SQUARE FEET OF WETLAND TO PAPER BUFFER (PAPER FILL), AND IMPACT 5,058 SQUARE FEET OF WETLAND BUFFER. TO OFFSET THESE CRITICAL AREA BUFFER IMPACTS, A TOTAL OF 16,464 SQUARE FEET OF BUFFER ENHANCEMENT IS PROPOSED AND 5,058 SQUARE FEET OF BUFFER CREATION, AND 479 SQUARE FEET OF WETLAND CREATION. WETLAND FILL AND WETLAND PAPER FILL MITIGATION RATIOS PROPOSED FOLLOW ECOLOGY GUIDANCE. ENHANCEMENT OF THE DEGRADED BUFFER WILL INCLUDE REMOVAL OF NON-NATIVE AND INVASIVE SPECIES, THE INSTALLATION OF A NATIVE TREE, SHRUB AND GROUNDCOVER PLANT COMMUNITY. PROJECT IMPACTS AND MITIGATION ARE SUMMARIZED IN THE TABLE BELOW. WETLAND BUFFER REPLACEMENT AND BUFFER ENHANCEMENT COUPLED WITH WETLAND CREATION AND WETLAND ENHANCEMENT ARE DESIGNED TO SUPPORT **RESTORATION OF THE DEGRADED ON-SITE WETLAND.**

	IMPACT		MITIGATION	MIT
IMPACT TYPE	AREA	MITIGATION ACTION	AREA	RAT
WETLAND BUFFER	5,058 SF	BUFFER REPLACEMENT	5,058 SF	1:1
		WETLAND BUFFER		
		ENHANCEMENT	16,464 SF	3.5:
WETLAND FILL*	479 SF	WETLAND CREATION	479 SF	1:1
		WETLAND		
		ENHANCEMENT	958 SF	2:1
WETLAND PAPER		WETLAND		
FILL*	1,209 SF	ENHANCEMENT	7,944 SF	6:1

MITIGATION AREA WORK SEQUENCE (SEE MATERIALS FOR ITEMS IN BOLD)

- 1. MARK THE CLEARING LIMITS WITH HIGH VISIBILITY FENCING OR SIMILAR MEANS.
- 2. INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE SITE PREPARATION PLAN (SHEET W3).
- 3. TO SUPPORT WETLAND RESTORATION. COMPLETE MICROTOPOGRAPHY GRADING AND REMOVE FOREIGN DEBRIS FROM THE DISTURBED WETLAND AREA (SHEET W4)
- 4. COMPLETE SNAG CREATION AND LARGE WOODY DEBRIS SALVAGE. PLACE AT LEAST FOUR PIECES OF LARGE WOODY DEBRIS IN THE WETLAND AREA AT THE DIRECTION OF A RESTORATION SPECIALIST (SHEET W7).
- 3. PREPARE SITE SOILS PER THE SITE PREPARATION PLAN (SHEET W3)
- 4. INSTALL NATIVE PLANTS PER PLANTING DETAILS ON SHEET W4 AND W5. a. NATIVE PLANT INSTALLATION SHALL OCCUR DURING THE DORMANT SEASON (OCTOBER 15TH
 - THROUGH MARCH 1ST) IN FROST-FREE PERIODS ONLY. b. LAYOUT PLANT MATERIAL PER PLAN FOR INSPECTION BY THE RESTORATION SPECIALIST. PLANT SUBSTITUTIONS WILL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE **RESTORATION SPECIALIST.**
 - c. INSTALL PLANTS PER PLANTING DETAILS
- 5. WATER IN EACH PLANT THOROUGHLY TO REMOVE AIR POCKETS.
- 6. INSTALL A TEMPORARY IRRIGATION SYSTEM CAPABLE OF SUPPLYING AT LEAST 1-INCH OF WATER PER WEEK TO THE ENTIRE PLANTED AREA DURING THE DRY SEASON (JUNE 1ST THROUGH SEPTEMBER 30TH).
- 7. ONE YEAR AFTER INITIAL PLANTING, APPLY A SLOW-RELEASE, PHOSPHOROUS-FREE, GRANULAR FERTILIZER TO EACH INSTALLED PLANT.

MAINTENANCE

- THE SITE SHALL BE MAINTAINED FOR FIVE YEARS FOLLOWING SUCCESSFUL INSTALLATION.
- 1. REPLACE EACH PLANT FOUND DEAD IN THE SUMMER MONITORING VISITS IN THE FOLLOWING DORMANT SEASON (OCTOBER 15 - MARCH 1). REPLACEMENT SHALL BE OF THE SAME SPECIES AND SIZE PER PLAN UNLESS OTHERWISE APPROVED BY THE RESTORATION SPECIALIST.
- 2. GENERAL WEEDING FOR ALL PLANTED AREAS
 - a. AT LEAST TWICE ANNUALLY, REMOVE COMPETING GRASSES AND WEEDS FROM AROUND THE BASE OF EACH INSTALLED PLANT TO A RADIUS OF 12 INCHES. WEEDING SHOULD OCCUR AT LEAST ONCE IN THE SPRING AND ONCE IN THE SUMMER. THOROUGH WEEDING WILL RESULT IN LOWER PLANT MORTALITY AND ASSOCIATED PLANT REPLACEMENT COSTS.
 - b. MORE FREQUENT WEEDING MAY BE NECESSARY DEPENDING ON WEED CONDITIONS THAT DEVELOP AFTER PLANT INSTALLATION.
 - c. NOXIOUS WEEDS MUST BE REMOVED FROM THE ENTIRE MITIGATION AREA, AT LEAST TWICE ANNUALLY.
- d. DO NOT USE STRING TRIMMERS IN THE VICINITY OF INSTALLED PLANTS, AS THEY MAY DAMAGE OR KILL THE PLANTS.
- 3. MAINTAIN A FOUR-INCH-THICK LAYER OF WOODCHIP MULCH ACROSS THE ENTIRE PLANTING AREA. MULCH SHOULD BE PULLED BACK TWO INCHES FROM THE PLANT STEMS.
- 4. INSPECT AND REPAIR THE IRRIGATION SYSTEM AS NECESSARY EACH SPRING. DURING AT LEAST THE FIRST TWO GROWING SEASONS. MAKE SURE THAT THE ENTIRE PLANTING AREA RECEIVES A MINIMUM OF ONE INCH OF WATER PER WEEK FROM JUNE 1ST THROUGH SEPTEMBER 30TH.

GOALS

- 1. MAINTAIN SLOPE STABILITY BY ESTABLISHING TREES IN THE STEEP SLOPE AND STEEP SLOPE BUFFER AREAS (AREAS CURRENTLY DOMINATED BY SHALLOW-ROOTING INVASIVE SPECIES). 2. ENHANCE DEGRADED WETLAND AND BUFFER.
- e. CREATE A DENSE, NATIVE, TREE AND SHRUB COMMUNITY.
- f. REMOVE NON-NATIVE AND INVASIVE PLANT SPECIES FROM THE ENHANCEMENT AREA. 3. REPLACE LOST WETLAND SQUARE FOOTAGE AND RESTORE DISTURBED WETLAND AREAS.

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PERFORMANCE STANDARDS

THE FOLLOWING PERFORMANCE STANDARDS WILL BE USED TO GAUGE THE SUCCESS OF THE PROJECT OVER TIME. IF ALL PERFORMANCE STANDARDS HAVE BEEN SATISFIED BY THE END OF YEAR FIVE, THE PROJECT SHALL BE CONSIDERED COMPLETE AND THE CITY OF BELLEVUE SHALL RELEASE THE PERFORMANCE BOND.

1. SURVIVAL

- a. ACHIEVE 100% SURVIVAL OF ALL INSTALLED TREES AND SHRUBS BY THE END OF YEAR ONE. b. ACHIEVE 80% SURVIVAL OF ALL INSTALLED SHRUBS AND 100% SURVIVAL OF ALL INSTALLED
- CONIFERS BY THE END OF YEAR TWO.
- c. ACHIEVE 80% SURVIVAL OF ALL INSTALLED TREES AND SHRUBS BY THE END OF YEAR FIVE. SURVIVAL STANDARDS MAY BE ACHIEVED THROUGH ESTABLISHMENT OF PLANTED MATERIAL. RECRUITMENT OF NATIVE VOLUNTEERS, OR REPLACEMENT PLANTS AS NECESSARY.
- 2. DIVERSITY a. ESTABLISH AT LEAST FOUR NATIVE SHRUB SPECIES IN THE ENHANCEMENT AREA BY THE END OF YEAR FIVE. ESTABLISHMENT IS DEFINED AS FIVE OR MORE INDIVIDUAL PLANTS OF THE SAME SPECIES ALIVE AND HEALTHY.

3. COVER

- b. ACHIEVE 40% COVER OF NATIVE TREES, SHRUBS AND GROUNDCOVER BY THE END OF YEAR THREE.
- c. ACHIEVE 60% COVER OF NATIVE TREES, SHRUBS, AND GROUNDCOVER BY THE END OF YEAR FIVE.
- d. NO MORE THAN 10% COVER BY INVASIVE SPECIES LISTED AS CLASS A, B, OR C BY THE KING COUNTY NOXIOUS WEED CONTROL BOARD IN ANY MONITORING YEAR.
- 4. HYDROLOGY STANDARD (WETLAND CREATION AREA ONLY): EVIDENCE OF WETLAND HYDROLOGY IN THE WETLAND CREATION AREA. SOIL SATURATION WITHIN THE UPPER 12 INCHES OF THE SOIL SURFACE, PRESENT FOR TWO CONSECUTIVE WEEKS DURING THE GROWING SEASON (MARCH 1ST TO OCTOBER 15TH DURING EACH MONITORING YEAR).

MONITORING

PRIOR TO THE COMMENCEMENT OF THE MONITORING PHASE, AN AS-BUILT PLAN DOCUMENTING THE SUCCESSFUL INSTALLATION OF THE PROJECT WILL BE SUBMITTED TO THE CITY OF BELLEVUE. IF NECESSARY, THE AS-BUILT REPORT MAY INCLUDE A MARK-UP OF THE ORIGINAL PLAN THAT NOTES ANY SIGNIFICANT CHANGES OR SUBSTITUTIONS THAT OCCURRED. DURING THE AS-BUILT INSPECTION, THE RESTORATION SPECIALIST WILL ESTABLISH AT LEAST FOUR PERMANENT PHOTO-POINTS.

THE SITE WILL BE MONITORED TWICE ANNUALLY FOR FIVE YEARS BEGINNING WITH APPROVAL OF THE AS-BUILT REPORT. EACH SPRING THE RESTORATION SPECIALIST WILL CONDUCT A BRIEF MAINTENANCE INSPECTION FOLLOWED BY A MEMO SUMMARIZING MAINTENANCE ITEMS NECESSARY FOR THE UPCOMING GROWING SEASON. THE FORMAL LATE-SEASON MONITORING INSPECTION WILL TAKE PLACE ONCE ANNUALLY DURING LATE SUMMER OR EARLY FALL. DURING EACH LATE-SEASON MONITORING INSPECTION. THE FOLLOWING DATA WILL BE COLLECTED:

- 1. PERCENT SURVIVAL OF ALL INSTALLED PLANTINGS, INCLUDING SPECIES SPECIFIC COUNTS OF INSTALLED TREE AND SHRUB PLANTINGS (NOTE: GROUNDCOVER PLANTS COUNTED IN YEAR-1 ONLY, FOR WARRANTY PURPOSES).
- 2. NATIVE WOODY COVER AS DETERMINED USING VISUAL COVER CLASS ESTIMATES.
- NATIVE GROUNDCOVER PLANT COVER AS DETERMINED USING VISUAL COVER CLASS ESTIMATES. 4. ESTIMATES OF INVASIVE HERBACEOUS PLANTS OR GROUNDCOVER USING VISUAL COVER ESTIMATES.
- 5. THE SPECIES COMPOSITION, NOTING WHETHER A SPECIES IS NATIVE OR EXOTIC AND WHETHER PLANTS WERE INSTALLED OR ARE VOLUNTEERS.
- 6. THE GENERAL HEALTH AND VIGOR OF THE INSTALLED VEGETATION.
- 7. PHOTOGRAPHS FROM FIXED PHOTO-POINTS ESTABLISHED DURING THE AS-BUILT INSPECTION.
- 8. ANY EVIDENCE OF WILDLIFE USAGE IN THE MITIGATION AREA. 9. WETLAND HYDROLOGY DATA AS RECORDED AT SHALLOW GROUNDWATER WELLS IN THE WETLAND CREATION AREA IN SPRING.

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY TO THE CITY. REPORTS SHALL DOCUMENT THE CONDITIONS OF THE SITE, INCLUDING QUANTITATIVE DATA COLLECTED DURING THE MONITORING INSPECTION, AND SHALL PROVIDE MAINTENANCE RECOMMENDATIONS THAT MAY BE NECESSARY TO HELP THE SITE ACHIEVE THE STATED PERFORMANCE STANDARDS.

CONTINGENCY PLAN

IF ANY MONITORING REPORT REVEALS THAT THE RESTORATION PLAN HAS FAILED IN WHOLE OR IN PART AND SHOULD THAT FAILURE BE BEYOND THE SCOPE OF ROUTINE MAINTENANCE, THE APPLICANT WILL SUBMIT A CONTINGENCY PLAN TO THE CITY OF BELLEVUE FOR APPROVAL. THIS PLAN MAY INCLUDE REPLANTING, SOIL AMENDMENTS OR TOP DRESSING, SUBSTITUTIONS FOR SPECIES SELECTED IN THE ORIGINAL PLAN, AND ADAPTIVE WEED CONTROL METHODS.

MATERIALS

1. WOODCHIP MULCH: 9-14.4(3) BARK OR WOOD CHIPS- WSDOT STANDARD SPEC. BARK OR WOOD CHIP MULCH SHALL BE DERIVED FROM DOUGLAS FIR, PINE, OR HEMLOCK SPECIES. IT SHALL NOT CONTAIN RESIN, TANNIN, OR OTHER COMPOUNDS IN QUANTITIES THAT WOULD BE DETRIMENTAL TO PLANT LIFE. SAWDUST SHALL NOT BE USED AS MULCH.

BARK OR WOOD CHIPS WHEN TESTED SHALL BE ACCORDING TO WSDOT TEST METHOD T 123 PRIOR TO PLACEMENT AND SHALL MEET THE FOLLOWING LOOSE VOLUME GRADATION:

SIEVE SIZE PERCENT PASSING

MINIMUM MAXIMUM

2″ 95 100

NO. 4030

APPROX. QUANTITY REQUIRED: 60 CUBIC YARDS.

2. COMPOST: CEDAR GROVE COMPOST OR EQUIVALENT "COMPOSTED MATERIAL" PER WASHINGTON

ADMIN.

CODE 173-350-220. QUANTITY REQUIRED: 35 CUBIC YARDS

3. FERTILIZER: SLOW-RELEASE, PHOSPHOROUS-FREE GRANULAR FERTILIZER. MOST COMMERCIAL NURSERIES CARRY THIS PRODUCT. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR USE. KEEP FERTILIZER IN WEATHER-TIGHT CONTAINER WHILE ON-SITE. FERTILIZER IS ONLY TO BE APPLIED IN YEARS TWO AND THREE, NOT IN YEAR ONE.

- 4. RESTORATION SPECIALIST: QUALIFIED PROFESSIONAL ABLE TO EVALUATE AND MONITOR THE
- CONSTRUCTION OF ENVIRONMENTAL RESTORATION PROJECTS. 3. FERTILIZER (FOR NEAR AQUATIC ENVIRONMENTS): SLOW-RELEASE, PHOSPHOROUS-FREE

GRANULAR FERTILIZER. LABEL MUST INDICATE THAT PRODUCT IS SAFE FOR AQUATIC ENVIRONMENTS. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR USE. KEEP FERTILIZER IN WEATHER-TIGHT CONTAINER WHILE ON-SITE. FERTILIZER IS ONLY TO BE APPLIED IN YEARS TWO AND THREE, NOT IN YEAR ONE.

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INVASIVE VEGETATION: KNOTWEED, THISTLE, ENGLISH HOLLY, LAUREL, HIMALAYAN BLACKBERRY, ENGLISH IVY, BINDWEED - 5,190 SF

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- 1. CRITICAL AREAS DELINEATED BY THE WATERSHED COMPANY ON AUGUST 20, 2018 AND MARCH 25TH, 2019.
- WETLAND SURVEYED BY DAVID EVANS AND ASSOCIATES, INC. IN SEPTEMBER 2018 AND APRIL 2019.
- 3. ARBORIST REPORT BY TREE SOLUTIONS, INC. 2940 WESTLAKE AVE. N, SUITE #200, SEATTLE, WA 98109, DATED JUNE 4TH, 2019

Bohlin Cywinski Jackson	
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IMPACTS LEGEND



PRE-EXISTING DEVELOPMENT - 2,280 SF PROPOSED DEVELOPMENT - 2,465 SF PAPER FILL 1,209 SF

PERMANENT BUFFER IMPACTS 5,058 SF

479 SF

<u>PLAN LEGEND</u>

	WETLAND BUFFER (40-FT)
<u> </u>	PROJECT PARCEL BOUNDARIES
	DELINEATED WETLAND BOUNDARY

WETLAND FILL

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BUFFER ENHANCEMENT	16,402 SF
BUFFER EXPANSION	
WITH ENHANCEMENT	5,058 SF
WETLAND CREATION	479 SF
WETLAND ENHANCEMENT AREA	8,527 SF
	·

<u>PLAN LEGEND</u>

WETLAND BUFFER (40-FT)
 MODIFIED WETLAND BUFFER/ CRITICAL AREA FENCE (SEE DETAIL 1; W7)
 PROJECT PARCEL BOUNDARIES
 PROPOSED WETLAND BOUNDARY

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HABITAT FEATURE LEGEND



DOWN LOG WITH ROOT WAD (SEE DETAIL 3; W7)

SMALL LOG//WOOD DEBRIS //HABITAT PILE S EXISTING DECIDUOUS/CONIFER SNAG (SEE DETAIL 2; W7)

<u>GRADING LEGEND</u>

PLAN LEGEND

·····	MODIFIED WETLAND BUFFER
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PLANTIN	NG AREAS OVERVIEW	
	BUFFER PLANTING MIX A GAULTHERIA SHALLON / SALAL MAHONIA NERVOSA / OREGON GRAPE ROSA GYMNOCARPA / DWARF ROSE RUBUS PARVIFLORUS / THIMBLEBERRY VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	2,661 SF
	BUFFER PLANTING MIX B ACER CIRCINATUM / VINE MAPLE FRANGULA PURSHIANA / CASCARA GAULTHERIA SHALLON / SALAL POLYSTICHUM MUNITUM / WESTERN SWORD FERN PSEUDOTSUGA MENZIESII / DOUGLAS-FIR ROSA PISOCARPA / CLUSTERED ROSE TSUGA HETEROPHYLLA / WESTERN HEMLOCK	7,350 SF
	<u>BUFFER PLANTING MIX C</u> ACER MACROPHYLLUM / BIG-LEAF MAPLE GAULTHERIA SHALLON / SALAL MAHONIA AQUIFOLIUM / OREGON GRAPE POLYSTICHUM MUNITUM / WESTERN SWORD FERN PSEUDOTSUGA MENZIESII / DOUGLAS-FIR SYMPHORICARPOS ALBUS / COMMON SNOWBERRY	11,453 SF
	WETLAND PLANTING MIX A ATHYRIUM FILIX-FEMINA / COMMON LADY FERN BLECHNUM SPICANT / DEER FERN CAREX OBNUPTA / SLOUGH SEDGE JUNCUS ENSIFOLIUS / DAGGERLEAF RUSH OENANTHE SARMENTOSA / WATER PARSLEY SCIRPUS MICROCARPUS / SMALL FRUITED BULRUSH VERONICA AMERICANA / AMERICAN SPEEDWELL	5,590 SF
	WETLAND PLANTING MIX B CORNUS STOLONIFERA / RED TWIG DOGWOOD FRAXINUS LATIFOLIA / OREGON ASH LONICERA INVOLUCRATA / TWINBERRY PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK PICEA SITCHENSIS / SITKA SPRUCE RUBUS SPECTABILIS / SALMONBERRY THUJA PLICATA / WESTERN RED CEDAR VIBURNUM EDULE / HIGHBUSH CRANBERRY	3,316 SF

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© 2020	Bohlin Cywinski Jackson OF BELLEVUE	
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CR	TICAL AREAS	
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TYPICAL WETLAND MIX A SCALE 1" = 10'



TYPICAL BUFFER MIX A SCALE 1" = 10'

- 20' -

SCALE 1" = 10'

_____ 20' _____

TYPICAL BUFFER MIX B SCALE 1" = 10'

SIZE

TYPICAL WETLAND MIX B



TYPICAL BUFFER MIX C SCALE 1" = 10'

REMARKS

SPACING QTY

PLANTING SCHEDULE EES COMMON / BOTANICAL NAME

(\gg)	CASCARA / FRANGULA PURSHIANA	1.5" CAL.	AS SHOWN	29	
	OREGON ASH / FRAXINUS LATIFOLIA	1.5" CAL.	AS SHOWN	29	
y + + + + + + + + + + + + + + + + + + +	SITKA SPRUCE / PICEA SITCHENSIS	5 GALLON	AS SHOWN	45	
	DOUGLAS-FIR / PSEUDOTSUGA MENZIESII	5 GALLON	AS SHOWN	108	
	WESTERN RED CEDAR / THUJA PLICATA	5 GALLON	AS SHOWN	108	
	WESTERN HEMLOCK / TSUGA HETEROPHYLLA	5 GALLON	AS SHOWN	29	
NATIVE SHRUBS	COMMON / BOTANICAL NAME	SIZE	SPACING	QTY	REMARK
	VINE MAPLE / ACER CIRCINATUM	1 GALLON	96" o.c.	60	
\bigcirc	RED TWIG DOGWOOD / CORNUS STOLONIFERA	1 GALLON	48" o.c.	488	
()	TWINBERRY / LONICERA INVOLUCRATA	1 GALLON	48" o.c.	488	
	PACIFIC NINEBARK / PHYSOCARPUS CAPITATUS	1 GALLON	72" o.c.	60	
\bigcirc	CLUSTERED ROSE / ROSA PISOCARPA	1 GALLON	48" o.c.	269	
	SALMONBERRY / RUBUS SPECTABILIS	1 GALLON	48" o.c.	488	
•	COMMON SNOWBERRY / SYMPHORICARPOS ALBUS	1 GALLON	72" o.c.	488	
	HIGHBUSH CRANBERRY / VIBURNUM EDULE	1 GALLON	48" o.c.	60	
۲	WESTERN SWORD FERN / POLYSTICHUM MUNITUM	1 GALLON	24" o.c.	777	
GROUND COVERS	COMMON / BOTANICAL NAME	SIZE	SPACING	QTY	REMARK
	COMMON LADY FERN / ATHYRIUM FILIX-FEMINA	1 GALLON	24" o.c.	401	
	DEER FERN / BLECHNUM SPICANT	1 GALLON	24" o.c.	401	
	SLOUGH SEDGE / CAREX OBNUPTA	PLUG	12" o.c.	868	
	SALAL / GAULTHERIA SHALLON	1 GALLON	24" o.c.	401	
	SWORDLEAF RUSH / JUNCUS ENSIFOLIUS	1 GALLON	24" o.c.	401	
	WATER PARSLEY / OENANTHE SARMENTOSA	PLUG	12" o.c.	868	

SMALL-FRUITED BULRUSH / SCIRPUS MICROCARPUS PLUG

12" o.c. 868

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- <u>OTES:</u> SIGNAGE TO APPEAR LIKE IMAGE AND SIZES NOTED ON THE LEFT WITH A GREEN
- FABRICATED IN ALUMINUM, BY A CITY APPROVED VENDOR, SUCH AS REDMOND SIGNS, (425) 883-9944 OR EQUIVALENT
- SIGNAGE TO BE PLACED ON FENCING WHERE NOTED ON THE PLANS AND PER SPECIFICATIONS.



Scale: NTS

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LANDSCAPE Swift Company	
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STRUCTURAL PCS Structural Solutions	
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MITIGATION NOTES

THIS PLAN HAS BEEN PREPARED AS MITIGATION FOR MODIFICATION TO THE CRITICAL AREA, WETLAND, AND WETLAND BUFFER, PER BELLEVUE LUC 20.25H.220. THE IMPACTS TO THE WETLAND AND BUFFER ARE TO ACCOMMODATE THE CONSTRUCTION OF A NEW FIRE STATION. THIS WORK WILL OVERLAP WITH DEGRADED WETLAND DISTRUBED BY THE PRIOR PROPERTY OWNER. THE CURRENT OWNER, CITY OF BELLEVUE, SEEKS TO RESTORE THE WETLAND AND BUFFER AND MAKE IT AN ASSESS FOR THE SITE AS THE FIRE STATION IS BUILT. THIS PROPOSAL WILL FILL A TOTAL OF 479 SQUARE FEET OF WETLAND, CONVERT 1,209 SQUARE FEET OF WETLAND TO PAPER BUFFER (PAPER FILL), AND IMPACT 5,058 SQUARE FEET OF WETLAND BUFFER. TO OFFSET THESE CRITICAL AREA BUFFER IMPACTS, A TOTAL OF 16,464 SQUARE FEET OF BUFFER ENHANCEMENT IS PROPOSED AND 5,058 SQUARE FEET OF BUFFER CREATION, AND 479 SQUARE FEET OF WETLAND CREATION. WETLAND FILL AND WETLAND PAPER FILL MITIGATION RATIOS PROPOSED FOLLOW ECOLOGY GUIDANCE. ENHANCEMENT OF THE DEGRADED BUFFER WILL INCLUDE REMOVAL OF NON-NATIVE AND INVASIVE SPECIES, THE INSTALLATION OF A NATIVE TREE, SHRUB AND GROUNDCOVER PLANT COMMUNITY. PROJECT IMPACTS AND MITIGATION ARE SUMMARIZED IN THE TABLE BELOW. WETLAND BUFFER REPLACEMENT AND BUFFER ENHANCEMENT COUPLED WITH WETLAND CREATION AND WETLAND ENHANCEMENT ARE DESIGNED TO SUPPORT **RESTORATION OF THE DEGRADED ON-SITE WETLAND.**

	. <u> </u>			
	IMPACT		MITIGATION	MIT
ΙΜΡΑСΤ ΤΥΡΕ	AREA	MITIGATION ACTION	AREA	RAT
WETLAND BUFFER	5,058 SF	BUFFER REPLACEMENT	5,058 SF	1:1
		WETLAND BUFFER		
		ENHANCEMENT	16,464 SF	3.5:
WETLAND FILL*	479 SF	WETLAND CREATION	479 SF	1:1
		WETLAND		
		ENHANCEMENT	958 SF	2:1
WETLAND PAPER		WETLAND		
FILL*	1,209 SF	ENHANCEMENT	7,944 SF	6:1

MITIGATION AREA WORK SEQUENCE (SEE MATERIALS FOR ITEMS IN BOLD)

- 1. MARK THE CLEARING LIMITS WITH HIGH VISIBILITY FENCING OR SIMILAR MEANS.
- 2. INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE SITE PREPARATION PLAN (SHEET W3).
- 3. TO SUPPORT WETLAND RESTORATION. COMPLETE MICROTOPOGRAPHY GRADING AND REMOVE FOREIGN DEBRIS FROM THE DISTURBED WETLAND AREA (SHEET W4)
- 4. COMPLETE SNAG CREATION AND LARGE WOODY DEBRIS SALVAGE. PLACE AT LEAST FOUR PIECES OF LARGE WOODY DEBRIS IN THE WETLAND AREA AT THE DIRECTION OF A RESTORATION SPECIALIST (SHEET W7).
- 3. PREPARE SITE SOILS PER THE SITE PREPARATION PLAN (SHEET W3)
- 4. INSTALL NATIVE PLANTS PER PLANTING DETAILS ON SHEET W4 AND W5. a. NATIVE PLANT INSTALLATION SHALL OCCUR DURING THE DORMANT SEASON (OCTOBER 15TH
 - THROUGH MARCH 1ST) IN FROST-FREE PERIODS ONLY. b. LAYOUT PLANT MATERIAL PER PLAN FOR INSPECTION BY THE RESTORATION SPECIALIST. PLANT SUBSTITUTIONS WILL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE **RESTORATION SPECIALIST.**
 - c. INSTALL PLANTS PER PLANTING DETAILS
- 5. WATER IN EACH PLANT THOROUGHLY TO REMOVE AIR POCKETS.
- 6. INSTALL A TEMPORARY IRRIGATION SYSTEM CAPABLE OF SUPPLYING AT LEAST 1-INCH OF WATER PER WEEK TO THE ENTIRE PLANTED AREA DURING THE DRY SEASON (JUNE 1ST THROUGH SEPTEMBER 30TH).
- 7. ONE YEAR AFTER INITIAL PLANTING, APPLY A SLOW-RELEASE, PHOSPHOROUS-FREE, GRANULAR FERTILIZER TO EACH INSTALLED PLANT.

MAINTENANCE

- THE SITE SHALL BE MAINTAINED FOR FIVE YEARS FOLLOWING SUCCESSFUL INSTALLATION.
- 1. REPLACE EACH PLANT FOUND DEAD IN THE SUMMER MONITORING VISITS IN THE FOLLOWING DORMANT SEASON (OCTOBER 15 - MARCH 1). REPLACEMENT SHALL BE OF THE SAME SPECIES AND SIZE PER PLAN UNLESS OTHERWISE APPROVED BY THE RESTORATION SPECIALIST.
- 2. GENERAL WEEDING FOR ALL PLANTED AREAS
 - a. AT LEAST TWICE ANNUALLY, REMOVE COMPETING GRASSES AND WEEDS FROM AROUND THE BASE OF EACH INSTALLED PLANT TO A RADIUS OF 12 INCHES. WEEDING SHOULD OCCUR AT LEAST ONCE IN THE SPRING AND ONCE IN THE SUMMER. THOROUGH WEEDING WILL RESULT IN LOWER PLANT MORTALITY AND ASSOCIATED PLANT REPLACEMENT COSTS.
 - b. MORE FREQUENT WEEDING MAY BE NECESSARY DEPENDING ON WEED CONDITIONS THAT DEVELOP AFTER PLANT INSTALLATION.
 - c. NOXIOUS WEEDS MUST BE REMOVED FROM THE ENTIRE MITIGATION AREA, AT LEAST TWICE ANNUALLY.
- d. DO NOT USE STRING TRIMMERS IN THE VICINITY OF INSTALLED PLANTS, AS THEY MAY DAMAGE OR KILL THE PLANTS.
- 3. MAINTAIN A FOUR-INCH-THICK LAYER OF WOODCHIP MULCH ACROSS THE ENTIRE PLANTING AREA. MULCH SHOULD BE PULLED BACK TWO INCHES FROM THE PLANT STEMS.
- 4. INSPECT AND REPAIR THE IRRIGATION SYSTEM AS NECESSARY EACH SPRING. DURING AT LEAST THE FIRST TWO GROWING SEASONS. MAKE SURE THAT THE ENTIRE PLANTING AREA RECEIVES A MINIMUM OF ONE INCH OF WATER PER WEEK FROM JUNE 1ST THROUGH SEPTEMBER 30TH.

GOALS

- 1. MAINTAIN SLOPE STABILITY BY ESTABLISHING TREES IN THE STEEP SLOPE AND STEEP SLOPE BUFFER AREAS (AREAS CURRENTLY DOMINATED BY SHALLOW-ROOTING INVASIVE SPECIES). 2. ENHANCE DEGRADED WETLAND AND BUFFER.
- e. CREATE A DENSE, NATIVE, TREE AND SHRUB COMMUNITY.
- f. REMOVE NON-NATIVE AND INVASIVE PLANT SPECIES FROM THE ENHANCEMENT AREA. 3. REPLACE LOST WETLAND SQUARE FOOTAGE AND RESTORE DISTURBED WETLAND AREAS.

IGATION 10

PERFORMANCE STANDARDS

THE FOLLOWING PERFORMANCE STANDARDS WILL BE USED TO GAUGE THE SUCCESS OF THE PROJECT OVER TIME. IF ALL PERFORMANCE STANDARDS HAVE BEEN SATISFIED BY THE END OF YEAR FIVE, THE PROJECT SHALL BE CONSIDERED COMPLETE AND THE CITY OF BELLEVUE SHALL RELEASE THE PERFORMANCE BOND.

1. SURVIVAL

- a. ACHIEVE 100% SURVIVAL OF ALL INSTALLED TREES AND SHRUBS BY THE END OF YEAR ONE. b. ACHIEVE 80% SURVIVAL OF ALL INSTALLED SHRUBS AND 100% SURVIVAL OF ALL INSTALLED
- CONIFERS BY THE END OF YEAR TWO.
- c. ACHIEVE 80% SURVIVAL OF ALL INSTALLED TREES AND SHRUBS BY THE END OF YEAR FIVE. SURVIVAL STANDARDS MAY BE ACHIEVED THROUGH ESTABLISHMENT OF PLANTED MATERIAL. RECRUITMENT OF NATIVE VOLUNTEERS, OR REPLACEMENT PLANTS AS NECESSARY. 2. DIVERSITY
 - a. ESTABLISH AT LEAST FOUR NATIVE SHRUB SPECIES IN THE ENHANCEMENT AREA BY THE END OF YEAR FIVE. ESTABLISHMENT IS DEFINED AS FIVE OR MORE INDIVIDUAL PLANTS OF THE SAME SPECIES ALIVE AND HEALTHY.
- 3. COVER
 - b. ACHIEVE 40% COVER OF NATIVE TREES, SHRUBS AND GROUNDCOVER BY THE END OF YEAR THREE.
 - c. ACHIEVE 60% COVER OF NATIVE TREES, SHRUBS, AND GROUNDCOVER BY THE END OF YEAR FIVE.
 - d. NO MORE THAN 10% COVER BY INVASIVE SPECIES LISTED AS CLASS A, B, OR C BY THE KING COUNTY NOXIOUS WEED CONTROL BOARD IN ANY MONITORING YEAR.
- 4. HYDROLOGY STANDARD (WETLAND CREATION AREA ONLY): EVIDENCE OF WETLAND HYDROLOGY IN THE WETLAND CREATION AREA. SOIL SATURATION WITHIN THE UPPER 12 INCHES OF THE SOIL SURFACE, PRESENT FOR TWO CONSECUTIVE WEEKS DURING THE GROWING SEASON (MARCH 1ST TO OCTOBER 15TH DURING EACH MONITORING YEAR).

MONITORING

PRIOR TO THE COMMENCEMENT OF THE MONITORING PHASE, AN AS-BUILT PLAN DOCUMENTING THE SUCCESSFUL INSTALLATION OF THE PROJECT WILL BE SUBMITTED TO THE CITY OF BELLEVUE. IF NECESSARY, THE AS-BUILT REPORT MAY INCLUDE A MARK-UP OF THE ORIGINAL PLAN THAT NOTES ANY SIGNIFICANT CHANGES OR SUBSTITUTIONS THAT OCCURRED. DURING THE AS-BUILT INSPECTION, THE RESTORATION SPECIALIST WILL ESTABLISH AT LEAST FOUR PERMANENT PHOTO-POINTS.

THE SITE WILL BE MONITORED TWICE ANNUALLY FOR FIVE YEARS BEGINNING WITH APPROVAL OF THE AS-BUILT REPORT. EACH SPRING THE RESTORATION SPECIALIST WILL CONDUCT A BRIEF MAINTENANCE INSPECTION FOLLOWED BY A MEMO SUMMARIZING MAINTENANCE ITEMS NECESSARY FOR THE UPCOMING GROWING SEASON. THE FORMAL LATE-SEASON MONITORING INSPECTION WILL TAKE PLACE ONCE ANNUALLY DURING LATE SUMMER OR EARLY FALL. DURING EACH LATE-SEASON MONITORING INSPECTION. THE FOLLOWING DATA WILL BE COLLECTED:

- 1. PERCENT SURVIVAL OF ALL INSTALLED PLANTINGS, INCLUDING SPECIES SPECIFIC COUNTS OF INSTALLED TREE AND SHRUB PLANTINGS (NOTE: GROUNDCOVER PLANTS COUNTED IN YEAR-1 ONLY, FOR WARRANTY PURPOSES).
- 2. NATIVE WOODY COVER AS DETERMINED USING VISUAL COVER CLASS ESTIMATES.
- NATIVE GROUNDCOVER PLANT COVER AS DETERMINED USING VISUAL COVER CLASS ESTIMATES. 4. ESTIMATES OF INVASIVE HERBACEOUS PLANTS OR GROUNDCOVER USING VISUAL COVER ESTIMATES.
- 5. THE SPECIES COMPOSITION, NOTING WHETHER A SPECIES IS NATIVE OR EXOTIC AND WHETHER PLANTS WERE INSTALLED OR ARE VOLUNTEERS.
- 6. THE GENERAL HEALTH AND VIGOR OF THE INSTALLED VEGETATION.
- 7. PHOTOGRAPHS FROM FIXED PHOTO-POINTS ESTABLISHED DURING THE AS-BUILT INSPECTION.
- 8. ANY EVIDENCE OF WILDLIFE USAGE IN THE MITIGATION AREA. 9. WETLAND HYDROLOGY DATA AS RECORDED AT SHALLOW GROUNDWATER WELLS IN THE WETLAND CREATION AREA IN SPRING.

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY TO THE CITY. REPORTS SHALL DOCUMENT THE CONDITIONS OF THE SITE, INCLUDING QUANTITATIVE DATA COLLECTED DURING THE MONITORING INSPECTION, AND SHALL PROVIDE MAINTENANCE RECOMMENDATIONS THAT MAY BE NECESSARY TO HELP THE SITE ACHIEVE THE STATED PERFORMANCE STANDARDS.

CONTINGENCY PLAN

IF ANY MONITORING REPORT REVEALS THAT THE RESTORATION PLAN HAS FAILED IN WHOLE OR IN PART AND SHOULD THAT FAILURE BE BEYOND THE SCOPE OF ROUTINE MAINTENANCE, THE APPLICANT WILL SUBMIT A CONTINGENCY PLAN TO THE CITY OF BELLEVUE FOR APPROVAL. THIS PLAN MAY INCLUDE REPLANTING, SOIL AMENDMENTS OR TOP DRESSING, SUBSTITUTIONS FOR SPECIES SELECTED IN THE ORIGINAL PLAN, AND ADAPTIVE WEED CONTROL METHODS.

MATERIALS

1. WOODCHIP MULCH: 9-14.4(3) BARK OR WOOD CHIPS- WSDOT STANDARD SPEC. BARK OR WOOD CHIP MULCH SHALL BE DERIVED FROM DOUGLAS FIR, PINE, OR HEMLOCK SPECIES. IT SHALL NOT CONTAIN RESIN, TANNIN, OR OTHER COMPOUNDS IN QUANTITIES THAT WOULD BE DETRIMENTAL TO PLANT LIFE. SAWDUST SHALL NOT BE USED AS MULCH.

BARK OR WOOD CHIPS WHEN TESTED SHALL BE ACCORDING TO WSDOT TEST METHOD T 123 PRIOR TO PLACEMENT AND SHALL MEET THE FOLLOWING LOOSE VOLUME GRADATION:

SIEVE SIZE PERCENT PASSING

MINIMUM MAXIMUM

2″ 95 100

NO. 4030

APPROX. QUANTITY REQUIRED: 60 CUBIC YARDS.

2. COMPOST: CEDAR GROVE COMPOST OR EQUIVALENT "COMPOSTED MATERIAL" PER WASHINGTON

ADMIN.

CODE 173-350-220. QUANTITY REQUIRED: 35 CUBIC YARDS

3. FERTILIZER: SLOW-RELEASE, PHOSPHOROUS-FREE GRANULAR FERTILIZER. MOST COMMERCIAL NURSERIES CARRY THIS PRODUCT. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR USE. KEEP FERTILIZER IN WEATHER-TIGHT CONTAINER WHILE ON-SITE. FERTILIZER IS ONLY TO BE APPLIED IN YEARS TWO AND THREE, NOT IN YEAR ONE.

- 4. RESTORATION SPECIALIST: QUALIFIED PROFESSIONAL ABLE TO EVALUATE AND MONITOR THE
- CONSTRUCTION OF ENVIRONMENTAL RESTORATION PROJECTS. 3. FERTILIZER (FOR NEAR AQUATIC ENVIRONMENTS): SLOW-RELEASE, PHOSPHOROUS-FREE
- GRANULAR FERTILIZER. LABEL MUST INDICATE THAT PRODUCT IS SAFE FOR AQUATIC ENVIRONMENTS. FOLLOW

MANUFACTURER'S INSTRUCTIONS FOR USE. KEEP FERTILIZER IN WEATHER-TIGHT CONTAINER WHILE ON-SITE. FERTILIZER IS ONLY TO BE APPLIED IN YEARS TWO AND THREE, NOT IN YEAR ONE.

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