Revised Critical Areas Mitigation Plan (Wetlands and Habitat Conservation Areas) for 2706 Mill Avenue Property

Bellingham, Washington
Parcel No. 370306-102114 and 370306-125113

for
Jess Kenoyer

February 6, 2025

Project 220048

MILLER
ENVIRONMENTAL
SERVICES, LLC

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2706 Mill Avenue

Bellingham, Washington

February 6, 2025

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Author Qualifications

This report was prepared by Ed Miller.

Ed Miller is a senior biologist and owner of Miller Environmental Services, LLC, who specializes in wetlands, wildlife, and habitat assessment. He is a Society of Wetland Scientists certified Professional Wetland Scientist (PWS), #1895. Mr. Miller has obtained a Bachelor of Science in Terrestrial Ecology from Western Washington University in 1993 and a Masters of Environmental Science and Management with a focus on Watershed Management at the University of California at Santa Barbara in 2000. His 19 years of experience includes preparing wetland delineations and reports, wetland functional assessments, stream and shoreline ordinary high water mark determinations, habitat conservation area reports, mitigation design, mitigation monitoring and floodplain habitat assessments for FEMA Endangered Species Act compliance. Mr. Miller has completed project permitting and compliance for agencies including U.S. Army Corps of Engineers (Corps), U.S. Fish and Wildlife Service (USFWS), Washington Department of Fish and Wildlife (WDFW), Washington Department of Ecology (Ecology).

Disclaimer

This report, wetland and/or stream delineation, and/or marine ordinary high watermark determination, is based on protocols that are described and defined in manuals and publications utilized by Federal, State, and Local agencies. The wetland delineation methodology used is consistent with the *Washington State Wetlands Identification and Delineation Manual* (Ecology, 1997), the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Corps, 2010), and subsequent Corps guidance. Ordinary high water mark determinations were performed based on Department of Ecology guidelines from *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Ecology, 2016). This report is based on requirements from the local jurisdiction and any associated policies or code interpretations that have been approved and made available to the public at the time of this report. Completed work is based on conditions at the time of the site visit. No guarantees are given that a delineation determination or assessment will concur exactly with those performed by regulatory agencies or by other qualified professionals.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

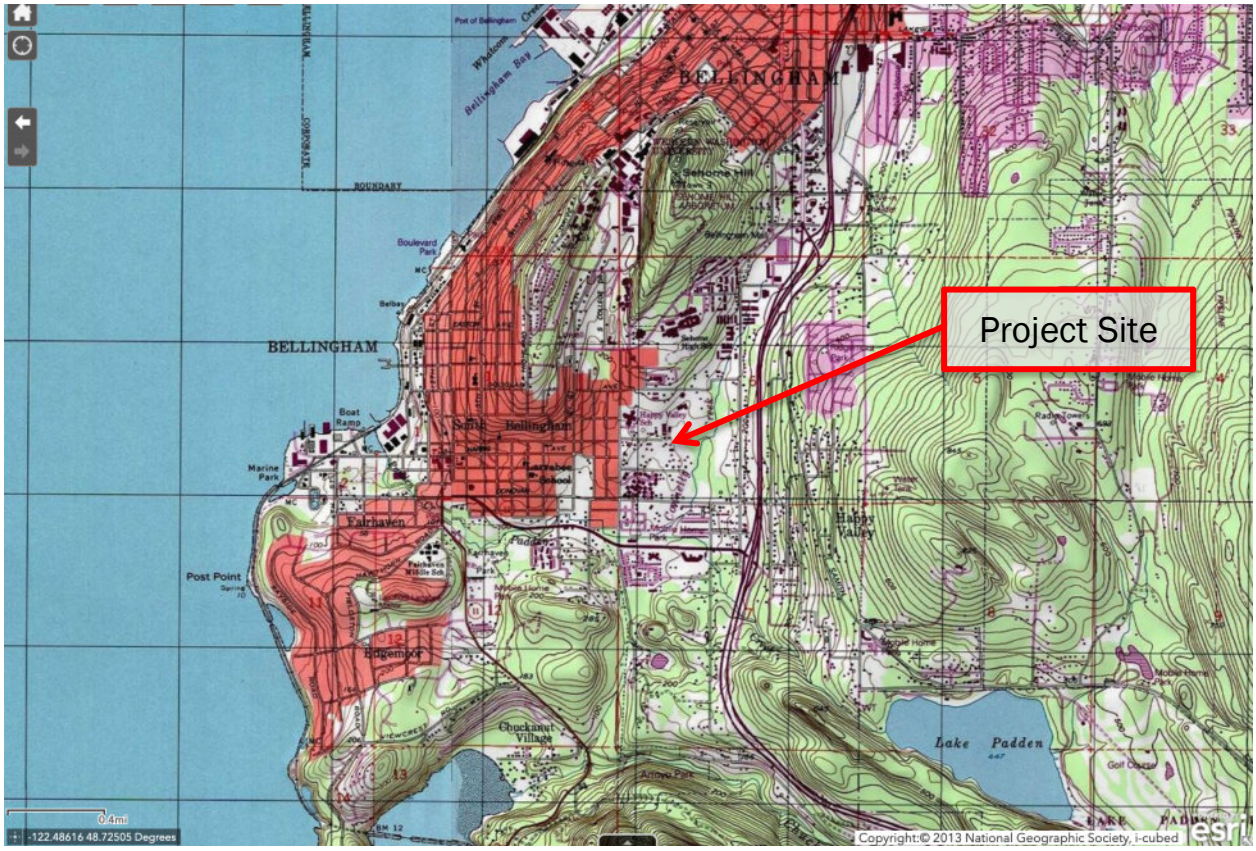
LIST OF APPENDICES

1.0 INTRODUCTION

At the request of the applicant, Jess Kenoyer, Miller Environmental Services, LLC (MES) completed this mitigation plan for the 2706 Mill Avenue Project on two adjoining properties (tax parcels 370306-102114 and 370306-125113) in Bellingham, Washington; Section 6, Township 37 N, Range 03E, W.M. The parcels are located on the south side of Mill Avenue. *This mitigation plan revision includes a reduction in proposed buffer impact and the addition of indirect wetland impacts and wetland enhancement mitigation.*

The project location is shown below on **Figure 1**. A map of the subject property and proposed project is included as **Appendix A**.

Figure 1: Vicinity Map



1.1 PURPOSE

This Mitigation Plan was prepared as required by the City of Bellingham 2016 Critical Areas Ordinance (CAO). This report includes mitigation for proposed indirect wetland impacts and buffer impacts as shown on the site maps in **Appendix A**. A separate wetland delineation was completed and documented in a separate report – *Critical Areas Report: Wetlands and Habitat Conservation Areas for 2706 Mill Avenue Property* (MES, 2023).

2.0 METHODS

2.1 FIELD INVESTIGATION

A site investigation of the review area was conducted on November 1, 2022 to document existing conditions. This included a wetland delineation, an assessment of onsite habitat, and documentation of potential mitigation opportunities. This wetland delineation was documented in a separate report, Critical Areas Report: Wetlands & Habitat Conservation Areas for 2706 Mill Avenue Property (Miller Environmental Services; June 21, 2023). Wetland boundaries and data plot locations were flagged and surveyed by professional land surveyors. Site photographs taken during the site visit are included within **Appendix B**.

3.0 PROJECT AREA SETTING

3.1 WATERSHED

The property is located within the Connelly Creek Watershed, a basin within the Padden Creek Watershed draining to Bellingham Bay - within Water Resource Inventory Area (WRIA) number 01.

The property contains a high area/ridge in the western portion of the site. Generally, a majority of the site drains eastward following the topography into Wetlands A, B and C on the eastern side of the property. A small stream (mapped as Taylor Creek) is located within Wetland A (just offsite to the east), draining water southeastward toward Connelly Creek – located approximately 350 feet east of the property. A small portion of the southwest corner of the property drains southwestward, towards adjacent residences to the south. This water may eventually reach ditches and the stormwater collection system, where it is directed southwestward, eventually to Padden Creek.

3.2 PROJECT VICINITY

The subject property is located within the Happy Valley neighborhood, an urban area in the City of Bellingham. High density residential development is located to the west, north and south of the property. The Connelly Creek natural area, containing, Connelly Creek, forest habitat, wetlands and a trail system are located east of the property.

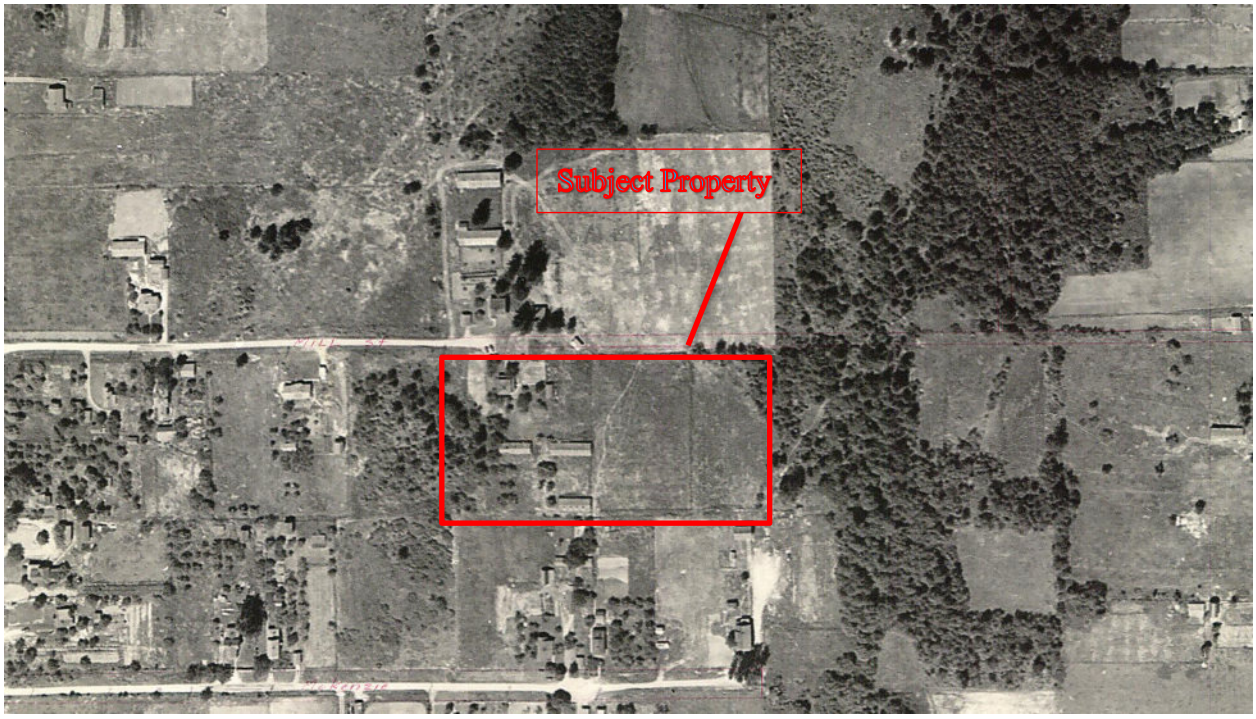
3.3 PROJECT SITE

The review area includes the entire property at 2706 Mill Avenue – consisting of two adjacent properties.

The west side of the property contains an existing single-family residence, shop and landscaping (lawn). Several barns and outbuildings are located in the center of the property. A majority of the eastern portion of the property is field that has been used as pasture in the past. The edge of forested wetland habitat (Wetland A) is located across the northeast corner of the property. The property has generally been a cleared farm property since the 1940's. A 1950 aerial photo is included below as **Figure 2**.

Three wetlands were identified and flagged on the property. A site map is included in **Appendix A**. Site photographs are included in **Appendix B**.

Figure 2: 1950 Aerial Photograph



4.0 RESULTS

4.1 FIELD INVESTIGATION

Three wetlands, Wetlands A, B and C, were identified on the property. These wetlands are summarized below in **Table 2**. MES flagged all onsite wetland boundaries, which were subsequently surveyed by professional land surveyors and mapped in AutoCAD.

Table 1: Project Wetlands Summary

Wetland	Cowardin Classification	Ecology Category	HGM Class	Ecology Habitat Score	City of Bellingham Buffer Width (Feet)[1]
A	PFO/PEM	II	Depressional	Moderate (6)	150
B	PEM	III	Depressional	Moderate (5)	0[2]
C	PEM	III	Depressional	Moderate (5)	0[2]

[1]Assumes high intensity land use proposal – more than one unit per acre.
[2]Wetlands B and C are exempt from buffer requirements, per BMC 16.55.270(B)(1).

Additionally, the City of Bellingham Habitat Restoration Technical Assessment (ESA et. al., 2015) shows the entire property, excluding the residence at the northwest corner, as a lobe of forest habitat block 40. However, the property does not contain any forest habitat other than the northeast corner within Wetland A. The bulk of the property contains fields and herbaceous upland habitat with a few scattered trees - and has been in this condition (farm) since the 1940's. A City of Bellingham wetland restoration assessment action polygon is shown over the approximate area of Wetland A and forest protection assessment polygon is shown over the east end of the property, extending eastward into the Connelly Creek corridor. It is unclear why the area west of the existing forest habitat on the property is designated as forest habitat block 40. It is assumed this was a mapping error in the forest habitat delineation component of the Habitat Restoration Technical Assessment. This is described in greater detail below in **Section 6.3**.

The City of Bellingham Wildlife Corridor Analysis (Diamond Head Consulting, 2021) does not show any modeled habitat blocks or corridors on or adjacent to the property.

5.0 REGULATORY REQUIREMENTS

The wetlands identified on the property are subject to federal regulations under the Clean Water Act (CWA) Section 404, as well as state regulations under the Growth Management Act administered by the City of Bellingham under the CAO.

5.1 CWA SECTION 404- ARMY CORPS OF ENGINEERS

Pursuant to Section 404 of the Clean Water Act (CWA), the Corps regulates the discharge of dredged and/or fill material into waters of the United States, including wetlands and streams. The applicant will be applying for nationwide permit coverage for less than 0.5 acre of proposed wetland fill.

5.2 CWA SECTION 401- DEPARTMENT OF ECOLOGY

The Department of Ecology is the state agency responsible for administering the CWA Section 401 Water Quality Certification program. Wetland impacts requiring a Corps permit under Section 404 of the CWA are also subject to the provisions of Section 401. Corps regulations require that a 401 Certification or waiver thereof be issued by the responsible state agency before the 404 permit becomes valid.

5.3 CRITICAL AREAS ORDINANCE- CITY OF BELLINGHAM

The City of Bellingham regulates critical areas, including wetlands and their associated buffers, under Title 16, Chapter 55 of the Municipal Code. Buffer widths are determined based on habitat functions provided by the wetland, wetland category, and the proposed land use intensity. Buffers for onsite wetlands are listed in **Table 1** above.

In addition to the required buffers, a 15-foot building setback from the edge of buffers is also required under BMC 16.55.340(G) for around above ground structures, paving, and other hard surfaces – unless the director determines a shorter distance is appropriate. This setback is to avoid conflicts with tree branches and/or critical root zones of trees that are in the buffer.

Per City of Bellingham Code (16.55.340.C.2) buffers may be reduced with the following conditions:

a. The buffer of a Category I wetland shall not be reduced;

b. The buffer reduction shall not adversely affect the functions and values of the adjacent wetlands;

c. The buffer of a Category II or III wetland shall not be reduced to less than 75 percent of the required buffer or 50 feet, whichever is greater;

d. The buffer of a Category IV wetland shall not be reduced to less than 50 percent of the required buffer, or 25 feet, whichever is greater, provided the buffer reduction does not result in reducing the functions and values of the wetland; and

e. The applicant implements all reasonable measures to reduce the adverse effects of adjacent land uses and ensure no new loss of buffer functions and values. The specific measures that shall be implemented include, but are not limited to, the following:

    i. Direct lights away from the wetland and buffer;

    ii. Locate facilities that generate substantial noise (such as some manufacturing, industrial and recreational facilities) away from the wetland and buffer;

    iii. Implement integrated pest management programs;

    iv. Infiltrate or treat, detain and disperse runoff into buffer;

    v. Construct a wildlife permeable fence around buffer and post signs at the outer edge of the critical area or buffer to clearly indicate the location of the critical area according to the direction of the City;

    vi. Plant buffer with “impenetrable” native vegetation appropriate for the location;

    vii. Use low impact development techniques to the greatest extent possible;

    viii. Establish and record a permanent conservation easement to protect the wetland and the associated buffer and restrict the use of pesticides and herbicides in the easement.

6.0 PROJECT DESCRIPTION AND IMPACT ASSESSMENT

The proposed project includes construction of a 15-unit residential project, with the retention of the existing house on the northwest corner. The project includes the construction of site access, associated infrastructure and stormwater flow control and treatment. Stormwater will be collected and treated in an onsite stormwater vault from onsite impervious services. Treated water will be released at modeled pre-disturbance rates from a dispersion trench located at the base of a slope adjacent to Wetland A. The proposed project includes 15,389 square feet of impact to the Wetland A buffer – from the placement of proposed residential units, roadway and stormwater dispersion pipe and trench.

Additionally, at two locations indirect wetland impacts are proposed. This occurs at the location of the northernmost units – where two units are proposed on the east side of the access road. The access road cannot be moved further westward as the existing residence will be retained. The eastern end of the site access road extends into the buffer to access the units at the southeast corner of the project. A functional access road is needed at this location to access all of the units while using the available space for units on the property. This access road was shortened to the maximum extent possible to reduce buffer and indirect wetland impacts.

Site plans showing the existing conditions, proposed project and impacts and mitigation are in **Appendix A**.

6.1 WETLAND IMPACTS

Direct Impacts

The construction of the proposed project will result no direct impacts to onsite wetlands or habitat conservation areas. The proposed project is located in areas of previous farm buildings and grass.

Indirect Impacts

A small amount of indirect wetland impact is proposed for the project - 911 square feet in size. This will occur at two locations where retention of 112.5 feet of buffer is not feasible. At the northeast side of the property the existing residence will be retained. To access the buildable portion of the property, an access road will be placed on the east side of the house. In order to place units on the east side of this access road, the east side of the proposed units will necessitate encroachment into the 112.5 foot wetland buffer. These two units have been decreased in size and narrowed to the maximum extent feasible to reduce potential buffer impacts. To accommodate use of this area of the property for two units, indirect wetland impacts will be tabulated within Wetland A. Additionally, the southeast portion of the development includes a residence at the eastern end of the interior access road. This road extends into the outer portion of the 112.5 foot buffer. The road has been minimized to the maximum extent practicable while allowing access to the easternmost proposed unit. Indirect impacts to the outer portion of Wetland A have also been tabulated for this location. The indirect impacts are shown on the revised mitigation map included in **Appendix A**.

It is not anticipated that wetland hydrology will be significantly affected. The proposed buffer impacts will occur to the outer portion of the wetland buffer in areas containing grass and herbaceous species. No trees or root zones are located in the vicinity of the proposed reduced buffer edge.

Stormwater will be collected from the proposed development, treated and released at the pre-disturbance modeled rates to Wetland A. As the proposed development is within a small portion of the contributing basin to Wetland A, and post-disturbance water will be collected, treated and disbursed to Wetland A, no significant changes to Wetland A hydrology are anticipated.

Temporary Impacts

No temporary impacts are proposed or anticipated.

Cumulative Impacts

The proposed project site is within the Connelly Creek Watershed, a basin within the Padden Creek Watershed draining to Bellingham Bay. This portion of the basin is heavily developed with high density residential development, schools and commercial development – with the exception of the Connelly Creek corridor and forested riparian area. A majority of the basin is developed or built out.

Cumulative impacts to remaining wetlands in the basin are not anticipated, as most of the basin is already heavily developed. Any remaining areas with the potential for development in this portion of the watershed will need to meet similar requirements as this proposed project (with critical areas avoidance, minimization, mitigation, silt fencing, and/or other conservation measures, etc.), and as such impacts would be minimized. Additionally, the eastern portion of the property, previously a field adjacent to the Connelly Creek riparian area and forest, will be protected within a conservation easement and a portion will be planted with native trees and shrubs as wetland and buffer enhancement.

6.2 BUFFER IMPACTS

Buffer impacts, via buffer reduction, are proposed for Wetland A. Impacts will occur with the placement of residences, a drive lane and a stormwater dispersion trench.

Total proposed buffer impacts are 15,389 square feet.

Per City of Bellingham Code (16.55.340.C.2) buffers may be reduced with the following conditions:

a. The buffer of a Category I wetland shall not be reduced;

   Not applicable.

b. The buffer reduction shall not adversely affect the functions and values of the adjacent wetlands;

   The proposed buffer reduction is not anticipated to adversely affect the wetland. The impacts will occur to buffer area dominated by grass species. The impact will occur in the outer portion of the buffer, and the remaining area of buffer will be enhanced with native tree and shrub plantings – increasing buffer function of the buffer.

c. The buffer of a Category II or III wetland shall not be reduced to less than 75 percent of the required buffer or 50 feet, whichever is greater;

   The Wetland A buffer will be reduced by 25 percent over the development area. This incorporates indirect wetland impacts at two locations. Where the 75 percent buffer is pushed into Wetland A a short distance (5 to 10 feet).

d. The buffer of a Category IV wetland shall not be reduced to less than 50 percent of the required buffer, or 25 feet, whichever is greater, provided the buffer reduction does not result in reducing the functions and values of the wetland; and

No Category IV buffers are proposed for reduction.

e. The applicant implements all reasonable measures to reduce the adverse effects of adjacent land uses and ensure no new loss of buffer functions and values. The specific measures that shall be implemented include, but are not limited to, the following:

i. Direct lights away from the wetland and buffer;

As feasible, and allowed in City Code, lights will be directed away from onsite wetlands and buffers.

ii. Locate facilities that generate substantial noise (such as some manufacturing, industrial and recreational facilities) away from the wetland and buffer;

No manufacturing or significant noise producing uses are proposed for the site.

iii. Implement integrated pest management programs;

Integrated pest management will be integrated as feasible and practicable.

iv. Infiltrate or treat, detain and disperse runoff into buffer;

Stormwater runoff from proposed development will meet City of Bellingham requirements of treatment, detention and dispersal. Treated water from the development will be dispersed at the modeled pre-disturbance rate to Wetland A to maintain wetland hydrology.

v. Construct a wildlife permeable fence around buffer and post signs at the outer edge of the critical area or buffer to clearly indicate the location of the critical area according to the direction of the City;

A split rail, signage and Nootka rose barrier will be constructed at the edge of the proposed buffer adjacent to areas proposed for development.

vi. Plant buffer with "impenetrable" native vegetation appropriate for the location;

The Wetland A buffer will be enhanced with native vegetation.

vii. Use low impact development techniques to the greatest extent possible;

Low impact development techniques will be implemented to the extent possible.

viii. Establish and record a permanent conservation easement to protect the wetland and the associated buffer and restrict the use of pesticides and herbicides in the easement.

A permanent conservation easement will be established for the wetlands and proposed buffers onsite.

6.3 FISH AND WILDLIFE HABITAT CONSERVATION AREA IMPACTS

The eastern portion of the site, within a portion of Wetland A, contains forest habitat that is associated with an important riparian corridor (Connelly Creek). This forest habitat and Wetland A, have been identified as important components and targeted for preservation (forest habitat block 40). No impacts are proposed to the forest habitat and corridor located within Wetland A on the northeast portion of the property.

Other than the northeast portion of Wetland A, the property does not contain any other habitat conservation areas – including lands useful or essential for preserving connections between habitat blocks and open spaces. Other than trees located adjacent to the house and along the south property boundary, the property has been a farm and field since the 1940's. There is no habitat corridor, or forest habitat connection to properties to the west. In addition, areas to the west of the property consist of larger yards with scattered trees, grass field and a stormwater pond.

The City of Bellingham Wildlife Corridor Analysis (Diamond Head Consulting, 2021) does not show any modeled habitat blocks or corridors on or adjacent to the property. This study and analysis was completed after the City of Bellingham Habitat Restoration Technical Assessment (ESA et. al., 2015). The Habitat Restoration Technical Assessment states that forest habitat blocks – "consist of significant forest habitat patches (greater than 5 acres) within the project area. The forest blocks were previously identified and delineated by Nahkeeta Northwest (2003)." The western portion of Forest block 40 (mapped over the project site and area to the west) contains no significant forest habitat patches greater than 5 acres. An aerial photo image from 1997, approximate time period of the forest habitat mapping, is included below. This aerial image shows no forest habitat over the subject property (except the northeast corner) or areas to the west. It is assumed that extending forest block 40 over this area was a mapping error in the Nahkeeta Northwest forest delineation that was subsequently incorporated into the Habitat Restoration Technical Assessment.

Additionally, the inaccurately mapped western extension of forest block 40 over the property is not identified for protection with the Habitat Restoration Technical Assessment.

The proposed project and mitigation plan will also meet the goals and policies of the Comprehensive Plan and Happy Valley Neighborhood Plan. This includes:

- Protection and restoration of ecological functions and habitat – with the protection of wetlands and buffers and the restoration of almost an acre of wetland buffer and wetland.

- Protection of habitat corridors, with the protection and restoration of wetland and buffers on the east side of the property adjacent to the Connelly Creek riparian area and corridor.

- Preservation of the existing forest habitat onsite, in the northeast corner of the property within Wetland A.

- The planting of 397 trees in the mitigation area, Wetland A and Wetland A buffer. The tree planting is a component of mitigation that will require a mitigation bond/assignment of savings, and monitoring and maintenance over a 5 year time period – with specific benchmarks/ performance standards that will be assessed and reviewed by the City every year of the monitoring period.

Figure 3: 1997 Aerial Photograph

7.0 MITIGATION

In order to accommodate a reasonable residential development on the property, 15,389 square feet of buffer impacts are proposed in the outer portion of the Wetland A buffer. The project will also include 911 square feet of indirect wetland impact at two locations at the outer edge of Wetland A, in areas containing emergent habitat (grass).

Mitigation for the proposed indirect wetland impacts includes 5,500 square feet of wetland enhancement. The standard mitigation ratio for wetland enhancement of impacts to a Category II wetland is 12 to 1. Indirect impacts are mitigated at one half the standard ratio, 6 to 1 in this case. The wetland enhancement will include the installation of mulch, native trees and shrubs in an area of herbaceous wetland habitat adjacent to forested wetland. Invasive species will be removed as needed.

Mitigation for wetland buffer impacts will include the enhancement of 34,231 square feet of wetland buffer between the proposed development and Wetland A – a 2.2 to one enhancement ratio (enhancement to impact). The Wetland A buffer on the property is currently dominated by grass species. The proposed buffer enhancement will include installation of mulch, trees and shrubs to increase the habitat value and screening of the buffer. Any invasive species within the buffer will also be removed. The location of the proposed mitigation is shown on a map in **Appendix A**.

7.1 MITIGATION SEQUENCING (BMC 16.55.250)

1. **Avoid the impact.** The subject property contains three wetlands on the eastern side of the property. No direct wetland impacts are proposed. A small amount of indirect wetland impacts and buffer impacts are necessitated to construct the units, access road and stormwater dispersion trench – to an area of buffer dominated by grass species.

2. **Minimize the impact**. Impacts have been minimized as feasible to construct the proposed residential development. Project components have been minimized to the maximum extent practicable while still providing housing on the upland portion of the property.

3. **Rectify the impact**. No temporary impacts are expected.

4. **Minimize or eliminate the hazard**. No hazards are located on the property.

5. **Reduce or eliminate the impact or hazard**. No hazards are located on the property.

6. **Compensate for impacts**. Compensation for wetland buffer impacts will include onsite buffer enhancement at a 2.2 to one ratio and onsite wetland enhancement at a 6 to 1 ratio.

7. **Monitor the hazard or other required mitigation**. The proposed mitigation will be monitored for five years, per this mitigation plan.

7.2 MITIGATION GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS

This mitigation plan has been designed to replace lost buffer function and wetland function due to proposed project-related impacts. During monitoring activities, performance standards will be measured to ensure the site is meeting the Goals and Objectives of the mitigation project. These standards are the primary factors that will be used to judge the success of the mitigation project. While specific performance criteria provide important benchmarks and will help to direct maintenance and contingency efforts, the mitigation goals must also be considered when evaluating mitigation success.

The applicant, future owner, or homeowners association will be responsible for the construction of the proposed mitigation and for ensuring the monitoring and maintenance occurs annually for five years. The responsible party may hire a qualified professional to conduct annual monitoring and maintenance.

Goal A: Improve buffer function and wildlife habitat in onsite portion of the Wetland A buffer.

Objective A.1: Enhance 34,231 square feet of Wetland A buffer by removing invasive species, installing mulch and planting native trees and shrubs.

Performance Standard A.1.1: 90-percent survival of installed plants at Year 1.

Performance Standard A.1.2: There will be at least 10, 15, 30 and 50 percent aerial cover of native shrub and tree species (excluding cover by invasive species) in the enhancement area by the end of Years 2, 3, 4 and 5 respectively. This can include native plant recruits.

Performance Standard A.1.3: Aerial cover of noxious weed species within the mitigation planting area shall not exceed 15-percent in the first year and shall be less than 20 percent in years 2, 3, 4, and 5. Noxious weeds are listed by the Whatcom County Noxious Weed Control Board. Commonly found noxious weeds in this area that could threatened the success of the mitigation area are listed in **Table 2**.

Table 2: Non-native, Invasive Species that Must Be Removed

Scientific Name	Common Name
Phalaris arundinacea	Reed canarygrass
Hedera helix	English Ivy
Polygonum cuspidatum	Japanese knotweed
Rubus lacinatus	Cutleaf blackberry
Rubus armeniacus	Himalayan blackberry

Performance Standard A.1.4: At least three species of trees and five species of shrubs shall be represented in the enhancement area.

Goal B: Improve wetland function and wildlife habitat in an onsite portion of Wetland A.

Objective B.1: Enhance 5,500 square feet of Wetland A by removing invasive species, installing mulch and planting native trees and shrubs.

Performance Standard B.1.1: 90-percent survival of installed plants at Year 1.

Performance Standard B.1.2: There will be at least 10, 15, 30 and 50 percent aerial cover of native shrub and tree species (excluding cover by invasive species) in the enhancement area by the end of Years 2, 3, 4 and 5 respectively. This can include native plant recruits.

Performance Standard B.1.3: Aerial cover of noxious weed species within the mitigation planting area shall not exceed 15-percent in the first year and shall be less than 20 percent in years 2, 3, 4, and 5. Noxious weeds are listed by the Whatcom County Noxious Weed Control Board. Commonly found noxious weeds in this area that could threatened the success of the mitigation area are listed in **Table 2**.

Performance Standard A.1.4: At least two species of trees and three species of shrubs shall be represented in the enhancement area.

7.2.1 Wetland and Buffer Enhancement Methods

Approximately 34,231 square feet of the Wetland A buffer will be enhanced and 5,500 square feet of Wetland A will be enhanced. Prior to installing native plants, invasive species will be removed from the buffer area where present and the area mowed. The entire buffer enhancement area and wetland enhancement area shall be sheet mulched to a depth of three to five inches depth. Any existing native trees or shrubs should be preserved.

At least three different tree species and five different shrub species shall be chosen from **Table 3** for the buffer enhancement area and two tree species and three shrub species chosen from the wetland planting table, **Table 4**. All plant materials used at the mitigation site shall be grown in the Puget Sound lowlands. ***Each plant shall be flagged with bright colored flagging on an upper side branch to assist with annual monitoring***.

Table 3: Planting List for Wetland A Buffer Enhancement Area

Botanical Name	Common Name	Size/Condition[1]	Spacing
Pseudotsuga menziesii	Douglas fir	1-2 Gal or bareroot	10 feet
Picea sitchensis	Sitka spruce	1-2 Gal or bareroot	10feet
Prunus emarginata	Bitter cherry	1-2 Gal or bareroot	10 feet
Pinus contorta	Shore pine	1-2 Gal or bareroot	10 feet
Abies grandis	Grand fir	1-2 Gal or bareroot	10 feet
Thuja plicata	Western red-cedar	1-2 Gal or bareroot	10 feet
Acer macrophyllum	Big-leaf maple	1-2 Gal or bareroot	10 feet
Total Trees = 342 (choose 3 or more species)			
Symphoricarpos albus	Snowberry	1-2 Gal or bareroot	5 feet
Crataegus douglasii	Black hawthorne	1-2 Gal or bareroot	5 feet
Corylus cornuta	Hazelnut	1-2 Gal or bareroot	5 feet
Amelancier alnifolia	Serviceberry	1-2 Gal or bareroot	5 feet
Rosa nutkana	Nootka rose	1-2 Gal or bareroot	5 feet
Holodiscus discolor	Oceanspray	1-2 Gal or bareroot	5 feet
Oemleria cerasiformis	Indian plum	1-2 Gal or bareroot	5 feet
Ribes sanguineum	Red-flowering currant	1-2 Gal or bareroot	5 feet
Sambucus racemose	Red elderberry	1-2 Gal or bareroot	5 feet
Rubus parviflorus	Thimbleberry	1-2 Gal or bareroot	5 feet
Rhamnus prushiana	Cascara	1-2 Gal or bareroot	5 feet
Rubus spectabilis	Salmonberry	1-2 Gal or bareroot	5 feet
Total Shrubs = 1,027 (choose 5 or more species)			
Nootka Rose Barrier			
Rosa nutkana	Nootka rose	1-2 Gal or bareroot	3 feet
Total Rose (planted in two offset rows) = 280			

[1]Bare root plantings should be planted December to March – the dormant period.

Table 4: Planting List for Wetland Enhancement Area

Scientific Name	Common Name	Size/Condition[1]	Spacing
Populus tremuloides	Quaking aspen	1-2 Gal or bareroot	10 feet
Picea sitchensis	Sitka spruce	1-2 Gal or bareroot	10 feet
Pinus contorta	Shore pine	1-2 Gal or bareroot	10 feet
Thuja plicata	Western red-cedar	1-2 Gal or bareroot	10 feet
Total Trees = 55 (Choose two or more species)			
Rosa nutkana	Nootka rose	1-2 Gal or bareroot	5 feet
Rubus spectabilis	Salmonberry	1-2 Gal or bareroot	5 feet
Salix hookeriana	Hooker willow	1-2 Gal or bareroot	5 feet
Cornus sericea	Red-osier dogwood	1-2 Gal or bareroot	5 feet
Salix piperi	Piper willow	1-2 Gal or bareroot	5 feet
Physocarpus capitatus	Pacific ninebark	1-2 Gal or bareroot	5 feet
Malus fusca	Western crabapple	1-2 Gal or bareroot	5 feet
Total Shrubs = 165 (choose three or more species)			

[1]Bare root plantings should be planted December to March – the dormant period.

7.2.2 Mitigation Implementation Schedule

The proposed mitigation requires plant installation concurrent with project development or during the following planting season if necessary for planting success during the rainy season. Mitigation plantings should be installed in the fall, winter (if bare root) or early spring. The installation will include:

1. Pre-construction meeting with the City, wetland biologist and mitigation installation contractor;
2. Silt fencing/erosion controls installed;
3. Removal of any invasive non-native species from the buffer enhancement area (if present) and mowing of the grass;
4. Placement of mulch over all mitigation areas;
5. Installation of plants with flagging within the mitigation areas;
6. Removal of erosion controls, silt fencing, as applicable; and
7. Installation of split rail-fencing, Nootka rose barrier and critical areas signage along the final proposed buffer.

Once installed an as-built letter/documentation should be submitted to the City for review and approval. Maintenance of the mitigation areas will occur on an annual basis for the five-year

monitoring program. Monitoring reports will be submitted to the City for review and approval over the monitoring period – Years 1 through 5.

7.2.3 Reporting

An as-built letter documenting the mitigation area shall be submitted to the City of Bellingham after installation. Any changes to the approved installation should be noted and described. The as-built letter shall include a brief description of mitigation activities that occurred (invasive removal, plant and mulch installation, fencing, signage, etc.); the date of completion; copies of plant receipts; and photographs of the mitigation area.

Monitoring reports shall be submitted annually for five years beginning the growing season after the mitigation plants are installed. Monitoring reports will then be due in Years 1, 2, 3, 4 and 5. Reports shall be due by December 31 of the monitoring year. The reports will document the condition of the mitigation area and the status of the area with respect to the approved performance criteria. The reports shall include site photographs of the plants.

If a performance standard is not met for all or any portion of the mitigation project the applicant will seek to remedy the situation, i.e., replace plantings and/or conduct maintenance, to bring the site into compliance with performance standards.

Annual reports shall be submitted to:

Critical Areas Mitigation Reviewer – Amy Dearborn
City of Bellingham Planning and Community Development
210 Lottie Street
Bellingham, Washington 98225

7.2.4 Monitoring Methods

Monitoring shall be accomplished by sampling (plots or transect) the mitigation planting areas in the monitoring year.

Photographs of the mitigation should be included to document representative areas of the mitigation site.

7.2.5 Maintenance Activities

The purpose of this maintenance program is to ensure the success of the mitigation plantings. Maintenance will occur over the life of the required monitoring. Non-native/invasive plant species that must be removed are outlined in the performance standards.

Plant removal occurring after installation will be completed by hand (hand power tools or other). All invasive plant material removed must be properly disposed of off-site.

These maintenance guidelines are specifically tailored for native plant establishment. The maintenance personnel will be fully informed regarding the habitat establishment program so

they understand the goals of the effort and the maintenance requirements. A landscape contractor with experience and knowledge in native plant habitat restoration is recommended to perform all mitigation maintenance.

7.2.6 Contingency Plan

If a performance standard is not met for all or any portion of the mitigation project in any year, or if the approved success criteria are not met, the wetland biologist will prepare an analysis of the cause(s) of failure and, if determined necessary by the City of Bellingham, Corps or Ecology propose remedial actions for approval. If the compensatory mitigation site has not met one or more of the success criteria or performance standards, the applicants' maintenance and monitoring obligations shall continue until the agencies give final approval the mitigation obligations have been satisfied.

The contingency plan will provide for the remediation of aspects of the mitigation that have prevented the achievement of mitigation goals. If the desired mitigation goals, as measured by the monitoring program and compared against the performance standards, have not been met and cannot be achieved through routine maintenance, then the agencies and the applicant will make a joint determination on a suitable contingency plan. If the contingency plan is substantial, the agencies could extend the monitoring period. The City of Bellingham, Corps and Ecology will approve contingency measures prior to implementing changes to the plan.

7.2.7 Hazard Tree Contingency

The proposed project, residences and infrastructure, will be located in part adjacent to existing forest habitat. Potential future hazard trees may require removal. If a potential hazard tree presents a potential problem for the proposed development, future owners or homeowners association will follow City of Bellingham Code Section 16.55.080.C.6. This applies to the removal and/or pruning of hazard trees within critical areas or their buffers. Per the code section, any potential hazard tree will be reviewed by an ISA (International Society of Arboriculture)-certified arborist. The arborist will prepare a report including a risk assessment, a site plan showing the location of the trees, and a replacement plan. This report will be reviewed the City Director. The applicant shall replace any cut tree with three native replacement trees (3 to 1 replacement ratio), unless determined otherwise by the Director, within six months of cutting. The applicant shall provide documentation to the City demonstrating that the replacement plantings were installed within six months of the tree removal. Cut trees and other vegetation may be left within the critical area or buffer where it does not pose a public threat or nuisance or damage significantly the surrounding vegetation.

7.2.8 Site Protection

In order to increase protection and screening of the onsite wetlands and buffers from disturbance, split rail fencing or guardrail (above a retaining wall) will be installed along the east perimeter of the development boundary. Critical Areas Protection signs shall be installed along the fencing – spaced approximately 100 feet apart. Additionally, a Nootka rose barrier

shall be installed behind the split rail fence. This will include two offset rows of Nootka rose at 3-foot on center spacing. Additionally, the onsite wetlands and final proposed buffer area will be placed within a permanent conservation easement.

7.2.9 Mitigation Surety

A mitigation bond or assignment of savings will be submitted to the City of Bellingham Planning and Community Development in the amount of 150 percent of the estimated cost of mitigation installation, maintenance, and monitoring. The bond is required for the City of Bellingham and so is based on the City required 5 years of monitoring. Monitoring for the Corps will continue to Year 10. The estimated costs include are outlined below.

- Mulch: 291 cubic yards at $25 cy - $9,200
- plants cost and install: 1,589 plants at $8.50 each - $13,506
- Split rail fence: 360 linear feet at $12.00 per linear foot - $4,320
- Signs: 5 signs at $50 each - $250
- Maintenance costs: $360/year x 5 years - $1,800
- Monitoring: $720/year x 5 monitoring events - $3,600

The total estimated cost is $32,676. The total surety amount (cost x 150-percent) is **$49,014**.

8.0 REFERENCES

Diamond Head Consulting. 2021. *2021 Wildlife Corridor Analysis Methods Summary & Results.* City of Bellingham Public Works Dept. July 13, 2021. Bellingham, WA

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Hruby, T. 2014. Washington State Wetland Rating System for Western Washington. Washington State Department of Ecology Publication # 14-16-029.

Miller Environmental Services, 2022. *Critical Areas Report: Wetlands and Habitat Conservation Areas for 2706 Mill Avenue Property.* June 21, 2023. Bellingham, Washington.

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).* Corps of Engineers Research and Development Center Environmental Laboratory. ERDC/EL TR-10-3. Vicksburg, Mississippi.

Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. March 2006. *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1).* Washington State Department of Ecology Publication #06-06-011a. Olympia, Washington.

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APPENDICES

Appendix A

Project Site Maps

CRITICAL AREA IMPACT LEGEND

BUFFER IMPACT AREA
15,389 SF (0.353 AC)

WETLAND INDIRECT IMPACT AREA
911 SF (0.021 AC)

MILL AVE.

UNIT A.1 FFE: 157.0
UNIT A.2 FFE: 157.0
GARAGE FFE: 161.0
UNIT E.1 FFE: 157.0
UNIT E.2 FFE: 155.5
UNIT E.3 FFE: 154.0
UNIT E.4 FFE: 154.0
UNIT B.1 FFE: 154.5
UNIT B.2 FFE: 154.0
UNIT B.3 FFE: 153.5
UNIT D.1 FFE: 153.5
UNIT D.2 FFE: 154.0
UNIT D.3 FFE: 154.5
UNIT C.1 FFE: 154.5
UNIT C.2 FFE: 153.5
UNIT C.3 FFE: 152.5

112.5'
PROPOSED CRITICAL AREA PROTECTION SIGN (TYPICAL)
PLANT TWO ROWS OF NOOTKA ROSE OFFSET 3FT
113.0'
EDGE OF PROPOSED 4:1 FILL SLOPE
112.5'
150' BUFFER
112.5'
FILL

APPROXIMATE TREE LINE PER AERIAL IMAGERY

WETLAND A
30,473 SF

WETLAND B
525 SF

WETLAND C
967 SF

N
W E
S

0 20 40
1 inch = 40 ft.

CRITICAL AREA MITIGATION LEGEND

BUFFER ENHANCEMENT AREA
34,231 SF (0786 AC)

WETLAND ENHANCEMENT AREA
5,500 SF (0.126 AC)

NOOTKA ROSE BARRIER – TWO OFFSET ROWS OF NOOTKA ROSE WITH 3FT SPACING

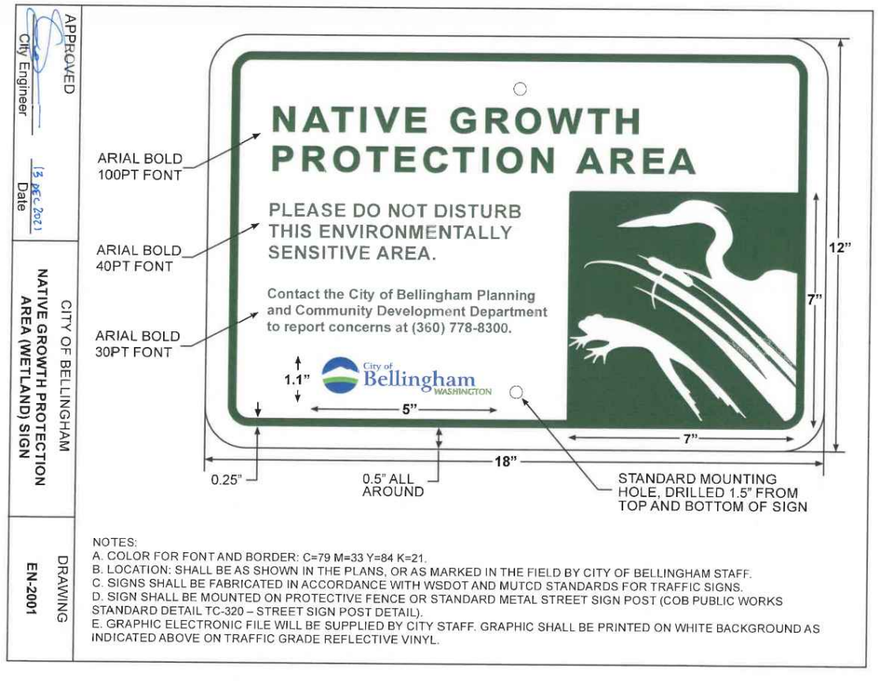
= CONSERVATION EASEMENT
= PROPOSED SPLIT RAIL FENCE
= PROPOSED CRITICAL AREA PROTECTION SIGN

DATE FEBRUARY 2025
SHEET NAME WT1
JOB # 22275
DRAWING # 22275SP15.DWG

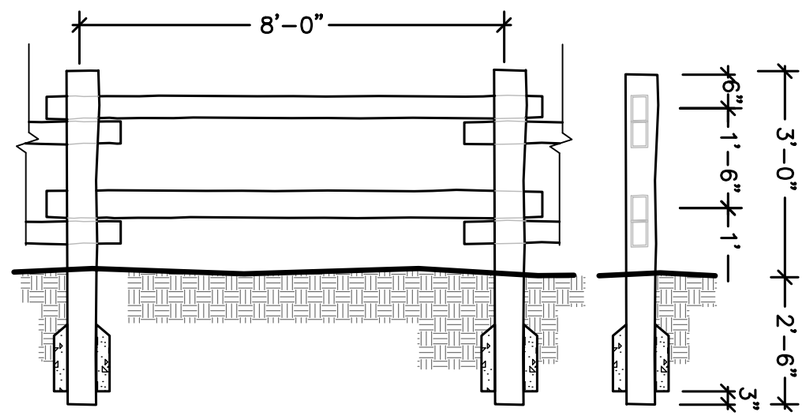
SHEET CONTENTS

MILL AVENUE IMPACT & MITIGATION MAP

FREELAND & ASSOCIATES
2500 Elm Street, Suite 1
Bellingham, WA 98225
t: 360.650.1408
f: 360.650.1401



A NGPA (WETLAND) SIGN
nts



B SPLIT RAIL FENCE
nts

SHEET CONTENTS

MILL AVENUE MITIGATION DETAILS

JOB #	DATE
22275	FEBRUARY 2025
DRAWING #	SHEET NAME
22275SP15.DWG	**WT2**

FREELAND & ASSOCIATES
2500 Elm Street, Suite 1
Bellingham, WA 98225
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Planting List for Wetland Enhancement Area

Scientific Name	Common Name	Size/Condition[1]	Spacing
Populus tremuloides	Quaking aspen	1-2 Gal or bareroot	10 feet
Picea sitchensis	Sitka spruce	1-2 Gal or bareroot	10 feet
Pinus contorta	Shore pine	1-2 Gal or bareroot	10 feet
Thuja plicata	Western red-cedar	1-2 Gal or bareroot	10 feet
Total Trees = 55 (Choose two or more species)			
Rosa nutkana	Nootka rose	1-2 Gal or bareroot	5 feet
Rubus spectabilis	Salmonberry	1-2 Gal or bareroot	5 feet
Salix hookeriana	Hooker willow	1-2 Gal or bareroot	5 feet
Cornus sericea	Red-osier dogwood	1-2 Gal or bareroot	5 feet
Salix piperi	Piper willow	1-2 Gal or bareroot	5 feet
Physocarpus capitatus	Pacific ninebark	1-2 Gal or bareroot	5 feet
Malus fusca	Western crabapple	1-2 Gal or bareroot	5 feet
Total Shrubs = 165 (choose three or more species)			

[1]Bare root plantings should be planted December to March – the dormant period.

Planting List for Wetland Buffer Enhancement Area

Botanical Name	Common Name	Size/Condition[1]	Spacing
Pseudotsuga menziesii	Douglas fir	1-2 Gal or bareroot	10 feet
Picea sitchensis	Sitka spruce	1-2 Gal or bareroot	10feet
Prunus emarginata	Bitter cherry	1-2 Gal or bareroot	10 feet
Pinus contorta	Shore pine	1-2 Gal or bareroot	10 feet
Abies grandis	Grand fir	1-2 Gal or bareroot	10 feet
Thuja plicata	Western red-cedar	1-2 Gal or bareroot	10 feet
Acer macrophyllum	Big-leaf maple	1-2 Gal or bareroot	10 feet
Total Trees = 342 (choose 3 or more species)			
Symphoricarpos albus	Snowberry	1-2 Gal or bareroot	5 feet
Crataegus douglasii	Black hawthorne	1-2 Gal or bareroot	5 feet
Corylus cornuta	Hazelnut	1-2 Gal or bareroot	5 feet
Amelancier alnifolia	Serviceberry	1-2 Gal or bareroot	5 feet
Rosa nutkana	Nootka rose	1-2 Gal or bareroot	5 feet
Holodiscus discolor	Oceanspray	1-2 Gal or bareroot	5 feet
Oemleria cerasiformis	Indian plum	1-2 Gal or bareroot	5 feet
Ribes sanguineum	Red-flowering currant	1-2 Gal or bareroot	5 feet
Sambucus racemose	Red elderberry	1-2 Gal or bareroot	5 feet
Rubus parviflorus	Thimbleberry	1-2 Gal or bareroot	5 feet
Rhamnus prushiana	Cascara	1-2 Gal or bareroot	5 feet
Rubus spectabilis	Salmonberry	1-2 Gal or bareroot	5 feet
Total Shrubs = 1,027 (choose 5 or more species)			
Nootka Rose Barrier			
Rosa nutkana	Nootka rose	1-2 Gal or bareroot	3 feet
Total Rose (planted in two offset rows) = 280			

[1]Bare root plantings should be planted December to March – the dormant period.

A PLANTING TABLES

PLANTING NOTES

Planting Notes and Implementation Schedule.

- Schedule a pre-construction meeting with the City prior to the initiation of work;
- Install silt fencing/erosion controls;
- Remove any invasive non-native species from the buffer enhancement area (if present), mowing of buffer area as needed;
- Install at least four inches of hogfuel or wood chip mulch over the buffer enhancement area (if sheet mulched) or in 3-foot radius rings around plantings. Mulch to be placed in 3-foot radius rings around planting in the wetland enhancement area.;
- Install shrubs at 5 foot on center spacing and trees at 10 foot on enter spacing. Choose 3 or more shrub species from the planting tables. Install plants with flagging for identification purposes;
- Remove erosion controls, silt fencing, as applicable; and
- Install split rail-fencing and critical areas signage between the proposed development and wetland buffer per approved site plan.

B PLANTING NOTES

DATE FEBRUARY 2025

SHEET NAME **WT2**

JOB # 22275

DRAWING # 22275SP15.DWG

SHEET CONTENTS

MILL AVENUE MITIGATION
PLANTING TABLE & NOTES

FREELAND & ASSOCIATES
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Appendix B

Site Photographs

Site Photographs

Photo 1. View southeast over the house and northwest corner of property from Mill Ave (11/1/22).

Photo 2. View east from just south of the house over the center of the property (11/1/22).

Site Photographs

Photo 3. View south from just south of the house over the east side of the property (11/1/22).

Photo 4. View west from near the south property boundary over the southwest corner of the property (11/1/22).

Site Photographs

Photo 5. View north from the south property boundary over the house (11/1/22).

Photo 6. View east from just east of the house along the north property boundary (11/1/22).

Site Photographs

Photo 7. View north into the offsite emergent area of Wetland A from near the north property boundary (11/1/22).

Photo 8. View east into forest habitat in Wetland A on the north property boundary (11/1/22).

Site Photographs

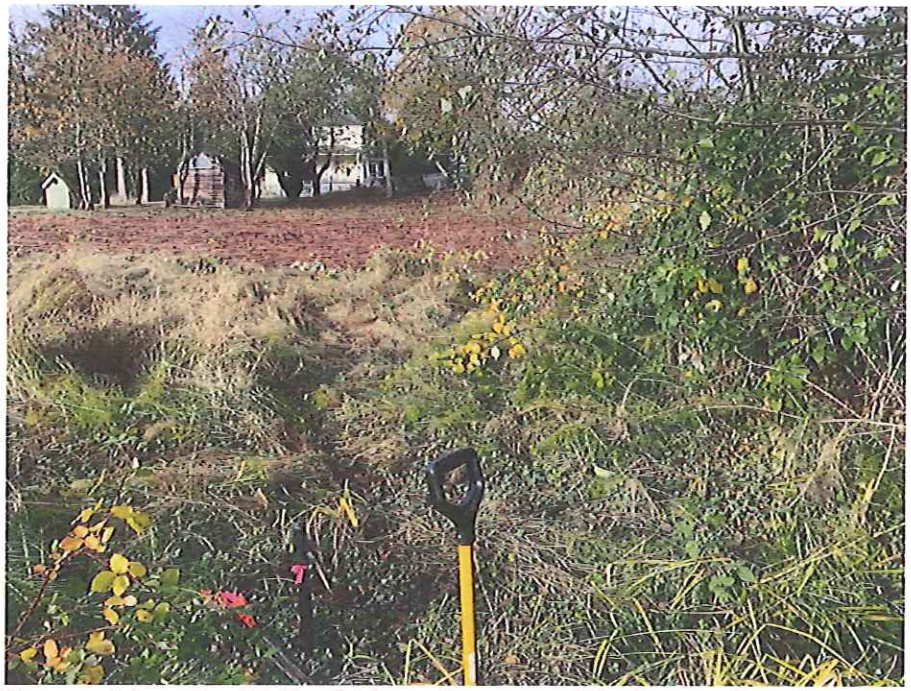

Photo 9. View west from the Wetland A boundary toward the house, along the north property boundary (11/1/22).

Photo 10. View east across the emergent portion of Wetland A on-site toward the east property boundary (11/1/22).

Site Photographs

Photo 11. View northwest along Taylor Creek, within Wetland A, just offsite to the east (11/1/22).

Photo 12. View east over Wetland B from near the west side of the wetland (11/1/22).

Site Photographs

Photo 13. View southwest over Wetland C from near the northeast corner of the wetland (11/1/22).

Photo 14. View west along the south property boundary from just north of Wetland C (11/1/22).