DEVELOPMENT SERVICES DEPARTMENT
ENVIRONMENTAL COORDINATOR
450 110th Ave NE., P.O. BOX 90012
BELLEVUE, WA 98009-9012

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. 22-129579-LO

Project Name/Address: COBT NW Bellevue Walkways and Safety Improvements / City-Wide

Planner: Drew Folsom
(425) 452-4441
dfolsom@bellevuewa.gov

Minimum Comment Period: April 6, 2023

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

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SEPA Environmental Checklist

If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit the Land Use Desk in the Permit Center between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4) or call or email the Land Use Division at 425-452-4188 or landusereview@bellevuewa.gov. Assistance for the hearing impaired: Dial 711 (Telecommunications Relay Service).

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

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.

PLEASE REMEMBER TO SIGN THE CHECKLIST. Electronic signatures are also acceptable.

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A. Background [help]

1. Name of proposed project, if applicable: [help]
NW Bellevue Walkways and Safety Improvements

2. Name of applicant: [help]
Daniel Lam

3. Address and phone number of applicant and contact person: [help]
450 110th Ave NE, Bellevue, WA, 98004
425-452-2063

4. Date checklist prepared: [help]
November 19, 2021

5. Agency requesting checklist: [help]
City of Bellevue

6. Proposed timing or schedule (including phasing, if applicable): [help]
Construction is anticipated for late summer 2022.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. [help]
No plans for additional expansion or other activities related to this proposal are in place as this time.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. [help]
Does not apply.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [help]
Does not apply.

10. List any government approvals or permits that will be needed for your proposal, if known. [help]
    - *Clear and Grade permit*
    - *Right of Way Use permit*
    - *Critical Areas permit*

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) [help]
This project will construct a new 10' HMA shared use path with a 4' planter along the east side of 100th Ave NE from NE 14th St to NE 24th St. There will be raised intersections along 100th Ave NE at NE 15th St, NE 18th St, and NE 21st St.

This project will also construct new 6' sidewalks on: 98th Ave NE

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(NE 18th St to NE 20th St), NE 18th St (98th Ave NE to 100th Ave NE), and NE 21st St (98th Ave NE to 100th Ave NE).

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [help]
Township 25 N, Range 5 E, Section SW 29, NW 29, SE 30, and NE 30.

B. Environmental Elements [help]

1. Earth [help]

a. General description of the site: [help] (select one): ☒Flat, ☒rolling, ☐hilly, ☐steep slopes, ☐mountainous, other: *100th Ave NE slopes down from north to south with crest and sag curves throughout. 100th Ave NE slopes range from 0.5 to 9.5%.*

NE 18th St slopes down from west to east. NE 18th St slopes range from 3.75% to 10%.

98th Ave NE slopes down from north to south. 98th Ave NE slopes range from 0.5% to 3.5%.

NE 21st St slopes down from west to east. NE 21st St slopes range from 1.5% to 12%.

b. What is the steepest slope on the site (approximate percent slope)? [help]
The steepest slope on the site is approximately 12%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [help]
Soils in the area are comprised of B/D soils: arents, alderwood material, 6 to 15% slopes.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. [help]
None.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [help]
There will be an estimated XXXX CY of material removed from the site and XXXX CY of fill brought to the site for the construction of the new cement concrete sidewalk, curb,

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gutter, raised intersections, planters, and trench restorations.

Fill material will be provided from a City of Bellevue approved source.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. [help]
Yes, erosion could potentially occur during construction. Erosion BMPs will be employed and inspected during construction in accordance with City standards and the project Construction Stormwter Pollution Prevention Plan (CSWPPP).

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? [help]
Currently, the site is approximately 95% impervious surfaces. This project will not add any new impervious surfaces.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: [help]
Erosion and sedimentation will be controlled through the implementation of Best Management Practices (BMPs) as described in the State Department of Ecology's Stormwater Management Manual for the Puget Sound Basin, and according to City of Bellevue clearing and grading requirements, and the project Construction Stormwater Pollution Prevention Plan (CSWPPP). The primary BMP to be used include silt fences, catch basin inserts, and plastic covering. BMP's will be in place prior to beginning any clearing activity.

2. Air [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [help]
Project construction activities could generate onsite dust from equipment operation, but these effects are anticipated to be temporary, minor, and largely contained at and within short distances from the proposed project site. Construction equipment and vehicles will generate minor amounts of localized carbon monoxide, and other products of combustion and particulate emissions. These emissions would only slightly degrade local air quality and on a temporary basis.

There will be no change in land use in the vicinity as a result of the project. Thus, in the long term no reduction in air quality is expected.

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

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None.

c. Proposed measures to reduce or control emissions or other impacts to air, if any: [help]
Best Management Practices will be implemented during construction activities to reduce and control air emissions. These practices may include covering soil stockpiles, sweeping or washing street surfaces, minimizing exposed areas, and using construction machinery equipped with standard mufflers.

3. Water [help]

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. [help]
No streams or wetlands were identified in the project area.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. [help]
Not applicable, no streams or wetlands occur in the project area or within 200 feet of the project area.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. [help]
Not applicable, no waterways or wetlands occur in the project area.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. [help]
The proposal will not require surface water withdrawals or diversions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. [help]
The proposed project does not lie within a 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. [help]
The proposed project does not involve discharge of waste material to surface waters.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general

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description, purpose, and approximate quantities if known. [help]
No groundwater will be withdrawn and no discharges will occur to groundwater as part of, or as a result of, the project.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals…; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. [help]
No waste materials will be discharged to the ground, groundwater, or any part of the project location as a result of the project.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. [help]
The project is located in an area with mostly impervious (paved) ground areas. The project is contained within 4 threshold discharge areas (TDA).

The runoff currently sheet flows to the existing storm drainage sysytem. The existing storm drainage system outfalls to Meydenbauer Creek.

2) Could waste materials enter ground or surface waters? If so, generally describe. [help]
Release of waste material from construction activities could potentially occur from accidental fuel leaks or spills, but is not likely. During construction, BMPs for spill prevention, and erosion and sediment control will be implemented.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe. [help]
The proposal maintains the existing drainage pattern of the site.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: [help]
None.

4. Plants [help]

a. Check the types of vegetation found on the site: [help]
☒deciduous tree: alder, maple, aspen, other: *Click here to enter text.*
☐evergreen tree: fir, cedar, pine, other: *Click here to enter text.*
☒shrubs
☒grass

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☐pasture
☐crop or grain
☐Orchards, vineyards or other permanent crops.
☐wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other: *Click here to enter text.*
☐water plants: water lily, eelgrass, milfoil, other: *Click here to enter text.*
☐other types of vegetation: *Click here to enter text.*

b. What kind and amount of vegetation will be removed or altered? [help]
Grass and small shrubs will be removed.

c. List threatened and endangered species known to be on or near the site. [help]
None.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: [help]
The project will replace the disturbed grass and shrubs with in kind.

e. List all noxious weeds and invasive species known to be on or near the site. [help]
None.

5. Animals [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. [help]

Examples include:

birds: ☐hawk, ☐heron, ☐eagle, ☐songbirds, other: *Click here to enter text.*
mammals: ☐deer, ☐bear, ☐elk, ☐beaver, other: *Click here to enter text.*
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, other: *Click here to enter text.*

b. List any threatened and endangered species known to be on or near the site. [help]
WDFW's Priority Habitat Species on the Web does not identify any threatened or endangered species on or near the project site.

c. Is the site part of a migration route? If so, explain. [help]
WDFW's Priority Habitat Species on the Web does not identify any migration routes within the project area.

d. Proposed measures to preserve or enhance wildlife, if any: [help]
No in-water work will occur and BMPs will control construction materials and sediment erosion. Landscaping is proposed, and will maintain or improve habitat conditions for wildlife.

e. List any invasive animal species known to be on or near the site. [help]

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None known.

6. Energy and Natural Resources [help]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. [help]
Fossil fuels will be consumed to operate construction equipment and maintenance vehicles. The completed project will require no energy.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. [help]
No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: [help]
None.

7. Environmental Health [help]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. [help]
Potential environmental health hazards could include spills of fuel, oil, lubricants, and solvents used during construction. Spills pose a temporary threat to construction workers and nearby individuals if they become directly exposed, although the likelihood of nearby individuals being exposed is minimal during construction.

1) Describe any known or possible contamination at the site from present or past uses. [help]
No potential sources of contamination were identified in the vicinity of the project site.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity. [help]
None.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project. [help]
Equipment fuels, oils, and liquids will be on site during construction and will be removed after project completion.

4) Describe special emergency services that might be required. [help]
No special emergency services will be required. PSEG (1-800-424-7734) will be contacted if the contractor

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hits/damage gas utilities or power lines, and/or smells natural gas from suspected leak.

5) Proposed measures to reduce or control environmental health hazards, if any: [help]
BMPs will be in place to ensure any minor spillage of equipment liquids (fuel, oil, etc.)is properly contained and disposed of. Any spill of materials such as diesel fuel and lubricating oil will be cleaned up immediately. Refueling during construction will be performed away from storm conveyance facilities.

b. Noise [help]

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? [help]
Existing noise sources in the area are primarily from vehicular traffic. Noise levels in the project area will not affect the proposed project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indi-cate what hours noise would come from the site. [help]
On a short-term basis, noise will be generated from the construction equipment. Construction hours are typically 7:00 AM to 5:00 PM; however, hours are determined on a project-by-project basis.

3) Proposed measures to reduce or control noise impacts, if any: [help]
To control noise impacts to adjacent properties, the construction hours are limited to daytime hours and in accordance with City noise ordinances. Additionally, standard mufflers will be used on all construction equipment to reduce noise impacts.

8. Land and Shoreline Use [help]

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [help]
The project site consists of roadways and associated right-of-ways. Adjacent properties are single families. The proposal will not affect the current land uses on nearby or adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? [help]
The project site consists of roadways and associated right-of-ways. It may have been used for agriculture in the past. No

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agricultural or forest land of long-term commercial significance will be converted to other uses.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: [help]
No.

c. Describe any structures on the site. [help]
Current structures and development on the site includes the roadway and driveways associated with adjacent single family properties.

d. Will any structures be demolished? If so, what? [help]
None.

e. What is the current zoning classification of the site? [help]
Office.

f. What is the current comprehensive plan designation of the site? [help]
Single family.

g. If applicable, what is the current shoreline master program designation of the site? [help]
The project site is not within a shoreline management area.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [help]
None.

i. Approximately how many people would reside or work in the completed project? [help]
None.

j. Approximately how many people would the completed project displace? [help]
None.

k. Proposed measures to avoid or reduce displacement impacts, if any: [help]
Not applicable.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [help]
The proposed project will not affect existing or projected land use.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any: [help]
Since the proposed project will not affect nearby agricultural and forest lands of long term commercial significance, no measures are proposed.

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9. Housing [help]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. [help]
None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. [help]
None.

c. Proposed measures to reduce or control housing impacts, if any: [help]
Not applicable.

10. Aesthetics [help]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? [help]
Not applicable.

b. What views in the immediate vicinity would be altered or obstructed? [help]
None.

c. Proposed measures to reduce or control aesthetic impacts, if any: [help]
Not applicable.

11. Light and Glare [help]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur? [help]
New signal polse with LED lights will be installed at each intersection. The lights from the new light poles will occur in the night time.

b. Could light or glare from the finished project be a safety hazard or interfere with views? [help]
The new illumation system will increase the safety of pedestrians and vehicles traveling through 108th Ave NE & NE 6th St and 110th Ave NE & NE 6th St.

c. What existing off-site sources of light or glare may affect your proposal? [help]
None.

d. Proposed measures to reduce or control light and glare impacts, if any: [help]
Not applicable.

12. Recreation [help]

a. What designated and informal recreational opportunities are in the immediate vicinity? [help]

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None.

b. Would the proposed project displace any existing recreational uses? If so, describe. [help]
Not applicable.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: [help]
Not applicable.

13. Historic and cultural preservation [help]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. [help]
The Washington Information System for Architecural and Archaeological Records Data (WISAARD) does not identify any eligible properties in the project area.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [help]
There are no known artifacts or areas of cultural importance in or near the project area.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [help]
Consultation has been completed with the Washington Department of Archaeology and Historic Preservation, and the City has initiated consultation with affected Tribes.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required. [help]
If any archaeological artifact is uncovered or discovered during construction, the Sate Historical Preservation Officer will be notified immediately. No additional work would be performed on the site until all archaeological investigations are completed.

14. Transportation [help]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [help]
The project consists of improvements to 100th Ave NE, 98th Ave NE, NE 18th St, NE 21st St.

b. Is the site or affected geographic area currently served by public transit? If so, generally

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describe. If not, what is the approximate distance to the nearest transit stop? [help]
Yes. Route 246 and 886 run along 100th Ave NE. There are 5-6 stops along 100th Ave NE.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [help]
The project will not add or eliminate any parking spaces. No parking currently exists along the roadway.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [help]
New HMA shared use path, sidewalks, driveway approaches, and raised intersections will be constructed.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. [help]
The project will not use or occur in the vicinity of any water, rail, or air transportation.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? [help]
The completed project is not expected to change the number of vehicle trips in the project area or vicinity.

g. 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. [help]
The project will not interfere with, affect, or be affected by the movement of agricultural and forest products.

h. Proposed measures to reduce or control transportation impacts, if any: [help]
None proposed.

15. Public Services [help]

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. [help]
The project will not increase the nearby population or traffic and will not generate a need for additional public services at the site. The City will provide continued maintenance of the walkway.

b. Proposed measures to reduce or control direct impacts on public services, if any. [help]
None. The project will not result in an increased need for public services.

16. Utilities [help]

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a. Circle utilities currently available at the site: [help]
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other
Electricity, gas, water, sanitary sewer, internet.

c. 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. [help]
There are no new utilities that are proposed for this project.

C. Signature [help]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:_____

Name of signee: *Daniel Lam*
Position and Agency/Organization: *Design Engineer, City of Bellevue*
Date Submitted: *November 19, 2021*

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NW BELLEVUE WALKWAYS AND SAFTEY IMPROVEMENTS PROJECT

Critical Areas Report

Prepared for
City of Bellevue

January 2021

ESA

NW BELLEVUE WALKWAYS AND SAFTEY IMPROVEMENTS PROJECT

Critical Areas Report

Prepared for
City of Bellevue

January 2021

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Los Angeles	San Diego	
Oakland	San Francisco	

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OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations.

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1.0 INTRODUCTION

Environmental Science Associates (ESA), at the request of Reid Middleton and on behalf of the City of Bellevue (City), prepared this Critical Areas Report (CAR) to support the NW Bellevue Walkways and Safety Improvements Project (project) in Bellevue, Washington. The project plans to narrow the width of the 100th Avenue NE roadway to install a 10-foot wide shared use path, separated from the roadway by a vegetated buffer. Concrete curb and gutter construction, retaining walls, utility relocations, sidewalk, and crosswalk improvements are also necessary in several locations within the project corridor. The project will also install a 6-foot wide sidewalk on NE 18th Street and 98th Avenue NE.

This report summarizes the findings of field investigations conducted to determine the locations of wetlands, streams, steep slopes, and frequently flooded areas along the project corridor. Wetlands, streams, and steep slopes were identified following the requirements found in Bellevue Municipal Code (BMC) Land Use Code (LUC) Chapter 20.25 – *Special and Overlay Districts*, Part 20.25H – *Critical Areas Overlay District*.

1.1 Proposed Project Description

The project focus is on vehicle speeds and the need for safe pedestrian and cycling use in the neighborhood. The project corridor is located along 100th Avenue NE between NE 14th Street and NE 24th Street (Figure 1). The project extends along 100th Avenue NE for approximately 3,450 linear feet within the City's 60-foot right-of-way. It also extends along NE 18th Street, from 98th Avenue NE to 100th Avenue NE for approximately 600 linear feet and along 98th Avenue NE, from NE 18th Street to NE 20th Street for about 600 linear feet.

Based on the 60 percent design plan set, the project would remove the existing asphalt roadway from a portion of 100th Avenue NE, as well as associated driveway approaches, sidewalks, rockery, concrete curbs and gutters, retaining walls, drainage structures, mailboxes, and trees located on the east side of 100th Avenue NE within the project corridor. Additionally, the existing paved roadway, concrete traffic curbs and gutters, sidewalks, driveway approaches, and white paint lines would be removed from the north side of NE 18th Street. The existing roadway, traffic curbs and gutter, and some sidewalks would also be removed along the east side of 98th Avenue NE within the project corridor.

A 10-foot wide hot mix asphalt (HMA) trail with raised intersections would be constructed along the east side of 100th Avenue NE within the project corridor. The project will reconstruct curbs and gutters and driveway approaches, as well as relocate mailboxes. Additionally, sidewalks would be installed at each intersection along the west side of 100th Avenue NE. Intersections along 100th Avenue NE, including NE 14th Street, and NE 18th Street, NE 21st Street, would have

raised HMA intersections for safe crossing. Engineered gravity block walls are planned to be installed at multiple locations along the east side of the new HMA trail, including north of the NE 17th Street intersection and north and south of the NE 23rd Street intersection.

Work along the north side of NE 18th Street is planned to include reconstructing curbs and gutters and driveway approaches. Additionally, a 6-foot wide sidewalk will be installed from the 100th Avenue NE intersection to the 98th Avenue NE intersection. Reconstructed curbs and gutters and driveway approaches would also occur along the east side of 98th Avenue within the project corridor. A 6-foot wide sidewalk would be constructed on the east side of the road between the NE 18th Street and NE 19th Street intersections, as well as between the NE 19th Street and NE 20th Street intersections.

2.0 METHODS

ESA reviewed existing information and conducted an investigation to delineate and assess wetlands, streams, steep slopes, and frequently flooded areas along the project corridor.

2.1 Review of Existing Information

ESA reviewed existing literature, maps, and other materials to identify wetlands, streams, steep slopes, and frequently flooded areas or site characteristics indicative of these features along the project corridor. These sources are only used to indicate the likelihood of critical areas; actual determinations must be based upon data obtained from field investigations. Key sources of information included the following:

- City of Bellevue Comprehensive Plan (2015);
- City of Bellevue Map Viewer (2020);
- King County iMap (2020);
- Web Soil Survey (U.S. Department of Agriculture [USDA], Natural Resources Conservation Service [NRCS] (2020a);
- Priority Habitats and Species (PHS) data (Washington Department of Fish and Wildlife [WDFW], 2020a);
- SalmonScape fish database and mapping application (WDFW, 2020b);
- Washington Natural Heritage Program (WNHP) Wetlands of High Conservation Value mapper (Washington Department of Natural Resources [WDNR], 2020);
- Wetland and stream mapping from the National Wetland Inventory (NWI) (U.S. Fish and Wildlife Service [USFWS], 2020).

Complete citations for these and other information sources are included in the References section of this report.

2.2 On-site Investigation

2.2.1 Determining the Presence of Wetlands and Delineating Wetland Boundaries

The characteristics of an area that result in its classification as "wetland" have been formally defined by federal and state agencies, as described in Appendix B. Numerous federal, state, and local regulations govern development and other activities in or near wetlands; at each level, there

are typically several agencies charged with such powers. Federal, state, and county regulations are summarized later in this report.

Methods defined in the U.S. Army Corps of Engineers' *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* were used to determine the presence and extent of wetlands along the project corridor (Corps, 2010. Ecology repealed Washington Administrative Code (WAC) 173-22-080 (the state wetland delineation manual) and replaced it with a revision of WAC 173-22-035 that states that delineations should be done according to the currently approved federal manual and supplements (effective March 14, 2011).

The methodology outlined in the manuals is based upon three essential characteristics of wetlands: (1) hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology. Field indicators of these three characteristics must all be present in order to determine that an area is a wetland (unless problem areas or atypical situations are encountered).

The "routine on-site determination method" was used to determine the wetland boundaries. The routine method is used for areas equal to or less than five acres in size, or for larger areas with relatively homogeneous vegetative, soil, and hydrologic properties. Formal data plots were established where information regarding each of the three wetland parameters (vegetation, soils, and hydrology) was recorded (Appendix C). This information was used to distinguish wetlands from non-wetlands.

2.2.2 Assessing Wetland Functions and Classification

Two classification systems are commonly used to describe wetlands. The hydrogeomorphic (HGM) system describes wetlands in terms of their position in the landscape and the movement of water in the wetland (Brinson, 1993). The USFWS classification system (Cowardin et al., 1979) describes wetlands in terms of their vegetation communities; these include, for example, emergent, scrub-shrub, and forested community types.

For this project, wetland functions were assessed using Ecology's *Wetland Rating System for Western Washington: 2014 Update* (Hruby, 2014). Although the Ecology rating system is designed to rate wetlands, they are based on whether a particular wetland performs a particular function and the relative level to which the function is performed. An assessment of wetland functions is inherent in the rating system. This system was developed to differentiate wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the beneficial functions they provide to society. Appendix D provides additional information about the Ecology rating system wetland categories and completed Ecology rating forms for the project.

2.2.3 Determining the Presences of Streams

The assessment of streams along the project corridor followed methods defined by the U.S. Army Corps of Engineers (Corps) and Ecology for the identification of streams and the ordinary high water mark (OHWM) (Corps, 2014; Anderson et al., 2016). To determine a stream's lateral

jurisdiction under the Clean Water Act (CWA), the Corps defines the OHWM as: "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (Corps, 2014). Similarly, Ecology defines the OHWM as the “mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland” (Anderson et al., 2016).

Other physical characteristics that determine the OHWM include wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and a change in plant community (Corps, 2014). Streams were evaluated based on a qualitative assessment of the channel width, substrate, bed features, stream gradient, and fish access. The OHWM of the stream was flagged and GPS data were collected to document the stream boundary.

2.2.4 Stream Typing

Streams are classified according the Washington State Department of Natural Resource Forest Practices Board water typing system (WAC 222-06-030). The stream typing system applies to surface waters that produce a defined channel or bed and distinguishes them in general according to their status as a “shoreline of the state” (Type S), containing fish habitat (Type F), perennial non-fish habitat streams (Type Np), or seasonal non-fish habitat streams (Type Ns).

2.2.5 Determining the Presence of Steep Slopes

City code defines steep slopes as slopes of 40 percent or more that have a rise of at least 10 feet and exceed 1,000 square feet in area (LUC 20.25H.120(A)(2)).

2.2.6 Determining the Presence of Frequently Flooded Areas

Frequently flooded areas are lands subject to the one-hundred-year flood and areas identified on the Flood Insurance Rate Maps (LUC 20.25H.175(A)(1 & 2)). Additionally, the City Director may designate other areas following the criteria discussed in LUC 20.25H.175.

3.0 RESULTS

3.1 Existing Information

3.1.1 Soils

One soil type is mapped along the project corridor: Arent, Alderwood material, 6 to 15 percent slopes (USDA, NRCS 2020a; Figure 2). Arent, Alderwood material, 6 to 15 percent slopes soils are formed from basal till on till plains and is not considered to be hydric by the NRCS.

3.1.2 Wetlands

No wetlands are mapped along the project corridor based on the City's Comprehensive Plan (City of Bellevue, 2019), King County iMap (King County, 2020), and USFWS NWI maps (USFWS, 2020) (Figure 3). The closest mapped wetland to the project corridor is located approximately 800 feet east of the intersection of 100th Avenue NE and NE 17th Street on the Presbyterian church property (City of Bellevue, 2015 and 2017).

3.1.3 Streams

The project corridor is located within the Lake Washington-Sammamish River subwatershed within Water Resource Inventory Area (WRIA) 8 – Cedar-Sammamish. No streams are mapped along the project corridor based on City's Comprehensive Plan, King County iMap, and WDFW SalmonScape (WDFW, 2020; Figure 3). The closest mapped stream to the project corridor is a tributary to Yarrow Creek located approximately 2,700 feet northeast of the project corridor along 108th Avenue NE.

3.1.2 Geologic Hazard Areas

The project corridor slopes down to the south along 100th Avenue NE from NE 24th Street to the NE 18th Place intersection. The elevation begins at approximately 304 feet near NE 24th Street and lowers to 248 feet near NE 18th Place. Steep slopes are mapped at several locations within the project area, including (City of Bellevue, 2020):

- northwest of the NE 16th Place and 100th Avenue NE intersection,
- northeast of the intersection of 100th Avenue NE and NE 17th Street,
- adjacent to the southern boundary of NE 18th Street, and
- northwest of the 100th Avenue NE and NE 18th Street intersection.

3.1.3 Frequently Flooded Areas

No floodplains or frequently flooded areas are mapped within or near the project corridor (City of Bellevue, 2020; King County, 2020; FEMA, 2020). These critical areas will not be discussed further in this report.

3.2 On-site Investigation

The following sections describe the results of the field investigation conducted by ESA ecologists Amanda Brophy and Scott Olmsted on October 12, 2020. ESA identified and delineated the boundaries of one wetland and one stream adjacent to the project corridor and observed two several steep slopes.

Overall, normal climatic conditions occurred in the region from July through September 2020 (Table 1). Approximately 0.61-inche of precipitation fell on October 11, 2020, the day prior to the field investigation. Table 1 summarizes the precipitation data taken from the closest WETS station in SeaTac, Washington.

Table 1. Evaluation of normal precipitation for the 3-month period immediately before wetland and stream investigation, SeaTac, Washington (Sprecher et al., 2000)

Month	30-Year Average Precipitation Percentiles (inches)		2020 Measured Rainfall (inches)	2020 Condition: Dry, Wet, Normal
	30th	70th		
July	0.32	0.85	0.17	Dry
August	0.33	1.06	0.31	Dry
September	0.66	1.74	2.48	Wet
Totals	1.31	3.65	2.96	

Source: WETS Station - Seattle Tacoma Airport from 1981-2010 (USDA, NRCS, 2020b)

3.2.1 Wetlands

3.2.1.1 Wetland A

Overview: Wetland A is a depressional, palustrine scrub-shrub (PSS) wetland approximately 1,905 square feet in size (Photo 1). The wetland is located along the southeast portion of the project corridor, northeast of the 100th Avenue NE and NE 17th Street intersection (Figure 4). Data Plot (DP)-2 characterizes the wetland, and DP-3 and 4 are representative of upland characteristics. The wetland collects runoff from the adjacent roadway. The wetland boundary was flagged where hydrophytic vegetation, hydric soil indicators, and wetland hydrology were present.

Hydrology: Wetland hydrology indicators included the presence of a high water table at 8 inches from the soil surface and saturation present to the soil surface (A2 and A3). Hydrological inputs include surface-water runoff from adjacent development.

Soils: Soils observed at the wetland plot were primarily loam. Soils were very dark brown (10YR 2/2) from 0 to 8 inches and were dark reddish brown (5YR 3/2) from 8 to 18 inches. Redoximorphic concentrations were present from 8 to 18 inches meeting hydric soil indicator Redox Dark Surface (F6).

Vegetation: Wetland A is dominated by a shrub plant community that is primarily salmonberry (*Rubus spectabilis*) and non-native Himalayan blackberry (*Rubus armeniacus*). Other hydrophytic vegetation present includes western red cedar (*Thuja plicata*), giant horsetail (*Equisetum telmateia*), and lady fern (*Athyrium filix-femina*).

Wetland rating and functions: Wetland A scored a total of 17 points (Category III) using Ecology's rating system (Hruby 2014, Appendix D). The water quality and hydrologic functions received a moderate score (6 points), while the habitat functions received a moderate to low score (5 points).

Using Ecology's rating system (Hruby 2014), this depressional wetland is downslope of sediment sources and contains vegetation that is important for slowing and filtering surface-water runoff. Because the wetland is relatively small, it lacks the capacity to receive and hold stormwater flows necessary to protect downstream areas from flooding. The wetland's general habitat suitability is low because of its low plant species diversity, lack of accessible undisturbed habitat, and lack of large woody debris and other habitat structures.

3.2.2 Streams

3.2.2.1 Stream A

Stream A is located adjacent to Wetland A along the southeast portion of the project corridor (Figure 4; Photo 2). The stream is mapped by the City as originating from a storm gravity main that flows south along 100th Avenue NE. Approximately 175 feet south of the NE 18th Street intersection, the storm gravity main intersects another storm gravity main. This storm gravity main begins on the west side 100th Avenue NE (Photo 3) and flows southeast across 100th Avenue NE, where it discharges in the vicinity of Stream A (Photo 4). The storm inlet on the west side 100th Avenue NE had no flow during the October site visit and there were no indications of stream bed or bank that would indicate the presence of a stream.

Stormwater enters the project corridor through a concrete storm water pipe located under 100th Avenue NE and drains to an incised channel lined with concrete and asphalt rip rap. The stream flows offsite to the east, enters the City's stormwater system along NE 17th Street that connects with more stormwater infrastructure located along Bellevue Way NE. Substrate in the stream consists of small gravel, fine sediments, large cobble, and pieces of concrete and asphalt. The stream has a bankfull width (BFW) of approximately 2 to 5 feet with and wetted depths ranged from 2 to 5 inches.

The water source for the stream is assumed to be stormwater from the storm gravity main as no other water sources were identified upslope.

3.2.3 Steep Slopes

Wetland A and Stream A are located near the base of the steep slopes east of 100th Avenue NE. Slopes are higher than 10 feet, appear to be 40 percent or greater, and wrap around the western and northern sides of Stream A. Paved roadways are located at the top-of-slopes; 100th Avenue NE to the west and a church driveway to the north. The steep slope south of NE 18th Street, west of 100th avenue NE, parallels the roadway and forms the northern border of an undeveloped, shallow ravine. Mapped steep slopes located northwest of the NE 18th Street and 100th Avenue NE intersection are associated with rock retaining walls and do not meet the steep slope criteria. Similarly, mapped steep slopes northwest of the NE 16th Place and 100th Ave NE intersection do not meet steep slope criteria.

4.0 REGULATORY CONTEXT

Wetlands and streams are regulated at the federal, state, and local levels. Agencies with jurisdiction include the U.S. Army Corps of Engineers (Corps), Washington State Department of Ecology (Ecology), and the local agencies along the project corridor. The Washington Department of Fish and Wildlife (WDFW) also regulates work within streams. Steep slopes are regulated at the local level. Regulatory implications associated with development in wetlands, streams, and steep slopes include, but may not be limited to, those described in this section.

4.1 Federal Regulatory Requirements

U.S. Army Corps of Engineers Section 404 Requirements

The Corps regulates discharges of dredged or fill materials into Waters of the United States, including wetlands and streams, under Section 404 of the Clean Water Act. The purpose of the Clean Water Act is to "*restore and maintain the chemical, physical, and biological integrity of the Nation's waters*." A Section 404 permit may be required if a proposed project involves filling wetlands and/or streams. The Corps requires that wetland and stream impacts be avoided or minimized to the extent practicable; mitigation is typically required for unavoidable wetland and stream impacts. Wetlands considered "isolated" are non-jurisdictional under the Clean Water Act. The Corps makes the jurisdictional determination.

Project components that would include filling wetlands would require coverage under a Section 404 permit. If proposed fill is limited to a total of 0.5 acre or less, the project component could likely be covered under a Section 404 Nationwide Permit; if greater than 0.5 acre of fill is proposed, a Section 404 Individual Permit would be required.

4.2 State Regulatory Requirements

Ecology Section 401 Water Quality Certification and the State Water Pollution Control Act

A Corps Section 404 permit application also requires state participation in resource protection under Section 401 of the federal Clean Water Act. Section 401 directs each state to certify that proposed in-water activities would not adversely affect water quality or violate state aquatic protection laws. In Washington State, permitting for activities in wetlands and streams is administered by Ecology. Ecology may issue approval, approval with conditions, denial, or request additional information. Conditions attached to the Section 401 certification become part of the Section 404 permit.

WDFW Hydraulic Project Approval

WDFW is responsible for preserving, protecting, and perpetuating all state fish and shellfish resources. The Hydraulic Code (Chapter 77.55 Revised Code of Washington [RCW]) requires that any person, organization, or government agency wishing to conduct a construction activity

that will use, divert, obstruct, or change the bed or flow of state waters must do so under the terms of a Hydraulic Project Approval permit issued by WDFW. State waters include all marine and fresh waters of the state, except those watercourses that are entirely artificial, such as irrigation ditches, canals, and stormwater runoff devices.

4.3 Local Regulatory Requirements

The City of Bellevue regulates critical areas and associated buffers through LUC Part 20.25H – *Critical Areas Overlay District*, which includes the following: wetlands, fish and wildlife habitat areas, frequently flooded areas, and geologically hazardous areas. Development of a site with critical areas requires City review and approval in accordance with these regulations. The text below addresses the City's critical area buffers for wetlands and fish and wildlife habitat areas, including streams and steep slopes, only.

4.3.1 Wetland Regulatory Requirements

Wetlands are classified into Category I, II, III, or IV using the criteria provided in LUC 20.25H.095.C. The City generally prohibits filling and grading of wetlands and also requires a protective buffer around wetlands to insulate them from potential adverse effects from adjacent development. The size of the wetland buffer is based on category and habitat scores per LUC 20.25H.095.D.1.a.i.

The one wetland adjacent to the project corridor rates as Category III with a habitat score of 5 points, requiring a 110 foot standard buffer (LUC 20.25H.095.D.1.a.i). However, based on the City's wetland definition, Wetland A likely does not qualify as a wetland since it appears to have been unintentionally created as a result of the construction of the adjacent roadway (LUC 20.25H.095.A). Wetland A does not likely meet the U.S. Army Corps of Engineers' wetland definition due to its artificial creation in uplands and therefore would not be considered jurisdictional under the Clean Water Act.

4.3.2 Fish and Wildlife Habitat Area Regulatory Requirements (Streams and Steep Slopes)

According to LUC 20.25H.075.C.1, the buffer width assigned to a stream depends on the stream type and presence of salmonids. The on-site stream is likely unregulated as the source is stormwater from the storm gravity main. Therefore, the stream is wholly artificial, not used by salmonids, and does not appear to have conveyed a naturally occurring stream at any point in time per LUC 20.25H.075.A.

Steep slope buffers extend 50 feet from the top-of-slope per LUC 20.25H.120(B)(1)(b). Within the project area, steep slopes located east of 100th Avenue NE and south of NE 18th Street are located adjacent to paved roadway and associated base material. The project proposes to install an engineered gravity block retaining wall east of 100th Avenue NE, at the top of the steep slope (Figure 5). The project proposes use of a retaining wall to comply with LUC 20.25H.125(A

through E) through use of a block wall located at the top of the slope and will minimize impervious surfaces, while accomplishing the project purpose, within the critical area/buffer. A geotechnical report has been prepared for the project that addresses installation of retaining walls (HWA, 2020). No mitigation is proposed for installation of the retaining wall. Along NE 18th Street, work is only proposed on the north side of the paved roadway; away from the steep slope.

5.0 LIMITATIONS

Within the limitations of schedule, budget, scope-of-work, and seasonal constraints, we warrant that this study was conducted in accordance with generally accepted environmental science practices, including the technical guidelines and criteria in effect at the time this study was performed, as outlined in the Methods section. The results and conclusions of this report represent the authors' best professional judgment, based upon information provided by the project proponent in addition to that obtained during the course of this study. No other warranty, expressed or implied, is made.

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PHOTOS

SOURCE: ESA, 2020 City of Bellevue 100th Ave NE Complete Streets Project

Photo 1
Wetland A on west side of 100th Avenue NE

SOURCE: ESA, 2020 City of Bellevue 100th Ave NE Complete Streets Project

Photo 2
Stream A on west side of 100th Avenue NE

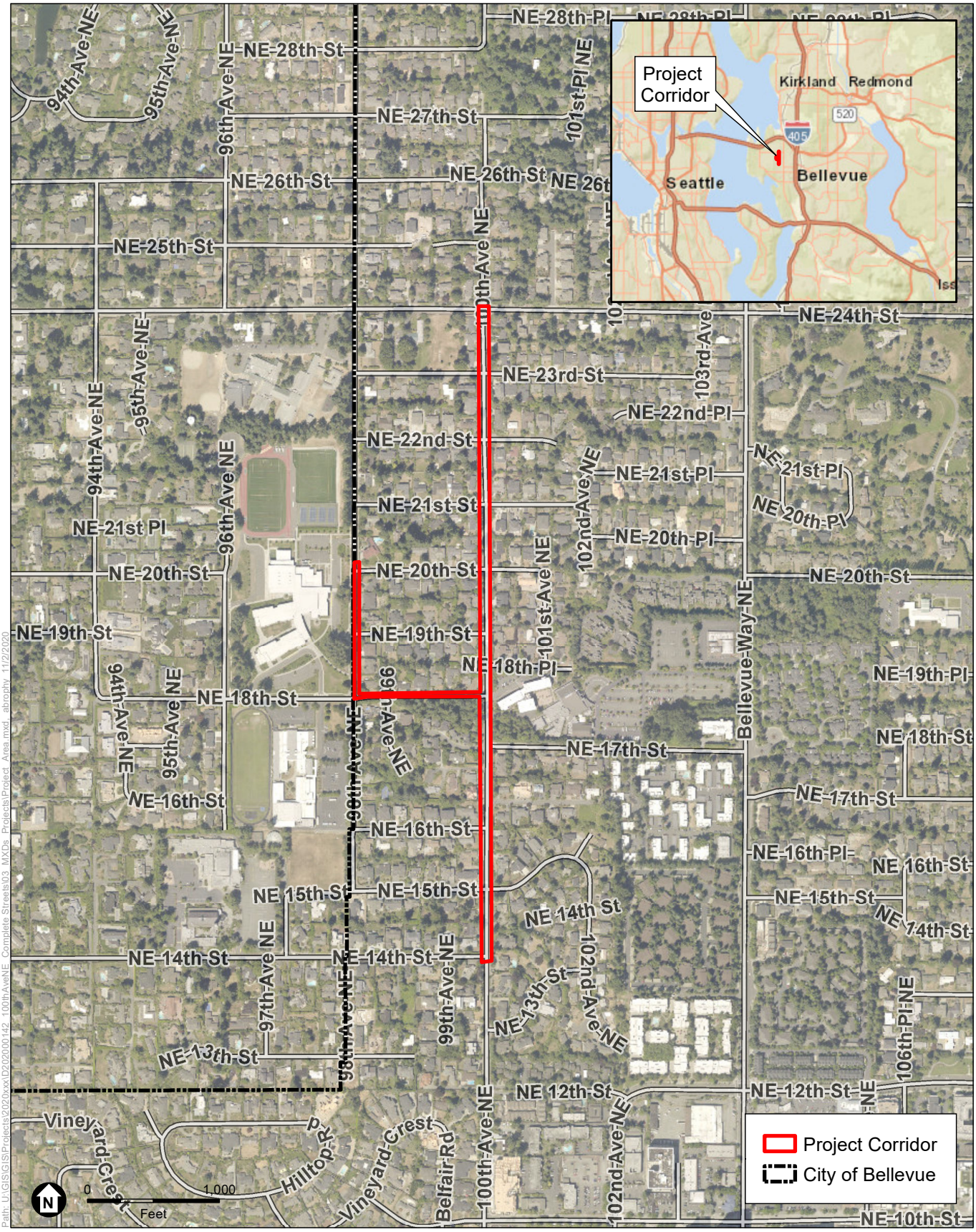
SOURCE: ESA, 2020 City of Bellevue 100th Ave NE Complete Streets Project

Photo 3
Stormwater inlet on west side of 100th Avenue NE

SOURCE: ESA, 2020 City of Bellevue 100th Ave NE Complete Streets Project

Photo 4
Stormwater outlet/Stream A on east side of 100th Avenue NE

Figures

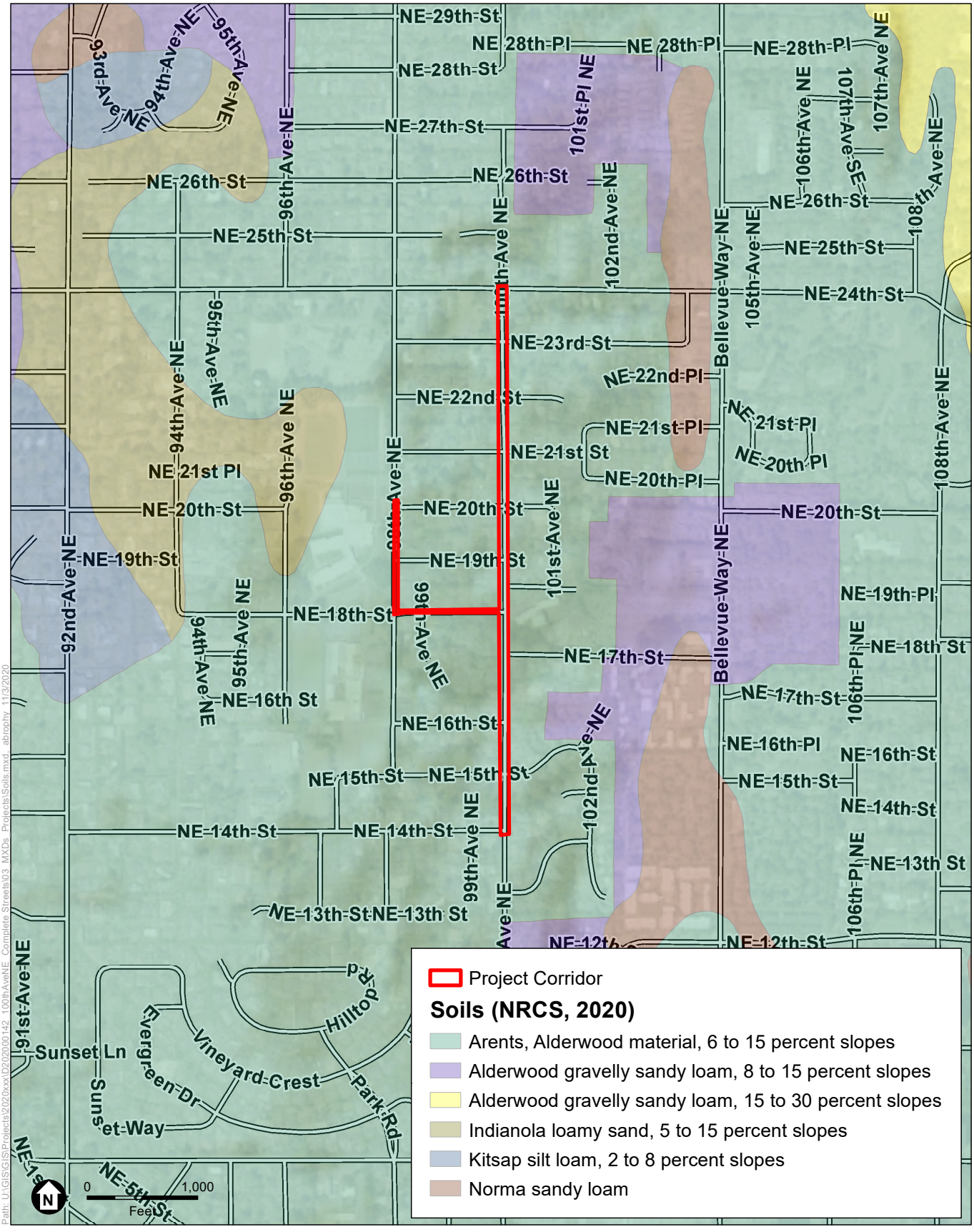


SOURCE: King County, 2017; WSDOT, 2020

City of Bellevue 100th Ave NE Complete Streets Project

Figure 1
Project Corridor
Bellevue, Washington

ESA

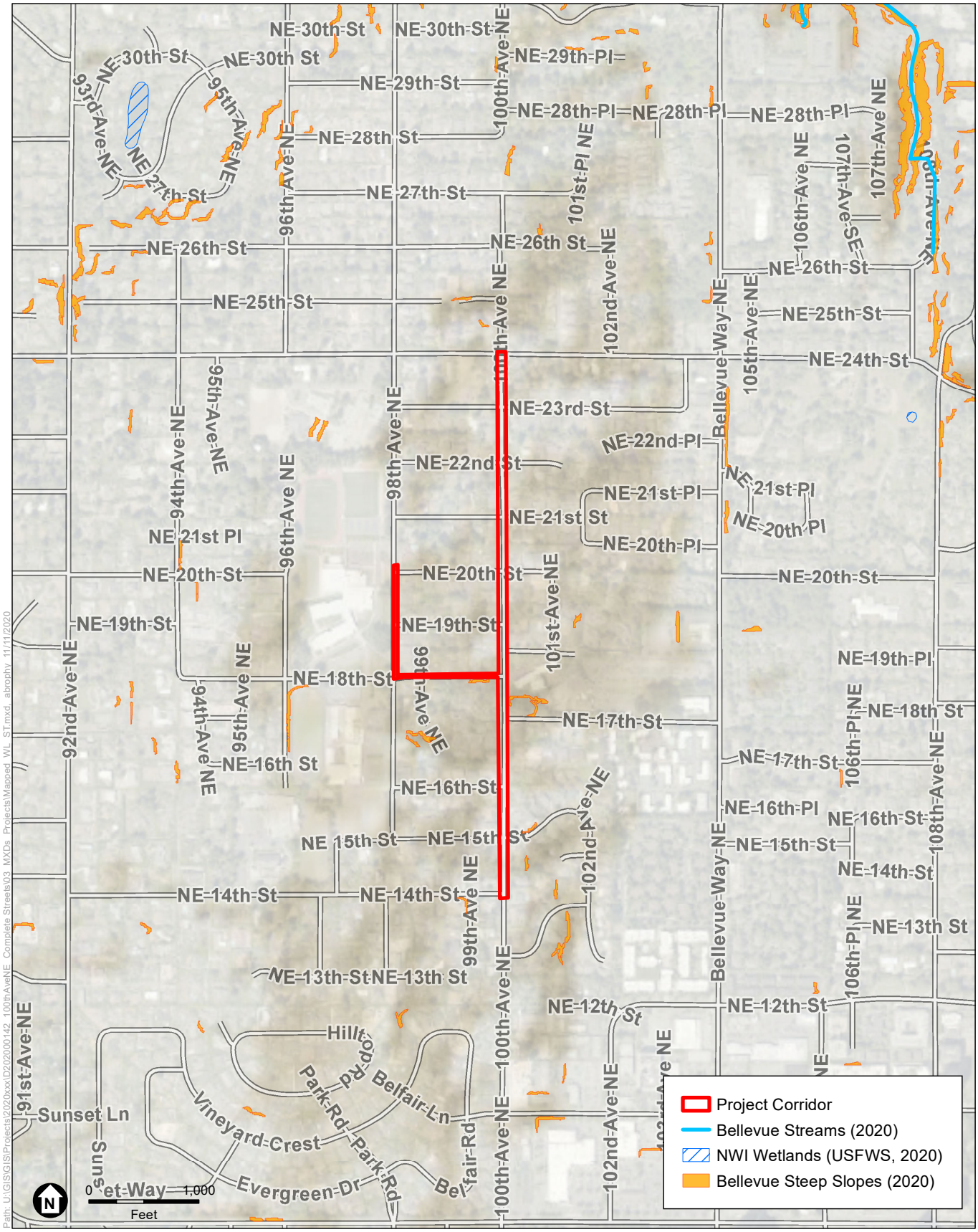


SOURCE: King County, 2017; NRCS, 2020; WSDOT, 2020

City of Bellevue 100th Ave NE Complete Streets Project

Figure 2
Mapped Soils within the Project Corridor
Bellevue, Washington

ESA

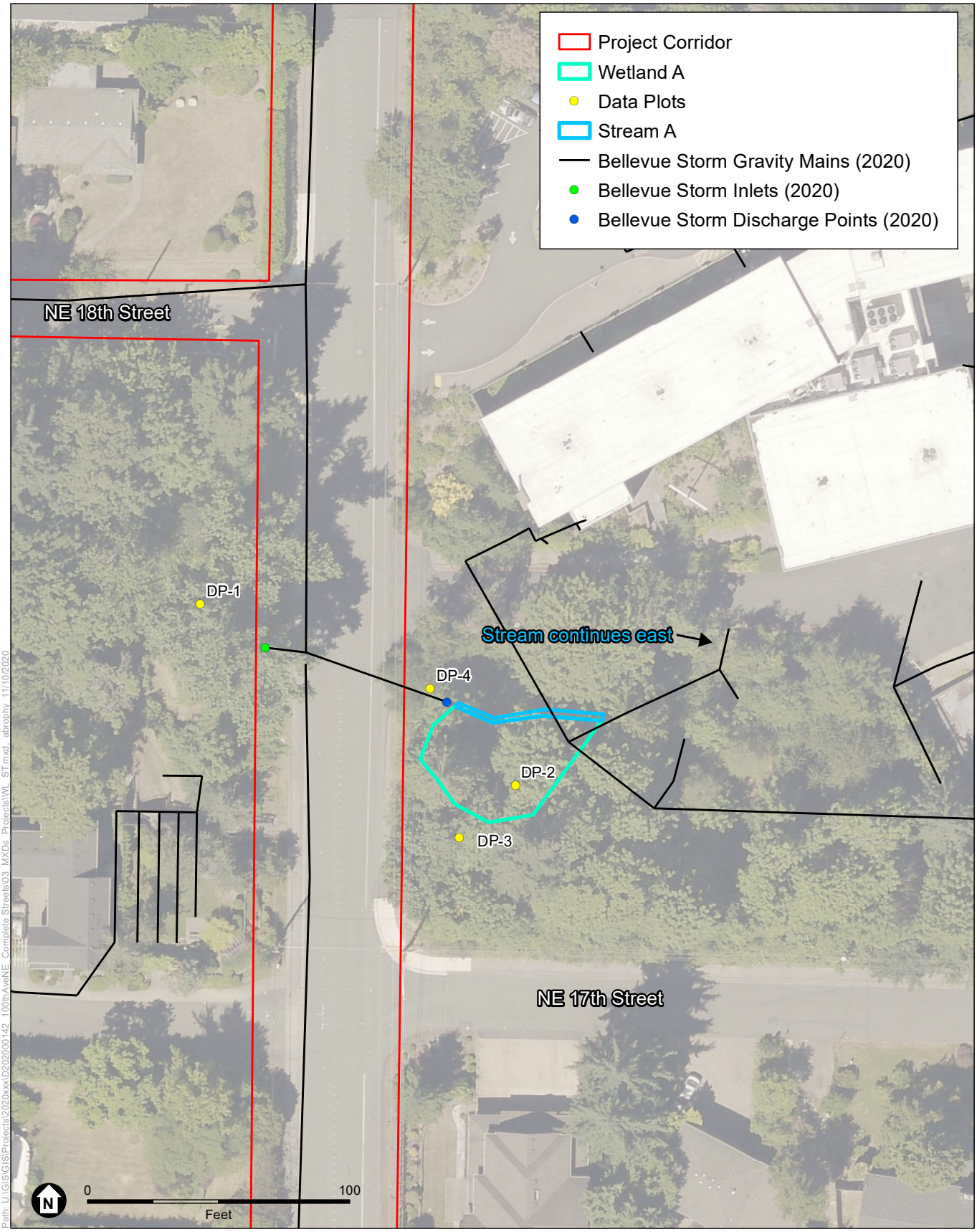


SOURCE: City of Bellevue, 2020; King County, 2017; USFWS, 2020; WSDOT, 2020

City of Bellevue 100th Ave NE Complete Streets Project

Figure 3
Mapped Critical Areas within the Project Corridor
Bellevue, Washington

ESA



SOURCE: City of Bellevue, 2020; ESA, 2020; King County, 2017

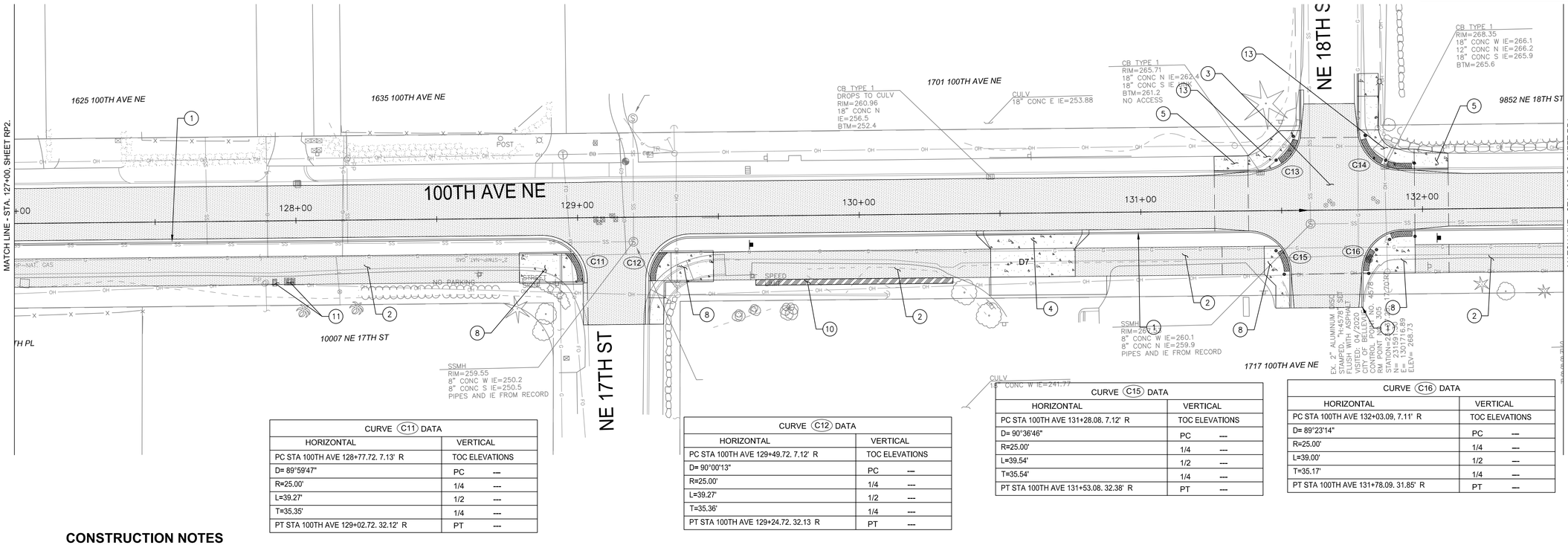
City of Bellevue 100th Ave NE Complete Streets Project

Figure 4
Results of the Critical Areas Investigation
(Wetlands and Streams Only)
Bellevue, Washington

ESA

CURVE C13 DATA	
HORIZONTAL	VERTICAL
PC STA 100TH AVE 131+31.45. 13.88' LT	TOC ELEVATIONS
D= 89°51'01"	PC 428.03
R=25.00'	1/4 427.64
L=39.20'	1/2 427.19
T=35.31'	1/4 426.73
PT STA 100TH AVE 131+57.23. 38.82' LT	PT 426.27

CURVE C14 DATA	
HORIZONTAL	VERTICAL
PC STA 100TH AVE 132+02.23. 13.89' LT	TOC ELEVATIONS
D= 90°08'59"	PC ---
R=25.00'	1/4 ---
L=39.34'	1/2 ---
T=35.40'	1/4 ---
PT STA 100TH AVE 131+77.23. 38.95' LT	PT ---



CURVE C11 DATA	
HORIZONTAL	VERTICAL
PC STA 100TH AVE 128+77.72. 7.13' R	TOC ELEVATIONS
D= 89°59'47"	PC ---
R=25.00'	1/4 ---
L=39.27'	1/2 ---
T=35.35'	1/4 ---
PT STA 100TH AVE 129+02.72. 32.12' R	PT ---

CURVE C12 DATA	
HORIZONTAL	VERTICAL
PC STA 100TH AVE 129+49.72. 7.12' R	TOC ELEVATIONS
D= 90°00'13"	PC ---
R=25.00'	1/4 ---
L=39.27'	1/2 ---
T=35.36'	1/4 ---
PT STA 100TH AVE 129+24.72. 32.13 R	PT ---

CURVE C15 DATA	
HORIZONTAL	VERTICAL
PC STA 100TH AVE 131+28.08. 7.12' R	TOC ELEVATIONS
D= 90°36'46"	PC ---
R=25.00'	1/4 ---
L=39.54'	1/2 ---
T=35.54'	1/4 ---
PT STA 100TH AVE 131+53.08. 32.38' R	PT ---

CURVE C16 DATA	
HORIZONTAL	VERTICAL
PC STA 100TH AVE 132+03.09. 7.11' R	TOC ELEVATIONS
D= 89°23'14"	PC ---
R=25.00'	1/4 ---
L=39.00'	1/2 ---
T=35.17'	1/4 ---
PT STA 100TH AVE 131+78.09. 31.85' R	PT ---

CONSTRUCTION NOTES

1. CONSTRUCT CEMENT CONCRETE CURB AND GUTTER PER COB STD. DWG. SW-100-1.
2. CONSTRUCT 10' WIDE HMA TRAIL.
3. CONSTRUCT HMA RAISED INTERSECTION. SEE SHEETS RD1-RD3 FOR ADDITIONAL INFORMATION.
4. CONSTRUCT CEMENT CONCRETE DRIVEWAY PER COB STD. DWG. SW-150-1. SEE SHEETS DW1-DW8 FOR ADDITIONAL INFORMATION.
5. INSTALL CEMENT CONCRETE SIDEWALK PER COB STD. DWG. SW-110-1.
6. CONSTRUCT PARALLEL TYPE B CURB RAMP PER COB STD. DWG. SW-210-1. SEE SHEET MD1 FOR ADDITIONAL INFORMATION.
7. INSTALL BOLLARD. SEE SHEETS RD1-RD3 FOR ADDITIONAL INFORMATION.
8. CONSTRUCT CEMENT CONCRETE LANDING FOR TRAIL CROSSING. SEE DETAILS SHEET XXX FOR ADDITIONAL INFORMATION.
9. CONSTRUCT PERPENDICULAR CURB RAMP PER COB STD. DWG. SW-230-1. SEE DETAILS ON SHEET MD1.
10. INSTALL ENGINEERED GRAVITY BLOCK WALL. SEE SHEETS WP1-WP3 FOR ADDITIONAL INFORMATION.
11. RELOCATE EXISTING MAILBOX.
12. CONSTRUCT CEMENT CONCRETE BUS LANDING PAD W/ THICKENED EDGE PER KC METRO STD. DWG. D108.
13. CONSTRUCT RAISED CROSSWALK PER COB STD. DWG. CW-130-1 AND CW-140-1.
14. CONSTRUCT HMA THICKENED EDGE.

GENERAL NOTES

1. SEE SHEET LN1 FOR COMPLETE LEGEND.
2. SEE SHEET MD1 FOR ADDITIONAL INFORMATION FOR CURB RAMP CONSTRUCTION.
3. DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
4. SEE UTILITY SHEETS (UT1 - UT7) FOR UTILITY ADJUSTMENTS AND STORM DRAINAGE INFORMATION.

HORIZONTAL SCALE IN FEET
20 0 20 40

LEGEND

CEMENT CONCRETE
HMA CL. 1/2" PG 58H-22

60% SUBMITTAL

NO.	DATE	BY	APPR.	REVISIONS

WRM 05/20 DESIGNED BY DATE
WRM 05/20 DRAWN BY DATE
CRS 05/20 CHECKED BY DATE

City of Bellevue
Transportation Department

Reid Middleton

NW BELLEVUE WALKWAYS & SAFETY IMPROVEMENTS

ROADWAY PLAN
STA 127+00 - STA 132+50

Figure 5. Retaining Wall

Appendix A

60% Design – NW Bellevue Walkways and Safety Improvements

ESA

Appendix B
Wetland Determination Methods

ESA

Wetland Definition and Delineation

Wetlands are formally defined by the U.S. Army Corps of Engineers (Corps) (Federal Register 1982), the Environmental Protection Agency (EPA) (Federal Register 1988), the Washington Shoreline Management Act (SMA) of 1971 and the Washington State Growth Management Act (GMA) as follows:

> *… those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas* (Federal Register, 1982, 1986).

In addition, the SMA and the GMA definitions add:

> *Wetlands do not include those artificial wetlands intentionally created from non-wetland site, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990 that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificially created wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands.*

Methods defined in Western Mountains, Valleys, and Coast Regional Supplement (Corps, 2010) to the U.S. Army Corps of Engineers 1987 Wetlands Delineation Manual (Manual) were used to determine the presence and extent of wetlands in the study area. These methods are also consistent with state requirements in WAC 173-22-035.

The methodology outlined in the manuals is based upon three essential characteristics of wetlands: (1) hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology. Field indicators of these three characteristics must all be present in order to determine that an area is a wetland (unless problem areas or atypical situations are encountered). These characteristics are discussed below.

The "routine on-site determination method" was used to determine wetland boundaries that had not been previously delineated. Formal data plots were established where information regarding each of the three wetland parameters (vegetation, soils, and hydrology) was recorded. This information was used to distinguish wetlands from non-wetlands. If wetlands were determined to be present within the study area, wetland boundaries were delineated with sequentially numbered colored pin flags or flagging. Data plot locations were also marked with colored flagging. Data sheets for each of the formal data plots evaluated for this study are provided in Appendix C.

Vegetation

Plants must be specially adapted for life under saturated or anaerobic conditions to grow in wetlands. The U.S. Fish and Wildlife Service (USFWS) has determined the estimated probability of each plant species' occurrence in wetlands and has accordingly assigned a "wetland indicator status" (WIS) to each species. Plants are categorized as obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and upland (UPL). Definitions for each indicator status are listed below. Species with an indicator status of OBL, FACW, or FAC are considered adapted for life in saturated or anaerobic soil conditions. Such species are referred to as "hydrophytic" vegetation.

Key to Wetland Indicator Status codes:

OBL Obligate: species that almost always occur wetlands under natural conditions (est. probability >99%).

FACW Facultative wetland : species that usually occur in wetlands (est. probability 67 to 99%), but are occasionally found in non-wetlands.

FAC Facultative: Species that are equally likely to occur in wetlands or non-wetlands (est. probability 34 to 66%).

FACU Facultative upland: species that usually occur in non-wetlands (est. probability 67 to 99%), but are occasionally found in wetlands.

UPL Upland: species that almost always occur in non-wetlands under normal conditions (est. probability >99%).

Areas of relatively homogeneous vegetative composition can be characterized by "dominant" species. The indicator status of the dominant species within each vegetative stratum is used to determine if the plant community may be characterized as hydrophytic. The vegetation of an area is considered to be hydrophytic if more than 50% of the dominant species have an indicator status of OBL, FACW, or FAC. The Regional Supplement provides additional tests for evaluating the presence of hydrophytic vegetation communities including the prevalence index, morphological adaptations, and wetland non-vascular plants. The Supplement also addresses difficult situations where hydrophytic vegetation indicators are not present but hydric soils and wetland hydrology are observed.

Soils

Hydric soils are indicative of wetlands. Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (Federal Register 1994). The Natural Resources Conservation Service (NRCS), in cooperation with the National Technical Committee for Hydric Soils, has compiled lists of hydric soils (NRCS, 1995). These lists identify soil series mapped by the NRCS that meet hydric soil criteria. It is common, however, for a map unit of non-wetland (non-hydric) soil to have inclusions of hydric soil, and vice versa. Therefore, field examination of soil conditions is important to determine if hydric soil conditions exist.

The NRCS has developed a guide for identifying field indicators of hydric soils (NRCS, 2018). This list of hydric soil indicators is considered to be dynamic; revisions are anticipated to occur on a regular basis as a result of ongoing studies of hydric soils. In general, anaerobic conditions create certain characteristics in hydric soils, collectively known as "redoximorphic features," that can be observed in the field (Vepraskas, 1999). Redoximorphic features include high organic content, accumulation of sulfidic material (rotten egg odor), greenish- or bluish-gray color (gley formation), spots or blotches of different color interspersed with the dominant or matrix color (mottling), and dark soil colors (low soil chroma) (NRCS, 2018; Vepraskas, 1999). Soil colors are described both by common color name (for example, "dark brown") and by a numerical description of their hue, value, and chroma (for example, 10YR 2/2) as identified on a Munsell soil color chart (Munsell Color, 2000). Soil color is determined from a moist soil sample.

The Regional Supplement provides methods for difficult situations where hydric soil indicators are not observed, but indicators of hydrophytic vegetation and wetland hydrology are present.

Hydrology

Water must be present in order for wetlands to exist; however, it need not be present throughout the entire year. Wetland hydrology is considered to be present if soils are saturated to the ground surface, or if the water table is less than or equal to 12 inches below the surface for 14 or more consecutive days during the growing season at a minimum frequency of 5 years in 10 (NRC, 1995). Indicators of wetland hydrology include observation of ponding or soil saturation, water marks, drift lines, drainage patterns, sediment deposits, oxidized rhizospheres, water-stained leaves, and local soil survey data. Where positive indicators of wetland hydrology are observed, it is assumed that wetland hydrology occurs for a sufficient period of the growing season to meet the wetland criteria. The Regional Supplement provides methods for evaluating situations in wetlands that periodically lack indicators of wetland hydrology but where hydric soils and hydrophytic vegetation are present.

Classifying Wetlands

Two classification systems are commonly used to describe wetlands. The hydrogeomorphic (HGM) system describes wetlands in terms of their position in the landscape and the movement of water in the wetland (Brinson, 1993). The U.S. Fish and Wildlife Service classification system (Cowardin et al., 1979) describes wetlands in terms of their vegetation communities; these include, for example, emergent, scrub-shrub, and forested community types.

Assessing Wetland Functions

The City of Bellevue specifies the use of the Washington State Department of Ecology's (Ecology's) Washington State Wetland Rating System for Western Washington—Revised (Hruby 2014) for rating wetlands. Ecology developed this rating system to differentiate wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the beneficial functions they provide to society (Hruby 2014). Although this system is designed to rate wetlands, it is based on whether a particular wetland performs a particular function and the

relative level to which the function is performed. An assessment of wetland functions is inherent in the rating system. Appendix D provides additional information about the rating system wetland categories and completed rating forms for the project.

In addition to rating a particular wetland, the rating system also provides a qualitative assessment of several wetland functions, including water quality improvement, flood flow alteration, and wildlife habitat. Wetlands are given points based on a series of questions regarding water quality, hydrologic, and habitat functions, and then scored into four categories: Category I (highest score) through Category IV (lowest score). Because detailed scientific knowledge of wetland functions is limited, evaluations of the functions of individual wetlands are somewhat qualitative and dependent on professional judgment.

Appendix C

Wetland Delineation Data Sheets

ESA

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

Project/Site: City of Bellevue 100th Ave NE Complete Streets | City/County: Bellevue/King | Sampling Date: 12-Oct-2020

Applicant/Owner: City of Bellevue | State: WA | Sampling Point: DP-1

Investigator(s): S. Olmsted and A. Brophy | Section, Township, Range: S30, T25N, R05E

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): A | Lat: 47.626291 | Long: -122.20723 | Datum: NAD83

Soil Map Unit Name: Arents, Alderwood material, 6 to 15 percent slopes | NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Normal climatic conditions for 3 months prior to field investigation based on SEATAC WETS table.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10m R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	40	Y	FAC
2. Acer macrophyllum	5	N	FACU
3.			
4.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m R)			
1. Rubus spectabilis	75	Y	FAC
2. Rubus armeniacus	15	Y	FAC
3. Ilex aquifolium	15	Y	FACU
4. Oemleria cerasiformis	10	N	FACU
5. Salix sitchensis	5	N	FACW
	120	= Total Cover	
Herb Stratum (Plot size: 1m R)			
1. Hedera helix	80	Y	FACU
2. Athyrium cyclosorum	1	N	FAC
3. Pteridium aquilinum	1	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 5m R)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1= ____
FACW species ____	x 2= ____
FAC species ____	x 3= ____
FACU species ____	x 4= ____
UPL species ____	x 5= ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test For Hydrophytic Vegetation
- X 2- Dominance Test is >50%
- ____ 3- Prevalence Index is ≤3.0[1]
- ____ 4- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ 6- Problematic Hydrophytic Vegetation[1](Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: DP located in topographic depression

SOIL Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					loam	
3-12	10YR 3/3	97	7.5YR 5/8	3	C	M	loam	
12-18	10YR 3/2	92	7.5YR 5/8	8	C	M	loam	charcoal present

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (Inches):	NA	
Water Table Present?	Yes ___	No X	Depth (Inches):	>16	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (Inches):	>16	

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: City of Bellevue 100th Ave NE Complete Streets | City/County: Bellevue/King | Sampling Date: 12-Oct-2020

Applicant/Owner: City of Bellevue | State: WA | Sampling Point: DP-2

Investigator(s): S. Olmsted and A. Brophy | Section, Township, Range: S29, T25N, R05E

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): A | Lat: 47.626168 | Long: -122.206668 | Datum: NAD83

Soil Map Unit Name: Arents, Alderwood material, 6 to 15 percent slopes | NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes X** **No ____**
Wetland Hydrology Present?	Yes X	No ____	

Remarks: Normal climatic conditions for 3 months prior to field investigation based on SEATAC WETS table.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10m R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Thuja plicata	5	Y	FAC
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m R)			
1. Rubus spectabilis	60	Y	FAC
2. Rubus armeniacus	10	N	FAC
3.			
4.			
5.			FACW
	70	= Total Cover	
Herb Stratum (Plot size: 1m R)			
1. Equisetum telmateia	15	Y	FACW
2. Athyrium cyclosorum	3	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11. Convolvulus arvensis	0(45)	N	NL
	18	= Total Cover	
Woody Vine Stratum (Plot size: 5m R)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Speci That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1= ____
FACW species ____	x 2= ____
FAC species ____	x 3= ____
FACU species ____	x 4= ____
UPL species ____	x 5= ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test For Hydrophytic Vegetation
- X 2- Dominance Test is >50%
- ____ 3- Prevalence Index is ≤3.0[1]
- ____ 4- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ 6- Problematic Hydrophytic Vegetation[1](Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X** **No ____**

Remarks: DP located in Wetland A

SOIL Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					loam	
8-18	5YR 3/2	92	10YR 4/6	8	C	M	loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (Inches): NA		
Water Table Present?	Yes X	No ___	Depth (Inches): 8		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (Inches): surface		

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: City of Bellevue 100th Ave NE Complete Streets | City/County: Bellevue/King | Sampling Date: 12-Oct-2020

Applicant/Owner: City of Bellevue | State: WA | Sampling Point: DP-3

Investigator(s): S. Olmsted and A. Brophy | Section, Township, Range: S29, T25N, R05E

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): A | Lat: 47.626099 | Long: -122.206734 | Datum: NAD83

Soil Map Unit Name: Arents, Alderwood material, 6 to 15 percent slopes | NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Normal climatic conditions for 3 months prior to field investigation based on SEATAC WETS table.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10m R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer macrophyllum	50	Y	FACU
2. Thuja plicata	30	Y	FAC
3.			
4.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m R)			
1. Oemleria cerasiformis	40	Y	FACU
2. Rubus armeniacus	25	Y	FAC
3.			
4.			
5. Prunus laurocerasus	0(5)	N	NL
	65	= Total Cover	
Herb Stratum (Plot size: 1m R)			
1. Polystichum munitum	30	Y	FACU
2. Hedera helix	30	Y	FACU
3. Equisetum telmateia	5	N	FACW
4. Pteridium aquilinum	3	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	68	= Total Cover	
Woody Vine Stratum (Plot size: 5m R)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Speci That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species	5	x 2=	10
FAC species	55	x 3=	165
FACU species	153	x 4=	612
UPL species		x 5=	
Column Totals:	213 (A)		787 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

___ 1- Rapid Test For Hydrophytic Vegetation

___ 2- Dominance Test is >50%

___ 3- Prevalence Index is ≤3.0[1]

___ 4- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5- Wetland Non-Vascular Plants[1]

___ 6- Problematic Hydrophytic Vegetation[1](Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: DP located in upland adjacent to Wetland A

SOIL Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					loam	
3-15	10YR 3/3	100					loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (Inches): NA

Water Table Present? Yes ___ No X Depth (Inches): ___

Saturation Present? Yes ___ No X Depth (Inches): ___

(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: City of Bellevue 100th Ave NE Complete Streets | City/County: Bellevue/King | Sampling Date: 12-Oct-2020

Applicant/Owner: City of Bellevue | State: WA | Sampling Point: DP-4

Investigator(s): S. Olmsted and A. Brophy | Section, Township, Range: S29, T25N, R05E

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): A | Lat: 47.626207 | Long: -122.206872 | Datum: NAD83

Soil Map Unit Name: Arents, Alderwood material, 6 to 15 percent slopes | NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes X	No ____	

Remarks: Normal climatic conditions for 3 months prior to field investigation based on SEATAC WETS table.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10m R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Betula papyrifera	20	Y	FAC
2.			
3.			
4.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m R)			
1. Rubus armeniacus	70	Y	FAC
2.			
3.			
4.			
5.			
	70	= Total Cover	
Herb Stratum (Plot size: 1m R)			
1. Equisetum telmateia	70	Y	FACW
2. Ranunculus repens	15	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 5m R)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Speci That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species	5	x 2=	10
FAC species	55	x 3=	165
FACU species	153	x 4=	612
UPL species		x 5=	
Column Totals:	213 (A)		787 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

- ____ 1- Rapid Test For Hydrophytic Vegetation
- X 2- Dominance Test is >50%
- ____ 3- Prevalence Index is ≤3.0[1]
- ____ 4- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5- Wetland Non-Vascular Plants[1]
- ____ 6- Problematic Hydrophytic Vegetation[1](Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/2	100					salo	
11-18	2.5Y 5/3	97	10YR 5/6	3	C	M	salo	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (Inches): NA

Water Table Present? Yes ___ No X Depth (Inches): NA

Saturation Present? Yes X No ___ Depth (Inches): 11 inches

(includes capillary fringe)

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix D

Wetland Rating System Forms and Figures

ESA

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Bellevue 100th Ave NE Complete Streets Date of site visit: 10/12/2020

Rated by A. Brophy Trained by Ecology? ☑ Yes ☐ No Date of training 10/11/2018

HGM Class used for rating Depressional & Flats Wetland has multiple HGM classes? ☐ Yes ☑ No

NOTE: Form is not complete with out the figures requested (*figures can be combined*).
Source of base aerial photo/map ESRI

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

1. Category of wetland based on FUNCTIONS

_____ **Category I** - Total score = 23 - 27
_____ **Category II** - Total score = 20 - 22
X **Category III** - Total score = 16 - 19
_____ **Category IV** - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		List appropriate rating (H, M, L)		
Site Potential	L	L	M	
Landscape Potential	M	M	L	
Value	H	H	L	**Total**
Score Based on Ratings	6	6	5	**17**

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

9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	**X**

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (*can be added to map of hydroperiods*)	D 1.1, D 4.1	2
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	6

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

HGM Classification of Wetland in Western Washington

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

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

☑ NO - go to 2 ☐ **YES** - the wetland class is **Tidal Fringe** - go to 1.1

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

☐ **NO - Saltwater Tidal Fringe (Estuarine)** ☐ **YES - Freshwater Tidal Fringe**
*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

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

☑ NO - go to 3 ☐ **YES** - The wetland class is **Flats**
*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
- ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☑ NO - go to 4 ☐ **YES** - The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The wetland is on a slope (*slope can be very gradual*),
- ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
- ☐ The water leaves the wetland **without being impounded.**

☑ NO - go to 5 ☐ **YES** - The wetland class is **Slope**

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

5. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
- ☐ The overbank flooding occurs at least once every 2 years.

☑ NO - go to 6 ☐ **YES** - The wetland class is **Riverine**

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

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

☐ NO - go to 7 ☐ **YES** - The wetland class is **Depressional**

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

☑ NO - go to 8 ☐ **YES** - The wetland class is **Depressional**

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

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

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

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

NOTES and FIELD OBSERVATIONS:

DEPRESSIONAL AND FLATS WETLANDS

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

D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 ☑ Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 ☐ Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		1
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (*use NRCS definitions*).	Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants < $^1/_{10}$ of area points = 0		3
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0		0
Total for D 1	Add the points in the boxes above	**4**

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

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

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

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

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

DEPRESSIONAL AND FLATS WETLANDS

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

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	0
D 4.2. Depth of storage during wet periods: *Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.* Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 ☐ Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 ☐ The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	0
D 4.3. Contribution of the wetland to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* ☐ The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 ☐ Entire wetland is in the Flats class points = 5	3
Total for D 4 — Add the points in the boxes above	**3**

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

D 5.0. Does the landscape have the potential to support hydrologic function of the site?	
D 5.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1
D 5.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1
Total for D 5 — Add the points in the boxes above	**3**

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

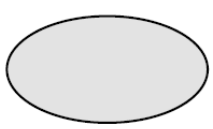
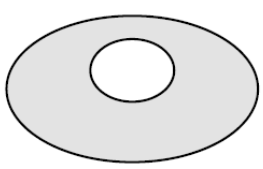
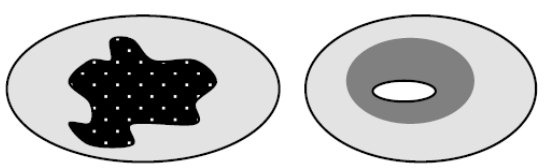
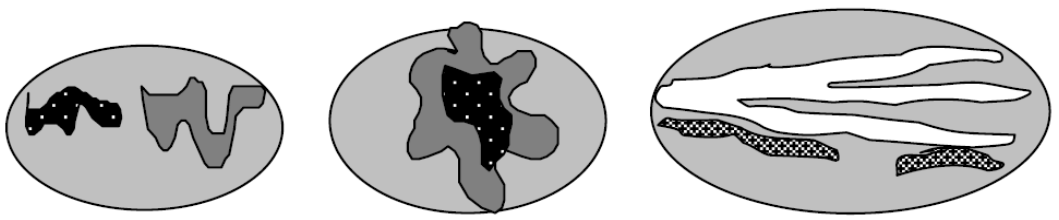
D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. The unit is in a landscape that has flooding problems. *Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.* The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): ● Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 ☑ ● Surface flooding problems are in a sub-basin farther down-gradient. points = 1 ☐ Flooding from groundwater is an issue in the sub-basin. points = 1 ☐ The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0 ☐ There are no problems with flooding downstream of the wetland. points = 0	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for D 6 — Add the points in the boxes above	**2**

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

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 — 4 structures or more: points = 4 ☐ Emergent — 3 structures: points = 2 ☑ Scrub-shrub (areas where shrubs have > 30% cover) — 2 structures: points - 1 ☐ Forested (areas where trees have > 30% cover) — 1 structure: points = 0 *If the unit has a Forested class, check if*: ☐ 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	0
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 types present: points = 0 ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☑ Seasonally flowing stream in, or adjacent to, the wetland ☐ **Lake Fringe wetland** — **2 points** ☐ **Freshwater tidal wetland** — **2 points**	2
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 — points = 2 5 - 19 species — points = 1 < 5 species — points = 0	1
H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*  **None** = 0 points  **Low** = 1 point  **Moderate** = 2 points All three diagrams in this row are **HIGH** = 3 points 	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*) ☐ 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*)	1
Total for H 1 Add the points in the boxes above	**4**

Rating of Site Potential If Score is: ☐ **15 - 18 = H** ☐ **7 - 14 = M** ☑ **0 - 6 = L** *Record the rating on the first page*

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

Rating of Landscape Potential If Score is: ☐ **4 - 6 = H** ☐ **1 - 3 = M** ☑ **< 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 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural 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 Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1 Site does not meet any of the criteria above points = 0	0

Rating of Value If Score is: ☐ **2 = H** ☐ **1 = M** ☑ **0 = L** *Record the rating on the first page*

WDFW Priority Habitats

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

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

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

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

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine Wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes - Go to **SC 1.1** ☑ 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? ☐ 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 less than 10% cover of non-native plant species. (If non-native species are *Spartina* , see page 25) ☐ 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 has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	
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? ☐ Yes - Go to **SC 2.2** ☑ No - Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☑ No = **Not WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes - **Contact WNHP/WDNR and to SC 2.4** ☐ No = **Not 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? ☐ Yes = **Category I** ☐ No = **Not WHCV**	
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 wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes - Go to **SC 3.3** ☑ No - Go to **SC 3.2** 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? ☐ Yes - Go to **SC 3.3** ☑ 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% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ 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. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

☐ **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).

☐ 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)

☐ Yes = **Category I** ☐ No = **Category II**

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

☐ Grayland-Westport: Lands west of SR 105

☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109

☐ Yes - Go to **SC 6.1** ☑ No = **Not an interdunal wetland for rating**

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?

☐ 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**

Category of wetland based on Special Characteristics

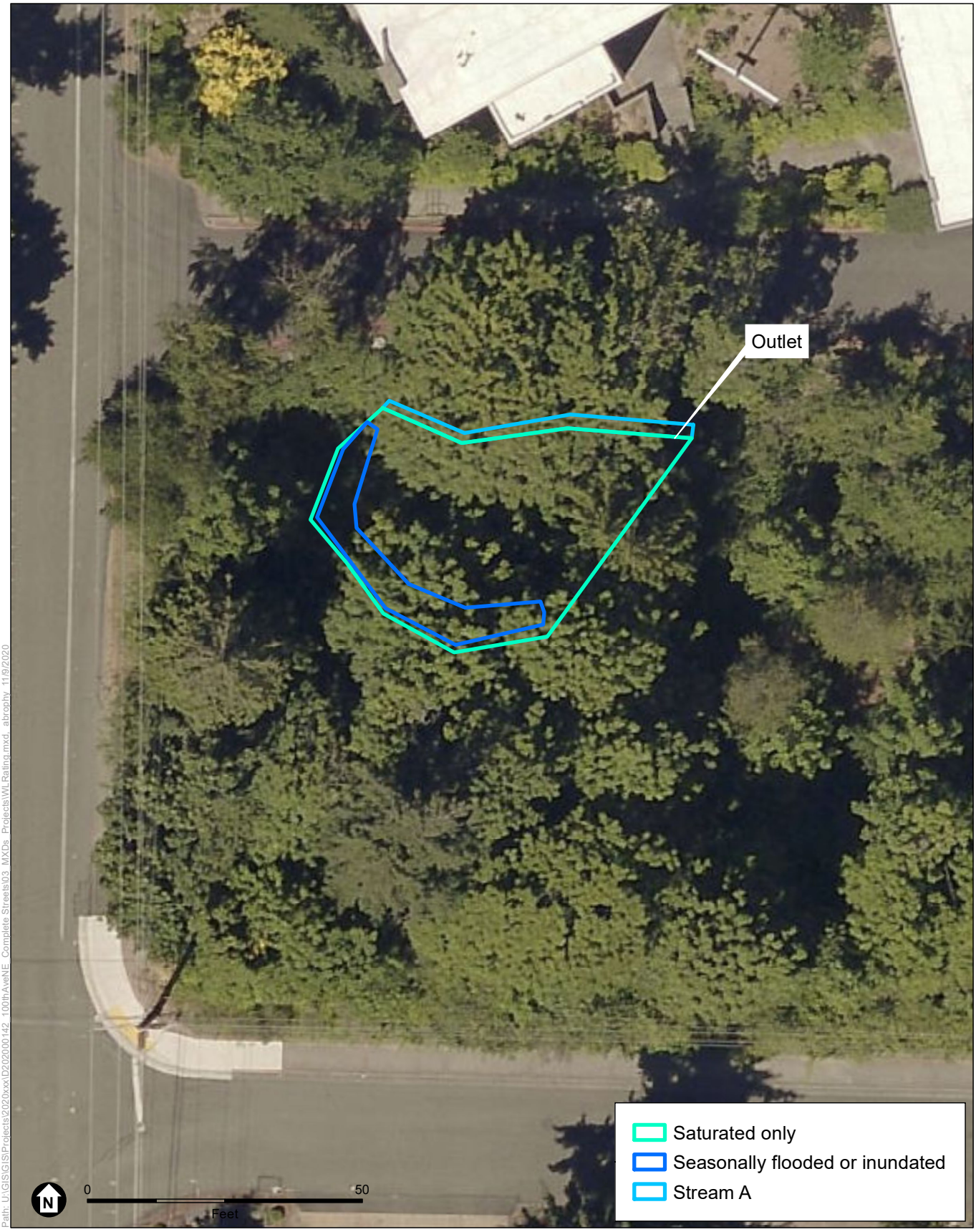
If you answered No for all types, enter "Not Applicable" on Summary Form

SOURCE: ESA, 2020; King County, 2017

City of Bellevue 100th Ave NE Complete Streets Project

Figure 1
Cowardin Plant Classes and Boundary of Area within 150 feet of the wetland
Bellevue, Washington

ESA

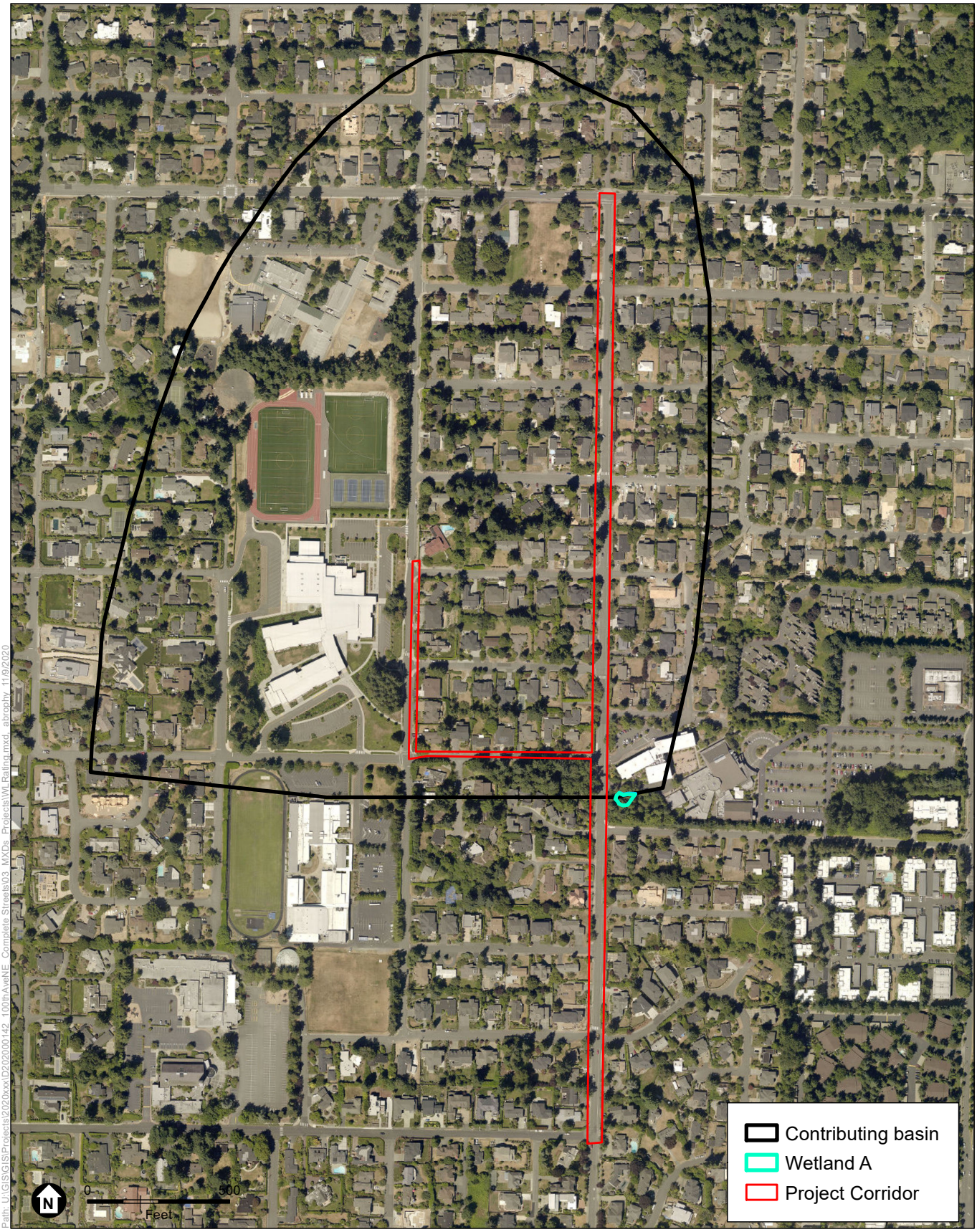


SOURCE: ESA, 2020; King County, 2017

City of Bellevue 100th Ave NE Complete Streets Project

Figure 2
Hydroperiods and Location of Outlet
Bellevue, Washington

ESA



SOURCE: ESA, 2020; King County, 2017

City of Bellevue 100th Ave NE Complete Streets Project

Figure 3
Contributing Basin
Bellevue, Washington

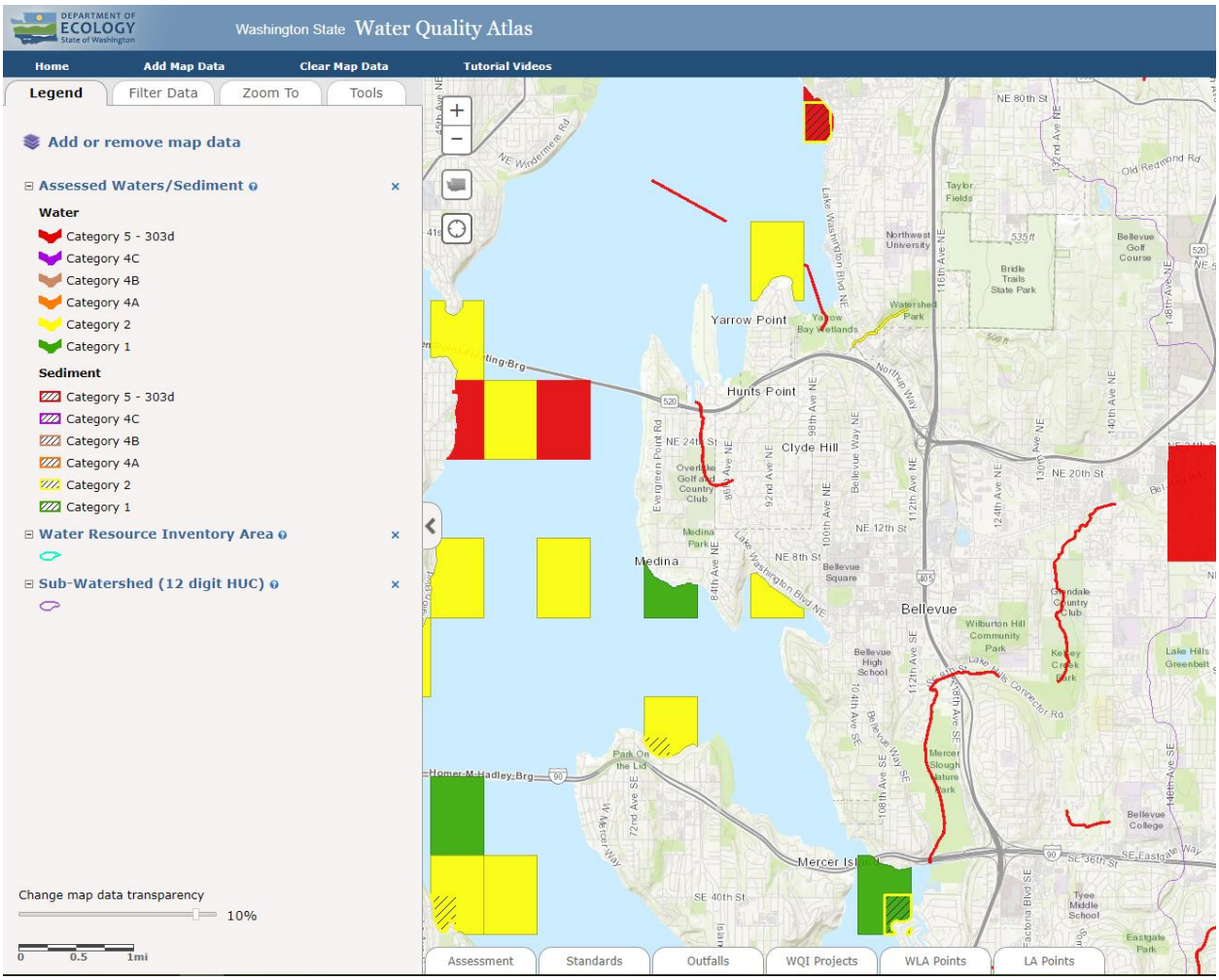
ESA

SOURCE: ESA, 2020; King County, 2017

City of Bellevue 100th Ave NE Complete Streets Project

Figure 4
Area that extends 1km from the entire Wetland edge
Bellevue, Washington

ESA



SOURCE: Ecology, 2020

City of Bellevue 100th Ave NE Complete Streets Project

Figure 5
Screen Capture of Map of 303(d) Listed Waters in the Basin

Quality Assurance Project Plan

Sammamish River
Temperature and Dissolved Oxygen
Total Maximum Daily Load Study Design

DEPARTMENT OF ECOLOGY
State of Washington

October 2015
Publication No. 15-03-123

SOURCE: Ecology, 2015

City of Bellevue 100th Ave NE Complete Streets Project

Figure 6
Screen Capture of List of TMDLs for WRIA in which unit is found