

Natural Resource Review

Coho Point Development

Milwaukie, Oregon

(Township 1S, Range 1E, Section 35AD, Tax Lots 1100, 1300, 1301, 1302, 1400, and Township 1S, Range 1E, Section 36CB, Tax Lot 2801, Clackamas County)

Prepared for
St John-5 LLC.

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PHS Project Number: 6517

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1.0 INTRODUCTION

The City of Milwaukie (the “City”) has mapped Water Quality Resource (WQR) and Habitat Conservation Area (HCA) within the proposed Coho Point Development site. St. John-5 LLC (the “Applicant”) seeks approval for the proposed development through a Type III General Discretionary Review. The following document demonstrates how the proposed project will be in compliance with the applicable development standards that are listed in the Natural Resources (NR) Zoning Code Section 19.402 of the City of Milwaukie Municipal Code (MMC). Pacific Habitat Services, Inc. (PHS) has prepared a Natural Resource Review in accordance with MMC Section 19.402 to support the land use application. The information necessary to process the application is provided in the following sections. Supporting information is included in Attachment A (Figures) and Attachment B (Wetland Delineation Report).

2.0 APPLICANT INFORMATION

2.1 Applicant

St John-5 LLC
10260 SW Greenburg Road
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2.2 Applicant’s Agent

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3.0 SITE INFORMATION

The following information is for the parcels which is the subject of this natural resource review.

Site Address: 11103 SE Main St. Milwaukie, OR 97222
Zoning: Downtown Mixed Use DMU, and Open space OS
Legal Description: Township 1S, Range 1E, Section 35AD, Tax Lots (TL) 1100, 1300, 1301, 1302, 1400, and Township 1S, Range 1E, Section 36CB, Tax Lot (TL) 2801, Clackamas County

3.1 Site Description

The site is located in downtown Milwaukie along the northern portion of Kellogg Lake, east of Highway 99E (Pacific Highway), west of SE Main Street, and south of SE Washington Street (Figures 1 and 2), and north of the light rail and Southern Pacific Railroad Bridges. Kellogg Creek is impounded in this area to form Kellogg Lake which flows northwest under 99E into the Willamette River. Dogwood Park is located along the eastern border of the project area. The site is zoned within downtown mixed-use area (DMU) and includes open space (OS) within Dogwood Park and Kellogg Lake. The project area generally slopes to the south and west with elevations ranging from approximately 50 feet North American Vertical Datum (NAVD) in the northern portion of the project area to 20 NAVD feet at the outflow of Kellogg Lake under McLoughlin Boulevard.

On October 20, 2020, PHS identified and delineated the ordinary high water of Kellogg Lake within the project area. Descriptions of the on-site resource is provided below; Figure 4 shows the existing site conditions. The existing site contains an asphalt parking lot and 3,500 SF building at the northeast corner of the property. Runoff from the existing site generally sheet flows to the southwest to a catch basin which discharges directly to Kellogg Creek. Pollution reduction and flow control are not present on the existing site.

Kellogg Lake occupies much of the undeveloped area within the project area. It is formed by an impoundment on Kellogg Creek immediately upstream of McLoughlin Boulevard. The slopes adjacent to the lake are relatively steep, near vertical at the location of the OHW line. Approximately 1.67 acres (72,707 square feet) of the Lake is immediately adjacent to the project site. The plant community of the riparian area along the lake includes a primarily deciduous overstory of big-leaf maple (*Acer macrophyllum*), Oregon white oak (*Quercus garryana*), Oregon ash (*Fraxinus latifolia*), red alder (*Alnus rubra*); and a shrub and herbaceous understory composed of species such as snowberry (*Symphoricarpos albus*), Pacific ninebark (*Physocarpus capitatus*), Scouler's willow (*Salix scouleriana*), English hawthorn (*Crataegus monogyna*), Himalayan blackberry, (*Rubus armeniacus*), Western swordfern (*Polystichum munitum*), and English ivy (*Hedera helix*).

4.0 PROJECT DESCRIPTION

The applicant, St. John-5 LLC, is proposing a mixed use commercial and residential development on a site located at 11103 SE Main St. Milwaukie, OR 97222. The site currently consists of six tax lots all owned by the City of Milwaukie. The total site size is 2.8 acres.

The proposed development will consist of a single, 5-story building that would provide a total of 195 residential units, and 5 commercial spaces. Specifically, the proposed building will consist of 84 studio apartments, 56 1 bedroom apartments, 48 2-bedroom apartments, 7 3-bedroom apartments. The apartments will range between 570 to 1,150 square feet.

The proposed development will construct access from Main Street, along the existing Adams Street right-of-way. The development will have 103 parking stalls located in the basement and first floor. No new public roads are proposed as part of the development. The upper floors will be multi-family residential units, with a central courtyard on the second story for storm water infiltration planters to treat the roof run-off. Commercial units will have frontage along SE Main St. and SE Washington Street.

Kellogg Lake is a primary protected water features and has associated water quality resource (WQR) and habitat conservation areas (HCA), as defined in the City’s Natural Resources Code (MMC 19.402). As such, the proposed project is subject to discretionary review under MMC Subsections 19.402.8, 19.402.9, 19.402.11, 19.402.12, and 19.402.13I – J. This Natural Resource Review describes the existing WQR and HCA on the site and demonstrates project compliance with the applicable sections of the municipal code.

5.0 EXISTING WATER QUALITY RESOURCE AND HABITAT CONSERVATION AREA ON THE PROJECT SITE

As discussed above, Kellogg Lake is a primary protected water features and have associated WQR and HCA, as shown on the Milwaukie Interactive Zoning Map (<http://milwaukie.maps.arcgis.com/apps/webappviewer/index.html?id=48bfb9fc517446f9af954d4d1c4413af>). MMC 19.402.15, Boundary Verification and Map Administration, describes procedures for verifying the location of WQR and HCA on a property. Sections 5.1 and 5.2, below, describe the verification of WQR and HCA on the project site in accordance with the municipal code.

5.1 Water Quality Resource (WQR)

Table 19.402.15, Determination of WQR Location, in MMC Subsection 19.402.15 describes the location and extent of the WQR. As described in the table, primary protected water features have an associated vegetated corridor of 50 to 200 feet wide depending on the slopes adjacent to the resource. The slopes adjacent to the north side of Kellogg Lake are less than 25 percent, and therefore, the associated vegetated corridor in this area is 50 feet wide. The slopes along the eastern portion of Kellogg Lake are greater than 25 percent; therefore, in this area, the width of the vegetated corridor varies between 60 and 100 feet from the ordinary high water line. The extent of the vegetated corridor on the project site, based on the surveyed boundaries of waterway, is depicted on Figures 4 through 9. The total area of WQR on the site (not including the stream and wetland) is approximately 4,9937 sf (1.15 acres). Section 6.3 of this report describes the condition of the vegetated corridor.

5.2 Habitat Conservation Area (HCA) Verification

MMC 19.402.15.A requires verification of the boundaries of designated natural resources on or near a site to determine if the standards of MMC 19.402 apply. The Milwaukie Interactive Zoning Map (Figure 3) shows HCA extending onto the northern and eastern portions of the site. The City’s mapped HCA is depicted on Figure 4. Because there is discrepancy between the City-mapped HCA, the Applicant proposes to verify HCA on the site using the detailed HCA verification procedures outlined at MMC 19.402.15.A.2.b. The requirements of Subsection 19.402.15.A.2.b are addressed below.

MMC 19.402.15.A.2.b, Detailed Verification of HCAs

An applicant who believes that an HCA shown on the NR Administrative Map should be corrected for a reason other than those described in Subsections 19.402.15.A.1.a or b may propose a detailed verification.

(1) Submittal Requirements

The applicant shall submit a report prepared and signed by either a knowledgeable and qualified natural resource professional; such as a wildlife biologist, botanist, or hydrologist; or a civil or environmental engineer registered in Oregon to design public sanitary or storm systems, stormwater facilities, or other similar facilities. The report shall include:

(a) A description of the qualifications and experience of all persons that contributed to the report and, for each person that contributed, a description of the elements of the analysis to which the person contributed.

The applicant is submitting this report, which was prepared and signed by John van Staveren, Michael See, And Joe Thompson. John van Staveren is a Professional Wetland Scientist, as well as the President and Senior Scientist at PHS and has over 29 years of experience working in the natural resources field. Joe Thompson is a Professional Wetland Scientist, who has more than 20 years of experience working in the environmental field. Michael See is a Wetland Scientist and Natural Resource Specialist with Pacific Habitat Services, Inc. and has over 10 years of experience working in the natural resources field. Pacific Habitat Services, Inc. is renowned for its expertise and experience involving environmental and natural resource analyses and projects throughout the Portland Metro Area and the Pacific Northwest. Utilizing on-site observations and ground-truthing, PHS staff members participated in the analysis and comparison of site information pertinent to the City of Milwaukie's Development Code requirements.

(b) The information described in Subsection 19.402.15.A.1.a.

The following information is required, as described in Subsection 19.402.15.A.1.a:

(1) A detailed property description and site plan of the property that includes all existing conditions plans listed on the City's Site Plan Requirements.

The project site is located at 11103 SE Main St. Milwaukie, OR 97222. The site currently consists of seven tax lots, all under the same ownership (City of Milwaukie). Those tax lots are Township 1S, Range 1E, Section 35AD, Tax Lots (TL) 1100, 1300, 1301, 1302, 1400, and Township 1S, Range 1E, Section 36CB, Tax Lot (TL) 2801, Clackamas County.

A plan showing existing site conditions is provided as Figure 4. This figure shows tax lot boundaries; the boundary of PHS's study area; existing site improvements such as buildings, roads, and parking areas; natural resources such as trees greater than 6 inches diameter at breast height (dbh), wetlands, and waterways; and existing topography depicted with 1-foot contours. Figure 4 shows the limits of the WQR, City-mapped HCA, and the floodplain boundary, as well as the other existing conditions features.

(2) A copy of the applicable NR Administrative Map section.

A copy of City mapping showing City-mapped HCA, vegetated corridor, and wetlands, as provided by the online Milwaukie Interactive Zoning Map, is provided as Figure 3.

The latest available aerial photograph of the property, with lot lines shown, at a scale of at least 1 map inch equal to 50 ft for lots of 20,000 or fewer square feet, and a scale of 1 map inch equal to 100 ft for larger lots.

A July 2018 aerial photograph of the project site from Google Earth is provided as Figure 2 and tax lots are depicted on Figure 2A.

(3) A documented demonstration of the misalignment between the NR Administrative Map and the property's tax lot boundary lines and/or the location of existing legally established development.

Not applicable. There is no apparent misalignment between the City's mapping and the tax lot boundaries or the location of existing legally established development.

(5) Any other factual information that the applicant wishes to provide to support boundary verification.

Not Applicable.

(c) The information described in Subsection 19.402.15.A.1.b, if the applicant believes such information is relevant to the verification of habitat location on the subject lot or parcel.

The information described in Subsection 19.402.15.A.1.b is not relevant to the verification of the HCA on the project site.

(d) Additional aerial photographs, if the applicant believes they provide better information regarding the property, including documentation of the date and process used to take the photos and an expert's interpretation of the additional information they provide.

Not applicable.

(e) A map showing the topography of the property shown by 2-ft vertical contours in areas of slopes less than 15%, and at 5-ft vertical contours of slopes 15% or greater.

The site topography shown by 1-foot contour intervals is depicted on all appropriate figures.

(f) Any additional information necessary to address each of the detailed verification criteria provided in Subsection 19.402.15.A.2.b(2); a description of where any HCAs are located on the property, based on the application of the detailed verification criteria; and factual documentation to support the analysis.

No additional information is provided.

(2) Approval Criteria

A boundary verification request submitted under Subsection 19.402.15.A.2.b shall be evaluated according to the following three-step process:

(a) Verify Boundaries of Inventoried Riparian Habitat

Locating habitat and determining the riparian habitat class of the designated natural resource is a four-step process:

(i) Locate the water feature that is the basis for identifying riparian habitat.

- *Locate the top of bank of all streams, rivers, and open water within 200 ft of the property.*
- *Locate all flood areas within 100 ft of the property.*
- *Locate all wetlands within 150 ft of the property, based on the NR Administrative Map. Identified wetlands shall be further delineated consistent with methods currently accepted by DSL and the Corps.*

Kellogg Lake is the basis for identifying riparian habitat on the project site. PHS located the limits of ordinary high water (OHW) of Kellogg Lake during the October 20, 2020 field work, which roughly corresponds to the “bankful stage” or “top of bank”, as defined on the City code. The surveyed limits of OHW are depicted on Figure 4 and all other appropriate figures.

(ii) Identify the vegetative cover status of all areas on the property that are within 200 ft of the top of bank of streams, rivers, and open water; are wetlands or are within 150 ft of wetlands; and are flood areas and within 100 ft of flood areas.

- *Vegetative cover status shall be as identified on the latest Metro Vegetative Cover Map (available from the City and/or the Metro Data Resource Center).*
- *The vegetative cover status of a property may be adjusted only if: (1) the property was legally developed prior to September 15, 2011, the effective date of Ordinance #2036 (see Subsection*

19.402.15.A.1.b); or (2) an error was made at the time the vegetative cover status was determined. To assert the latter type of error, applicants shall submit an analysis of the vegetative cover on their property, using the aerial photographs on which the latest Metro Vegetative Cover Map is based and the definitions of the different vegetative cover types identified in Table 19.402.15.A.2.b(2)(a)(iv).

The vegetative cover status, as identified on the latest Metro Vegetative Cover Map, is designated “Woody vegetation” which means areas that are part of a contiguous area 1 acre or larger of shrub or open or scattered forest canopy (less than 60% crown closure) located within 300 ft of a surface stream. Woody vegetation is the predominant vegetative cover within the project area and mitigation areas. PHS concurs with the vegetative cover status assigned by the Metro vegetative cover map.

(iii) Determine whether the degree that the land slopes upward from all streams, rivers, and open water within 200 ft of the property is greater than or less than 25%, using the methodology outlined in Table 19.402.15.

Using the methodology outlined in Table 19.402.15, PHS determined that the land slopes upward from the eastern portion Kellogg Lake within the project area is greater than 25%. The northwestern portion of Kellogg Lake was determined to have slopes less than 25%, as such the WQRA was determined to be 50’ from the OHW of Kellogg Lake.

(iv) Identify the riparian habitat classes applicable to all areas on the property using Table 19.402.15.A.2.b(2)(a)(iv) and the data identified in Subsections 19.402.15.A.2.b(2)(a)(i) through (iii).

All Riparian habitat classes, as defined in Table 19.402.15.A.2.b(2)(a)(iv), including Kellogg Lake and associated vegetated corridors area considered Class I riparian habitats.

(b) Determine the Property’s Urban Development Value

The urban development value of property designated as regionally significant habitat is depicted on the Metro Habitat Urban Development Value Map (available from the Metro Data Resource Center).

(i) A property’s urban development value designation shall be adjusted upward if the Metro 2040 Design Type designation for the property lot or parcel has changed from one with a lower urban development value to one with a higher urban development value. 2040 Design Type designations are identified on the Metro 2040 Applied Concept Map (available from the Metro Data Resource Center).

(ii) Properties in areas designated on the 2040 Applied Concept Map as Central City, Regional Centers, Town Centers, and Regionally Significant Industrial Areas are considered to be of high urban development value; properties in areas designated as Main Streets, Station Communities, Other Industrial Areas, and Employment Centers are of medium urban development value; and properties in areas designated as Inner and Outer Neighborhoods and Corridors are of low urban development value.

(iii) As designated in Title 13 of the UGMFP, properties owned by a regionally significant educational or medical facility are designated as high urban development value.

The project site is within an area of high urban development value, as depicted on the Metro Habitat Urban Development Value Map (ftp://ftp.metro-region.org/dist/gm/fish+wildlife/maps/develop_value_1097A.pdf).

(c) Cross-Reference Habitat Class with Urban Development Value

City verification of the locations of HCAs shall be consistent with Table 19.402.15.A.2.b(2)(c).

Because the site is designated high urban development value, all Class I Riparian Habitats are considered HCA as described in Table 19.402.15.A.2.b(2)(c). The limits of the verified HCA on the site are depicted on Figure 4.

6.0 COMPLIANCE WITH MILWAUKIE MUNICIPAL CODE

6.1 MMC 19.402.8 – Activities Requiring Type III Review

As described above, the proposed project is the development of a mixed use residential and commercial building and associated infrastructure. As portrayed on Figure 5 The proposed project will result in impacts to HCA and WQR; therefore, the project is subject to Type III review, as described in MMC 19.402.8. There will be 0.39 acres of permanent impacts to the WQR and 0.24 acres of temporary impact. There will be 0.05 acres of permanent impacts to the HCA and 0.006 acres of temporary impact.

6.2 MMC 19.402.9 – Construction Management Plans

B. Construction management plans shall provide the following information:

- 1. Description of work to be done.*
- 2. Scaled site plan showing a demarcation of WQRs and HCAs and the location of excavation areas for building foundations, utilities, stormwater facilities, etc.*
- 3. Location of site access and egress that construction equipment will use.*
- 4. Equipment and material stockpile areas.*
- 5. Erosion and sediment control measures.*

As stated above in Section 4, the project is the construction of a mixed-use development with 5 retail commercial spaces, 195 residential units, associated parking, roads, utilities, landscaping, and stormwater treatment facilities. Site preparation will include grubbing and grading. A demarcation of WQRs and HCAs and the location of excavation areas for building foundations, utilities, stormwater facilities, etc. are shown on Figure 7. The site access that construction equipment will use, as well as equipment and material stockpile/staging areas, are shown on the Construction Management Plan (Figure 7). As shown on Figure 7, erosion control fencing will be placed at the limits of disturbance. This fencing will act as a physical barrier and prevent the encroachment of machinery into portions of the WQR and HCA areas that are to remain undisturbed.

The following components of the erosion control plan will protect against erosion, prevent the transport of sediments off-site and into the remaining WQR and HCA areas, and ensure that impacts are minimized.

- Prior to the start of any earth-moving activities, construction fencing will be installed at the limits of the work area, which in this case will be along the outer edge of the proposed development. Sediment fence will be installed inside the construction fencing.
- All base erosion and sediment prevention control measures (including inlet protection, perimeter sediment control, gravel construction entrances, etc.) will be in place, functional, and approved in an initial inspection prior to the start of any construction activities.
- Construction entrances will be installed prior to construction and maintained for the duration of the project.

- Active inlets to stormwater systems will be protected with approved inlet protection measures. All inlet protection measures will be regularly inspected and maintained as necessary. These inlet protection measures will prevent runoff from reaching discharge points.
- Exposed cut and fill areas will be stabilized through the use of temporary seeding and mulching or other appropriate measures.
- Seed used for temporary or permanent seeding will be per specifications.
- Slopes receiving temporary or permanent seeding will have the surface roughened to improve seed bedding and reduce run-off velocities.
- Stockpiled soil or strippings will be placed in an approved, stable location and configuration. During “wet weather” periods, stockpiles will be covered with straw mulch. Sediment fence will be placed around the perimeter of all stockpiles.
- Appropriate dust control measures, including the application of a fine spray of water, straw mulching or other approved measures, will be used in areas subject to wind erosion. Any saturated materials hauled off site will be transported in watertight trucks to prevent the spillage of sediment or sediment-laden water.

The proposed project will have no detrimental impact on resources or functional values of WQR and HCA areas designated to be left undisturbed. The use of construction fencing and erosion and sediment control barriers at the limits of work, as well as other methods described in the Construction Management Plan will prevent direct physical impacts to nearby areas of WQR and HCA to remain undisturbed.

6. *Measures to protect trees and other vegetation located within the potentially affected WQR and/or HCA. A root protection zone shall be established around each tree in the WRQ or HCA that is adjacent to any approved work area. The root protection zone shall extend from the trunk to the outer edge of the tree’s canopy, or as close to the outer edge of the canopy as is practicable for the approved project. The perimeter of the root protection zone shall be flagged, fenced, or otherwise marked and shall remain undisturbed. Material storage and construction access is prohibited within the perimeter. The root protection zone shall be maintained until construction is complete.*

Trees proposed to be removed are shown on the tree removal plan (Figure 8), and the accompanying. Tree protection will be as recommended by a qualified arborist or, at minimum, will include the following protective measures:

- All trees to be protected on the project site and adjacent to the site shall be clearly identified and protective fencing will be installed at the perimeter of the dripline (to avoid soil compaction, removal of vegetation, and/or tree branches) prior to any grubbing, clearing, grading, parking, preparation or storage of materials or machinery, or other construction activity on the site. The fencing will be secured and consist of a material that cannot be easily moved, removed, or broken during construction activities;
- No machinery repair, cleaning or fueling will be performed within 10 feet of the dripline of any of trees identified for protection;

- There will be no digging of trenches for placement of public or private utilities or other structure within the critical root zones of trees to be protected;
- If required by the City, a consulting arborist or other qualified biologist will be present during construction or grading activities that may affect the dripline of the trees to be protected.

6.3 MMC 19.402.11 – Development Standards

A. Protection of Natural Resources During Site Development

During development of any site containing a designated natural resource, the following standards shall apply:

- 1. Work areas shall be marked to reduce potential damage to the WQR and/or HCA.*

In addition to erosion and sediment control measures, previously discussed in the Construction Management section, work areas shall be marked to reduce potential damage to the WQR and/or HCA.

- 2. Trees in WQRs or HCAs shall not be used as anchors for stabilizing construction equipment.*

No trees within the WQR or HCA will be used as anchors for stabilizing construction equipment.

- 3. Native soils disturbed during the development shall be conserved on the property.*

Native soils disturbed during development will be conserved on the property.

- 4. An erosion and sediment control plan is required and shall be prepared in compliance with requirements set forth in the City's Public Works Standards.*

The erosion and sediment control plan is shown on the Construction Management Plan (Figure 7) was discussed in the previous section, Construction Management Plan, and was prepared in compliance with requirements set forth in the City's Public Works Standards.

- 5. Site preparation and construction practices shall be followed that prevent drainage of hazardous materials or erosion, pollution, or sedimentation to any WQR adjacent to the project area.*

As discussed above in the Construction Management Plans section, Best Management Practices (BMPs) will be implemented during site preparation and construction in order to prevent drainage of hazardous materials or erosion, pollution, or sedimentation to any WQR adjacent to the project area.

- 6. Stormwater flows that result from proposed development within and to natural drainage courses shall not exceed predevelopment flows.*

The primary purpose of the stormwater management plan is to effectively treat the stormwater runoff from the new development while maintaining pre-development hydrologic inputs. Stormwater from the proposed development will be managed using permeable pavers and a stormwater planter on the second-floor terrace. The planter facility will provide water quality treatment only and discharge to the storm pipe in SE Main St. Since the discharge point is a storm only pipe that flows directly to the Kellogg Lake, detention is not proposed. The downstream conveyance system was reviewed, and it was confirmed the 25-yr storm event can be conveyed without surcharge.

7. *Prior to construction, the WQR and/or HCA that is to remain undeveloped shall be flagged, fenced, or otherwise marked and shall remain undisturbed. Such markings shall be maintained until construction is complete.*

As discussed above in the Construction Management Plans section, prior to construction, construction fencing, sediment fencing, and other erosion and sediment control barriers will be installed at the limits of work, to prevent impacts to nearby areas of WQR and HCA to remain undisturbed.

8. *The construction phase of the development shall be done in such a manner as to safeguard the resource portions of the site that have not been approved for development.*

As discussed above in the Construction Management Plans section, BMPs will be implemented and erosion and sediment control methods will be in place prior to construction in such a manner as to safeguard the resource portions of the site that have not been approved for development.

9. *Where practicable, lights shall be placed so that they do not shine directly into any WQR and/or HCA location. The type, size, and intensity of lighting shall be selected so that impacts to habitat functions are minimized.*

Where practicable, lights will be placed so that they do not shine directly into the WQR and/or HCA. The type, size, and intensity of lighting will be selected so that impacts to habitat functions are minimized.

10. *All work on the property shall conform to a construction management plan prepared according to Subsection 19.402.9.*

All work on the property will conform to a construction management plan, as previously discussed.

B. General Standards for Required Mitigation

Where mitigation is required by Section 19.402 for disturbance to WQRs and/or HCAs, the following general standards apply:

1. *Disturbance*
 - a. *Designated natural resources that are affected by temporary disturbances shall be restored, and those affected by permanent disturbances shall be mitigated, in accordance with the standards provided in Subsection 19.402.11.C for WQRs and Subsection 19.402.D.2 for HCAs, as applicable.*

All temporary impacts will be restored and mitigation for impacts to WQR and HCA will be compensated through a combination of on-site and offsite mitigation following Subsection 19.402.11.C for WQRs and Subsection 19.402.D.2 for HCA.

2. *Required Plants*

Unless specified elsewhere in Section 19.402, all trees, shrubs, and ground cover planted as mitigation shall be native plants, as identified on the Milwaukie Native Plant List. Applicants are encouraged to choose particular native species that are appropriately suited for the specific conditions of the planting site; e.g., shade, soil type, moisture, topography, etc.

All proposed mitigation plants will consist of native species as identified on the Milwaukie Native Plant List. Plants will be chosen for: 1) their suitability to the soils and hydrology of the site, 2) their natural occurrence in the area, 3) their wildlife habitat enhancement value, and 4) their local availability. The four tables (Tables 3 through 6 and Figure 9A) show species to be planted.

3. Plant Size

Replacement trees shall average at least a ½-in caliper – measured at 6 in above the ground level for field-grown trees or above the soil line for container-grown trees – unless they are oak or madrone, which may be 1-gallon size. Shrubs shall be at least 1-gallon size and 12 in high.

4. Plant Spacing

Trees shall be planted between 8 and 12 ft on center. Shrubs shall be planted between 4 and 5 ft on center or clustered in single-species groups of no more than 4 plants, with each cluster planted between 8 and 10 ft on center. When planting near existing trees, the dripline of the existing tree shall be the starting point for plant spacing measurements.

5. Plant Diversity

Shrubs shall consist of at least 2 different species, If 10 trees or more are planted, then no more than 50% of the trees shall be of the same genus.

Mitigation plant size, spacing and diversity will be in accordance with the requirements stated in items 3 – 5, above. Tables 3 through 6 below and Figure 9A include the taxa that will be planted within the mitigation areas.

6. Location of Mitigation Area

a. On-Site Mitigation

All mitigation vegetation shall be planted on the applicant's site within the designated natural resource that is disturbed, or in an area contiguous to the resource area; however, if the vegetation is planted outside of the resource area, the applicant shall preserve the contiguous planting area by executing a deed restriction such as a restrictive covenant.

Mitigation will be a combination of on-site and off-site. The mitigation areas (16,463 square feet / 0.37 acres) proposed for planting are shown in Figure 9. The mitigation plantings will improve the native plant community, vegetation structure and diversity – all of which will improve the overall quality of wildlife habitat on the site. Areas C and D will occur off-site at the adjacent Dogwood Park. The applicant is requesting a variance to the on-site mitigation requirement. The vegetation within Areas C and D are degraded and mitigation will improve their function.

7. Invasive Vegetation

Invasive nonnative or noxious vegetation shall be removed within the mitigation area prior to planting, including, but not limited to, species identified as nuisance plants on the Milwaukie Native Plant List.

Invasive nonnative or noxious vegetation, and nuisance plants will be removed from the mitigation area prior to planting.

8. Ground Cover

Bare or open soil areas remaining after the required tree and shrub plantings shall be planted or seeded to 100% surface coverage with grasses or other ground cover species identified as native on the Milwaukie Native Plant List. Revegetation shall occur during the next planting season following the site disturbance.

Following the installation of the required tree and shrub plantings, remaining bare/open soil areas will be planted or seeded to 100% surface coverage with a native grass seed mix or other ground cover species during the next planting season following the site disturbance.

9. Tree and Shrub Survival

A minimum of 80% of the trees and shrubs planted shall remain alive on the second anniversary of the date that the mitigation planting is completed.

a. Required Practices

To enhance survival of the mitigation plantings, the following practices are required:

- (1) Mulch new plantings to a minimum of 3-in depth and 18-in diameter to retain moisture and discourage weed growth.*
- (2) Remove or control nonnative or noxious vegetation throughout the maintenance period.*

b. Recommended Practices

To enhance survival of tree replacement and vegetation plantings, the following practices are recommended:

- (1) Plant bare root trees between December 1 and April 15; plant potted plants between October 15 and April 30.*
- (2) Use plant sleeves or fencing to protect trees and shrubs against wildlife browsing and the resulting damage to plants.*
- (3) Water new plantings at a rate of 1 in per week between June 15 and October 15 for the first two years following planting.*

In order to meet the minimum of 80% tree and shrub survival of the mitigation plantings on the second anniversary of the date that the mitigation planting is completed, the applicant will follow the “Required” and “Recommended” planting and maintenance practices, as described above in Items a and b.

c. Monitoring and Reporting

Monitoring of the mitigation site is the ongoing responsibility of the property owner. Plants that die shall be replaced in kind as needed to ensure the minimum 80% survival rate. The Planning Director may require a maintenance bond to cover the continued health and survival of all plantings. A maintenance bond shall not be required for land use applications related to owner-occupied single-family residential projects. An annual report on the survival rate of all plantings shall be submitted for 2 years.

An annual monitoring site visit will be conducted, and a report will be prepared and submitted to the City for two years after planting. The report will allow an analysis of the survival rate of the mitigation plantings and what corrective measures, if any, are needed to ensure the minimum 80% required survival rate for woody plantings at the end of the second monitoring season.

10. Light Impacts

Where practicable, lights shall be placed so that they do not shine directly into any WQR and/or HCA location. The type, size, and intensity of lighting shall be selected so that impacts to habitat functions are minimized.

Where practicable, lights will be placed so that they do not shine directly into the WQR and/or HCA. The type, size, and intensity of lighting will be selected so that impacts to habitat functions are minimized.

C. Mitigation Requirements for Disturbance within WQRs

- 1. The requirements for mitigation vary depending on the existing condition of the WQR on the project site at the time of application. The existing condition of the WQR shall be assessed in accordance with the categories established in Table 19.402.11.C.**

Plant communities within the vegetated corridor consist of wooded vegetation cover. PHS identified two separate plant communities within the on-site vegetated corridor based on the predominance of woody species in the community. Along the East bank of Kellogg Lake, the plant community is

primarily scrub-shrub with few scattered trees this area is considered to be Class B (marginal condition) in accordance with MCC. Further south, tree canopy cover increases south of the proposed development. Since this area exceeds 50% canopy cover it was determined to be in Class A (good condition). Despite the classifications of the plant communities, it is the opinion of PHS that these areas lend themselves to compensatory mitigation in order to improve the diversity and structure of the plant community within the proposed mitigation areas. Justification for this opinion is based on the abundance of non-native species within the area, and a paucity of native tree species. PHS took two sample points to characterize the plant communities.

The WQRA east of Kellogg Lake contains a moderately dense canopy predominantly composed of red alder (*Alnus rubra*), Oregon white oak (*Quercus garryana*), black cottonwood (*Populus balsamifera*), and big-leaf maple (*Acer macrophyllum*). Common species in the understory include English hawthorn (*Crataegus monogyna*), snowberry (*Symphoricarpos alba*), Pacific willow (*Salix lasiandra*), Scouler’s willow (*Salix scouleriana*), Pacific ninebark (*Physocarpus capitatus*), red-osier dogwood (*Cornus alba*), clustered rose (*Rosa pisocarpa*), twinberry honeysuckle (*Lonicera involucrata*), Himalayan blackberry (*Rubus armeniacus*). The groundcover contains a diverse mixture of native and non-native species, including Pacific dewberry (*Rubus ursinus*), Fuller’s teasel (*Dipsacus sylvestris*), Watson’s willow-herb (*Epilobium watsonii*), nipplewort (*Lapsana communis*), common velvetgrass (*Holcus lanatus*), colonial bentgrass (*Agrostis capillaris*), fringecup (*Tellima grandiflora*), brome (*Bromus sp.*), and Western swordfern (*Polystichum munitum*). Tables 1 and 2 summarize the species composition at two sample points within the plant community.

Table 1. Plant Community North of Kellogg Lake Characterized by Sample Point 1

Botanical Name	Common Name	♦Cover (%)
Shrubs and Saplings		140
<i>Crataegus monogyna</i>	English hawthorn	40
<i>Rubus armeniacus</i> ***	Himalayan blackberry	90
<i>Prunus avium</i>	Sweet Cherry	10
Woody Vine		20
<i>Clematis spp.</i>	Clematis	20
Herbaceous		10
<i>Lathyrus sativus</i>	White pea	10
<i>Agrostis capillaris</i>	Colonial bentgrass	20
<i>Bromus spp.</i>	brome	50
<i>Geranium lucidum</i>	Shining geranium	10

*Invasive species or noxious weed (Oregon Dept. of Agriculture (ODA))

**Nuisance Plant List (Milwaukie Plant List/Portland Plant List)

♦ Absolute Percent Cover

The plant community at sample point 1 had a tree canopy less than 50 percent. This area was mowed or cleared within the last 10 years. And consists primarily of non-native woody shrubs. The combined tree, shrub and herbaceous layers exceeds 80 percent cover. As such the area meets the definition of “Marginal” as defined in Table 19.402.11.C of the municipal code, and the existing condition of the WQR.

Table 2. Plant Community Within Dogwood Park, Characterized by Sample Point 2

Botanical Name	Common Name	♦Cover (%)
Trees		80
<i>Acer platanoides</i>	Norway Maple	30
<i>Crataegus monogyna</i>	English Hawthorn	50
Shrubs and Saplings		37
<i>Crataegus monogyna</i>	English Hawthorn	2
<i>Ilex aquifolium</i>	English Holly	30
<i>Rubus armeniacus</i> ***	Himalayan blackberry	5
Groundcover		20
<i>Hedera helix</i> ***	English Ivy	20

**Invasive species or noxious weed (Oregon Dept. of Agriculture (ODA))*

***Nuisance Plant List (Milwaukie Plant List/Portland Plant List)*

♦*Absolute Percent Cover*

The plant community in the southeast portion of the WQRA has a tree canopy greater than 50 percent, as characterized by Sample Point 2. As such, the existing condition of the WQR southeast portion of the project area meets the definition of a Class A (“Good”) WQR, as defined in Table 19.402.11.C.; however, the coverage of invasive and non-native species, and the lack of groundcover indicates this area could be greatly enhanced through vegetation enhancement and mitigation.

6.4 MMC 19.402.12 - General Discretionary Review

A. Impact Evaluation and Alternatives Analysis

An impact evaluation and alternatives analysis is required to determine compliance with the approval criteria for general discretionary review and to evaluate development alternatives for a particular property. A report presenting this evaluation and analysis shall be prepared and signed by a knowledgeable and qualified natural resource professional, such as a wildlife biologist, botanist, or hydrologist. At the Planning Director’s discretion, the requirement to provide such a report may be waived for small projects that trigger discretionary review but can be evaluated without professional assistance.

The alternatives shall be evaluated on the basis of their impact on WQRs and HCAs, the ecological functions provided by the resource on the property, and off-site impacts within the subwatershed (6th Field Hydrologic Unit Code) where the property is located. The evaluation and analysis shall include the following:

1. *Identification of the ecological functions of riparian habitat found on the property, as described in Subsection 19.402.1.C.2.*

Subsection 19.402.1.C.2 of the MMC identifies seven functions and values that contribute to water quality and to fish and wildlife habitat in urban streamside areas. Descriptions of the functions and values provided by the riparian habitat on the project site are provided below.

Vegetated corridors to separate protected water features from development – The vegetation within the WQRA provides a buffer that separates Kellogg Lake from the existing development to the east. The dense shrubs, scattered trees, and herbaceous vegetation along the east side of the lake provide wildlife habitat and water quality benefits to the stream.

Microclimate and shade – Trees within the WQR provide some shade to the lake and help to regulate the microclimate within the riparian corridor; however, the orientation and width of the lake minimizes the cooling effects from trees along the banks.

Streamflow moderation and water storage – The floodplain on the east side of Kellogg Lake is vegetated with a mixture of trees, shrubs, and herbaceous vegetation. During high flow events, vegetation within the floodplain helps to slow floodwaters. The existing dam at McLoughlin Boulevard has much greater influence over water storage than the existing floodplain.

Water filtration, infiltration, and natural purification – Vegetation within the riparian corridor along and within Kellogg Lake slows runoff from adjacent areas and filters sediments and other pollutants from the runoff before it reaches the stream. By slowing the runoff, the vegetation also increases the potential for water to infiltrate into the soil before reaching the stream. Aquatic and wetland vegetation along the margins of Kellogg Lake allow for sediment and other pollutants to settle out of the water to be assimilated within the lake substrates.

Bank stabilization and sediment and pollution control – the banks within the project area are generally well-vegetated with shrubs, trees and herbaceous vegetation. This vegetation helps to stabilize the banks, and no evidence of active bank erosion within the project site was observed.

Large wood recruitment and retention and natural channel dynamics – Within the project area, trees occur along the eastern bank of Kellogg Lake. These trees have the potential to become large woody material. When trees fall into the lake, they have minimal potential to affect the natural channel dynamics due to the lentic nature of the Lake; the dam under McLoughlin Boulevard would likely prohibit large wood from migrating outside of the project site.

Organic material resources –Vegetation within the riparian corridor provides organic material that serves as the basis for the aquatic food web. Under the existing conditions, the riparian corridor within the project site is vegetated with a mixture of trees, shrubs, and herbaceous species, which contribute organic materials to the stream.

- 2. An inventory of vegetation, sufficient to categorize the existing condition of the WQR per Table 19.402.11.C, including the percentage of ground and canopy coverage materials within the WQR.*

An inventory of vegetation, sufficient to categorize the existing condition of the WQR per Table 19.402.11.C, including the percentage of ground and canopy coverage materials within the WQR, was provided earlier in this document in Subsection 19.402.11.C “Mitigation Requirements for Disturbance within WQRs” of the Development Standards.

- 3. An assessment of the water quality impacts related to the development, including sediments, temperature and nutrients, sediment control, and temperature control, or any other condition with the potential to cause the protected water feature to be listed on DEQ’s 303(d) list.*

The proposed project will result in impacts to WQR and HCA associated with Kellogg Lake. A mixed-use development will be constructed in the northern portion of the site. Stormwater from the proposed development will be managed using permeable pavers and a stormwater planter on the second-floor terrace. The planter facility will provide water quality treatment only and discharge to the storm pipe in SE Main St. Since the discharge point is a storm only pipe that flows directly to the Kellogg Lake, detention is not proposed. The downstream conveyance system was reviewed, and it was confirmed the 25-yr storm event can be conveyed without surcharge.

The proposed project is not anticipated to have any adverse impacts to water quality. The existing site contains an asphalt parking lot and 3,500 SF building at the northeast corner of the property. Runoff from the existing site generally sheet flows to the southwest to a catch basin which discharges directly to Kellogg Lake. Pollution reduction and flow control are not present on the existing site. The use of erosion and sediment controls during construction will prevent sediment-related impacts to water quality. The proposed project is not anticipated to result in additional nutrient inputs to the stream.

4. An alternatives analysis, providing an explanation of the rationale behind choosing the alternative selected, listing measures that will be taken to avoid and/or minimize adverse impacts to designated natural resources, and demonstrating that:

a. No practicable alternatives to the requested development exist that will not disturb the WQR or HCA.

Because of the location, size, and orientation of the resources within the site, and the existing constraints within the project area and limited access points from SE Kellogg Creek Drive, impacts to the WQR and HCA are unavoidable.

The applicant considered several alternative site plans utilizing different building heights and footprints. Alternative A would result in no impacts to the HCA or WQR, however, due to the unusual site characteristics and physical conditions on and near the Coho Point site, a variance is necessary to allow for reasonable economic use of the site that is comparable with other properties in the downtown area:

1. The Downtown Mixed Use (DMU) zone encourages mixed-use development with greater densities than other zones. Development that extends to the property line is encouraged. This cannot be done without impacts to WQR and HCA.
2. There are minimal remaining areas of undeveloped and buildable land in the downtown area (per MMC 19.304). In order to meet the above desires of the DMU zone, the entire Coho Point site must be utilized entirely for the building and development should extend to the property line, and to do so, impacts to the HCA and WQR areas are necessary. This done not leave room for all on-site mitigation.
3. The City's HNA identifies a need for a variety of housing types to meet growing demands for more urban housing that is more accessible to services and public transportation options; as identified in the HNA, 93% of Milwaukie residents commute out of Milwaukie for their employment, and the vast majority of housing approved since 2000 is single family detached (70%+) that is not as accessible to a variety of transportation options. The proposed development meets this need by providing a mixed-use development that will cater to a growing desire for "urban" housing, that is close to various public transportation options (bus and MAX) and that provides greater access to the Metro area. Failing to utilize this underdeveloped site to the maximum extent allowed per the DMU zone requirements would not be consistent with the DMU zone and the City's HNA goals (encourage denser, mixed-use developments that is close to public transportation and maximizes available undeveloped or underdeveloped lots and provides a variety of unit sizes).

4. Building outside the HCA line, or altering the building to allow for mitigation to occur on site, would result in a building that is 21% smaller, and provide less density that is not comparable to recently approved projects (Axletree Apartments on 21st and Washington, for example) or the goals of the DMU zone and HNA.
5. Beyond the compression of the building, which creates issues with the lightwell, the project is also required to have an 8-foot-wide ADA path connection from SE Main St to SE McLoughlin Blvd. The path would have to sit on the southern side of the building which would place the path within the HCA zone and create additional permanent disturbances. As the path must meet ADA requirements and there is 10 feet of fall between the two sidewalks, a large area to the south of the path (approximately 20 feet at the widest point) would also be temporarily impacted for grading purposes to catch at a 33% slope.
6. Finally, the project is required to have no net rise within the floodplain (1996 flood). This scenario needs a wall to be constructed along the edge of the building or path with elevation changes of 10 feet to 15 feet to meet the no net rise requirements. This wall would increase the permanent and temporary impact of the HCA beyond the grading and sidewalk alone.

With the six points described above, which includes the compression of the building, the large impacts to the HCA due to an ADA path, and the need for a wall to ensure no net rise floodplain requirements, no alternative is a viable solution.

b. Development in the WQR and/or HCA has been limited to the area necessary to allow for the proposed use.

Development within the WQR and HCA has been limited to the area necessary to allow for the proposed use. The development has been designed taking into consideration the City's building, design, and development requirements, while avoiding and minimizing resource impacts to the greatest extent practicable, and still allowing the project to be financially feasible. As such, development in the WQR and HCA has been limited to areas that are of lowest quality.

c. If disturbed, the WQR can be restored to an equal or better condition in accordance with Table 19.402.11.C; and the HCA can be restored consistent with the mitigation requirements of Subsection 19.402.11.D.2.

Restoration and mitigation for impacts to the WQR and HCA will be done in accordance with Table 19.402.11.C and Subsection 19.402.11.D.2, respectively. Details of the restoration and mitigation are described in more detail below in Subsection 19.402.12.A.6.b.

d. Road crossings will be minimized as much as possible.

No road crossings associated with this project are proposed.

5. *Evidence that the applicant has done the following, for applications proposing routine repair and maintenance, alteration, and/or total replacement of existing structures located within the WQR:*
 - a. *Demonstrated that no practicable alternative design or method of development exists that would have a lesser impact on the WQR than the one proposed. If no such practicable alternative design or method of development exists, the project shall be conditioned to limit its disturbance and impact on the WQR to the minimum extent necessary to achieve the proposed repair/maintenance, alteration, and/or replacement.*
 - b. *Provided mitigation to ensure that impacts to the functions and values of the WQR will be mitigated or restored to the extent practicable.*

Not applicable. The proposed project does not include routine repair and maintenance, alteration, and/or total replacement of existing structures within the WQR.

6. *A mitigation plan for the designated natural resource that contains the following information:*
 - a. *A description of adverse impacts that will be caused as a result of development.*

The proposed project will result in impacts to WQR, and HCA associated with Kellogg Lake. A mixed-use development will be constructed in the northern portion of the site. These impacts will reduce the amount of WQR and HCA habitat available for wildlife usage. It is anticipated that revegetation efforts will enhance plant diversity within the WQR and HCA mitigation area and provide for better quality habitat over the existing marginal quality plant community which is currently present.

- b. *An explanation of measures that will be taken to avoid, minimize, and/or mitigate adverse impacts to the designated natural resource; in accordance with, but not limited to, Table 19.402.11.C for WQRs and Subsection 19.402.11.D.2 for HCAs.*

As discussed above, impacts to the WQR and HCA are unavoidable. Adverse effects to the resources have been minimized to the extent practicable.

Mitigation for the unavoidable impacts will be provided through the inventory of man-made debris and noxious materials that might be present within the WQR and the removal of any such material present; the implementation of a stormwater plan that will meet City requirements for runoff rates and water quality; the removal of non-native, invasive plants from the riparian corridor along the east side of Kellogg Lake; and the installation of tree and shrub plantings within the remaining WQR and HCA areas. Compliance with the mitigation requirements outlined in Table 19.402.11.C and Subsection 19.402.11.D.2 to compensate for proposed impacts to the WQR and HCA are described below.

The existing condition of WQR proposed for impact along the east side of Kellogg Lake, is Class B (“Moderate”). Mitigation requirements for disturbance in a Class B WQR, as listed in Table 19.402.11.C, are listed below, as are the components of the project design that have been incorporated to ensure compliance with the mitigation requirements.

- *Submit a plan for mitigating water quality impacts related to the development, including: sediments, temperature, nutrients, or any other condition that may have caused the protected water feature to be listed on DEQ’s 303(d) list.*

DOWL prepared a Preliminary Drainage Report (dated January 2021) demonstrating that the proposed stormwater management facilities treat runoff to meet the City of Milwaukie’s water quality requirements. The Preliminary Drainage Report was submitted to the City as part of the land-use application package.

- *Inventory and remove debris and noxious materials.*

At the time of site construction, the Applicant will identify man-made debris and noxious materials that may be present within the WQR. Any such debris or materials will be removed from the WQR. This will occur within mitigation area, as shown on Figure 9.

Mitigation requirements for disturbance in a Class C WQR, as listed in Table 19.402.11.C, are listed below, as are the components of the project design that have been incorporated to ensure compliance with the mitigation requirements.

- *Restore and mitigate disturbed areas with native species from the Milwaukie Native Plant List, using a City-approved plan developed to represent the vegetative composition that would naturally occur on the site.*

All disturbances within the WQR and HCA will be permanent. Trees and shrubs will be planted within the mitigation areas on the south side of the Project area and east of Kellogg Lake to establish and enhance a native plant community within the WQR and HCA areas.

The number of trees and shrubs to be planted was determined in accordance with MMC Subsection 19.402.11.D.2. The code requires that an applicant shall meet the requirement of Mitigation Option 1 or 2, whichever results in more tree plantings. Nine trees over 2.5" caliper will be removed from the HCA, as shown on Figure 8. As prescribed by Table 19.402.11.D.2.a, 146 trees and 240 shrubs would be required to mitigate for the trees to be removed under Mitigation Option 1.

Under Mitigation Option 2, 205 trees (20,474 sf impact area x 5 trees per 500 sf of impact area = 205 trees) and 898 shrubs (20,474 sf impact area x 25 shrubs per 500 sf of impact area = 10,24 shrubs) would be planted to mitigate for the 20,474 sf of impacts to the WQR and HCA. A list of trees and shrubs proposed for planting is provided in Tables 3 through 6 below, and on Figure 9A. PHS has included a total of 256 trees and 995 shrubs. This exceedance is to compensate for some anticipated mortality. The survivorship requirement in MCC shall be based on 205 trees, and 898 shrubs.

These mitigation plantings meet the requirements of MMC Subsection 19.402.11.D, as follows:

- All areas temporarily disturbed will be restored and permanent impacts will be mitigated by the tree and shrub plantings, as described above.
- All species proposed for planting are native species, as identified on the Milwaukie Native Plant List.
- Trees to be planted will average at least a ½-in caliper (measured at 6 inches above the ground level for field-grown trees or above the soil line for container-grown trees). Shrubs shall be at least 1-gallon size and 12 inches high.
- Trees will be planted between 8 and 12 feet on center. Shrubs will be planted between 4 and 5 feet on center or clustered in single-species groups of no more than 4 plants, with each cluster planted between 8 and 10 feet on center. When planting near existing trees, the dripline of the existing tree shall be the starting point for plant spacing measurements.
- More than two species of shrubs are proposed, and not more than 50 percent of the trees to be planted are of the same genus.

- All mitigation will occur both on site and on contiguous property located off-site of the proposed project area.
- Invasive non-native or noxious vegetation will be removed within the mitigation area prior to planting, including, but not limited to, species identified as nuisance plants on the Milwaukie Native Plant List.
- Bare or open soil areas remaining after the required tree and shrub plantings will be seeded to 100% surface coverage with grasses or other groundcover species identified as native on the Milwaukie Native Plant List. Revegetation will occur during the next planting season following the site disturbance.

Table 3. Area A (3,686 sf) Planting List

Species	Common Name	Quantity	Stock Type	Plant Size
Trees				
<i>Fraxinus latifolia</i>	Oregon ash	20	Container or field grown	½ in caliper
<i>Populus balsamifera</i>	Black cottonwood	20	Container or field-grown	½ in caliper
Shrubs				
<i>Cornus alba</i>	Red-osier dogwood	62	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	62	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	62	1 gal.	12 in
Herbaceous seed mix				
<i>Agrostis exarata</i>	Spike bentgrass	2.0 lbs/ac	Seed	n/a
<i>Bromus carinatus</i>	California brome	2.0 lbs/ac	Seed	n/a
<i>Deschampsia cespitosa</i>	Tufted hairgrass	3.0 lbs/ac	Seed	n/a
<i>Elymus glaucus</i>	Blue wildrye	3.0 lbs/ac	Seed	n/a
<i>Hordeum brachyantherum</i>	Meadow barley	2.0 lbs/ac	Seed	n/a

Table 4. Enhancement Area B (3,489) Planting List

Species	Common Name	Quantity	Stock Type	Plant Size
Trees				
<i>Acer macrophyllum</i>	Bigleaf maple	12	Container or field grown	½ in caliper
<i>Quercus garyana</i>	Oregon Oak	12	Container or field grown	½ in caliper
<i>Pseudotsuga menziesii</i>	Douglas Fir	12	Container or field-grown	½ in caliper
Shrubs				
<i>Cornus alba</i>	Red-osier dogwood	35	1 gal.	12 in
<i>Lonicera involucrata</i>	Twinberry Honeysuckle	35	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	35	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	35	1 gal.	12 in
<i>Symphoricarpos alba</i>	Snowberry	35	1 gal.	12 in

Species	Common Name	Quantity	Stock Type	Plant Size
Herbaceous seed mix				
<i>Agrostis exarata</i>	Spike bentgrass	2.0 lbs/ac	Seed	n/a
<i>Bromus carinatus</i>	California brome	2.0 lbs/ac	Seed	n/a
<i>Deschampsia cespitosa</i>	Tufted hairgrass	3.0 lbs/ac	Seed	n/a
<i>Elymus glaucus</i>	Blue wildrye	3.0 lbs/ac	Seed	n/a
<i>Hordeum brachyantherum</i>	Meadow barley	2.0 lbs/ac	Seed	n/a

Table 5. Area C (10,057 sf) Planting List

Species	Common Name	Quantity	Stock Type	Plant Size
Trees				
<i>Alnus rubra</i>	Red alder	35	Container or field grown	½ in caliper
<i>Fraxinus latifolia</i>	Oregon ash	35	Container or field grown	½ in caliper
<i>Populus balsamifera</i>	Black cottonwood	35	Container or field-grown	½ in caliper
Shrubs				
<i>Cornus alba</i>	Red-osier dogwood	110	1 gal.	12 in
<i>Lonicera involucrate</i>	Twinberry Honeysuckle	110	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	110	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	110	1 gal.	12 in
<i>Symphoricarpos alba</i>	Snowberry	110	1 gal.	12 in
Herbaceous seed mix				
<i>Agrostis exarata</i>	Spike bentgrass	2.0 lbs/ac	Seed	n/a
<i>Bromus carinatus</i>	California brome	2.0 lbs/ac	Seed	n/a
<i>Deschampsia cespitosa</i>	Tufted hairgrass	3.0 lbs/ac	Seed	n/a
<i>Elymus glaucus</i>	Blue wildrye	3.0 lbs/ac	Seed	n/a
<i>Hordeum brachyantherum</i>	Meadow barley	2.0 lbs/ac	Seed	n/a

Table 6. Area D (6,509 sf) Planting List

Species	Common Name	Quantity	Stock Type	Plant Size
Trees				
<i>Acer macrophyllum</i>	Bigleaf maple	25	Container or field grown	½ in caliper
<i>Quercus garyana</i>	Oregon Oak	25	Container or field grown	½ in caliper
<i>Pseudotsuga menziesii</i>	Douglas Fir	25	Container or field-grown	½ in caliper
Shrubs				
<i>Cornus alba</i>	Red-osier dogwood	65	1 gal.	12 in
<i>Lonicera involucrata</i>	Twinberry Honeysuckle	65	1 gal.	12 in

<i>Physocarpus capitatus</i>	Pacific ninebark	65	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	65	1 gal.	12 in
<i>Symphoricarpos alba</i>	Snowberry	65	1 gal.	12 in
Herbaceous seed mix				
<i>Agrostis exarata</i>	Spike bentgrass	2.0 lbs/ac	Seed	n/a
<i>Bromus carinatus</i>	California brome	2.0 lbs/ac	Seed	n/a
<i>Deschampsia cespitosa</i>	Tufted hairgrass	3.0 lbs/ac	Seed	n/a
<i>Elymus glaucus</i>	Blue wildrye	3.0 lbs/ac	Seed	n/a
<i>Hordeum brachyantherum</i>	Meadow barley	2.0 lbs/ac	Seed	n/a

The types of plants to be installed were chosen from the Milwaukie Native Plant List and by the suitability to site conditions and the types of native species that were observed on the site. Two planting zones were established within the mitigation areas: Mesic, and Wet. Based on on-site observations, areas closer to the water surface exhibit a plant community that tolerates wetter conditions. Enhancement areas A and C have the “Wet” planting schedule, while B and D are mesic. The schedule includes more trees and shrubs than required by code to compensate for potential mortality. The tree and shrub plantings will improve vegetation structure and diversity, and thereby, enhance wildlife habitat compared to the extensive coverage of existing non-native species which are currently present.

- *Plant and/or seed all bare areas to provide 100% surface coverage.*

All disturbed soil surfaces will be seeded with a native seed mix, as listed in Tables 3 through 6 and shown in Figure 9A. Areas temporarily disturbed due to the removal of invasive plant species will be seeded with this seed mix.

- *Inventory and remove debris and noxious materials.*

At the time of site construction, the Applicant will identify man-made debris and noxious materials that may be present within the WQR. Any such debris or materials will be removed from the WQR. This will occur within the mitigation area, as shown on Figure 9.

- c. *Sufficient description to demonstrate how the following standards will be achieved:*

- (1) *Where existing vegetation has been removed, the site shall be revegetated as soon as practicable.*

Within the mitigation area, soils disturbed as a result of the removal of non-native invasive plants will be seeded with the native seed mix described in Tables 3 through 6 and shown in Figure 9A, as soon as practicable following the removal of the invasive plants. Woody material will be planted in the mitigation area in the fall/winter immediately following construction to maximize the survival of the plantings.

- (2) *Where practicable, lights shall be placed so that they do not shine directly into any WQR and/or HCA location. The type, size, and intensity of lighting shall be selected so that impacts to habitat functions are minimized.*

Lights will be placed so that they do not shine directly into the WQR and/or HCA. The type, size, and intensity of lighting will be selected so that impacts to habitat functions are minimized.

- (3) Areas of standing trees, shrubs, and natural vegetation will remain connected or contiguous; particularly along natural drainage courses, except where mitigation is approved; so as to provide a transition between the proposed development and the designated natural resource and to provide opportunity for food, water, and cover for animals located within the WQR.**

With the exception of the removal of invasive plants from the proposed mitigation area, existing trees, shrubs, and natural vegetation within the WQR will remain undisturbed during the proposed construction.

- d. A map showing where the specific mitigation activities will occur. Off-site mitigation related to WQRs shall not be used to meet the mitigation requirements of Section 19.402.**

Figure 9 depicts the location of proposed mitigation activities. Mitigation is proposed to occur both on-site and off-site.

- e. An implementation schedule; including a timeline for construction, mitigation, mitigation maintenance, monitoring, and reporting; as well as a contingency plan. All in-stream work in fish-bearing streams shall be done in accordance with the allowable windows for in-water work as designated by ODFW.**

Construction of the proposed project is anticipated to begin in the June/July of 2021. Activities associated with the WQR/HCA mitigation are anticipated to begin in summer 2021. Removal of any existing man-made debris and noxious materials from the WQR will occur in summer 2021, as will the removal of invasive plants from the mitigation area (Figure 9). Plantings will be installed in the mitigation area in late fall/winter of 2021/2022.

Monitoring of the mitigation area will be conducted in the summer of 2022. An annual monitoring report documenting the survival of the mitigation plantings will be submitted to the City of Milwaukie by December 31 of each monitoring year. A slight overage of plant material is proposed to help compensate for mortality. Plants that die shall be replaced in kind as needed to ensure the minimum 80% of the required quantity of 205 trees and 898 shrubs survive.

No in-stream work is proposed to occur as part of this project.

B. Approval Criteria

- 1. Unless specified elsewhere in Section 19.402, applications subject to the discretionary review process shall demonstrate how the proposed activity complies with the following criteria:**

- a. Avoid**

The proposed activity avoids the intrusion of development into the WQR and/or HCA to the extent practicable. The proposed activity shall have less detrimental impact to the designated natural resource than other practicable alternatives, including significantly different practicable alternatives that propose less development within the resource area.

The proposed project avoids development within the WQR and HCA to the extent practicable, given site constraints. As discussed earlier in this document, the alternative site designs (Figure 6) have would eliminate impacts to the WQR, HCA, however building outside the HCA line, or altering the building to allow for mitigation to occur on site, would result in a building that is at least 21% smaller, and provide less density that is not comparable to recently approved projects (Axletree Apartments on 21st and Washington for example) or the goals of the DMU zone and HNA. The proposed site design is the optimal alternative for site development that would meet the City's minimum density requirements while also avoiding and minimizing impacts to natural resources on the site to the extent practicable.

b. Minimize

If the applicant demonstrates that there is no practicable alternative that will avoid disturbance of the designated natural resource, then the proposed activity within the resource area shall minimize detrimental impacts to the extent practicable.

(1) The proposed activity shall minimize detrimental impacts to ecological functions and loss of habitat, consistent with uses allowed by right under the base zone, to the extent practicable.

Implementation of the proposed mitigation will ensure the proposed project minimizes adverse effects to the ecological functions of the WQR and loss of habitat, as follows:

- The minimization of areal impacts as well as the proposed plantings to restore native plant communities on the east side of Kellogg lake will ensure that the WQR continues to provide vegetated corridors that separate protected water features from development.
- As the proposed tree and shrub plantings East of Kellogg Lake mature, they will increasingly provide microclimate regulation and shade and provide better microclimate regulation and shade as compared to the existing plant communities.
- The diverse plant community within the WQR, HCA and floodplain storage area will continue to provide water filtration, infiltration, and natural purification functions. The proposed project will not adversely affect these functions.
- The proposed mitigation plantings and the resulting diverse plant community within the WQR, HCA and floodplain storage area will continue to provide bank stabilization and sediment and pollution control functions. The proposed project will not adversely affect these functions.
- Trees will remain within the vegetated corridor following construction, and therefore, the WQR will continue to provide the potential for large wood recruitment and retention functions. No impacts are proposed for the lake, and therefore, there will be no adverse impact on channel dynamics.
- Because the WQR will continue to be vegetated with a diverse plant community, the proposed project will not adversely affect the resource's ability to provide organic inputs to the stream and riparian area.

(2) To the extent practicable within the designated natural resource, the proposed activity shall be designed, located, and constructed to:

(a) Minimize grading, removal of native vegetation, and disturbance and removal of native soils; by using the approaches described in Subsection 19.402.11.A, reducing building footprints, and using minimal excavation foundation systems (e.g., pier, post, or piling foundation).

In accordance with MMC Subsection 19.402.11.A, the following measures will be implemented to minimize impacts to the WQR on the site:

- Work areas will be marked to reduce potential damage to the WQR.
- Trees in the WQR will not be used as anchors for stabilizing construction equipment.
- Native soils disturbed during development shall be conserved on the property.
- The Applicant has prepared a preliminary grading and erosion control plan. Prior to the start of any construction activities, the applicant will apply for a grading and erosion control permit, consistent with the standards required by the City's Public Works Department.

- The Applicant will implement best management practices on site to prevent the drainage of hazardous materials, erosion, pollution or sedimentation within the resources and the vegetative corridors.
- The Applicant has prepared a preliminary stormwater detention and water quality plan for the project which has been designed to prevent flows within and to natural drainage courses which might exceed pre-developed conditions.
- Prior to construction, the WQR and HCA that are to remain undeveloped will be flagged, fenced, or otherwise marked and shall remain undisturbed. Such markings will be maintained until construction is complete.
- The construction phase of the development shall be done in such a manner as to safeguard the resource portions of the site that have not been approved for development.
- Lights will be placed so that they do not shine directly into the WQR and/or HCA.
- The Applicant has prepared a construction management plan which will conform to the requirements of 19.402.9. The Final Construction management plan will be provided to the City's Engineering Department prior to the commencement of construction activities.

(b) Minimize adverse hydrological impacts on water resources.

The implementation of the proposed stormwater management plan, which detains post-development runoff at or below pre-development release rates will ensure that hydrologic impacts to the water resources are minimized.

(c) Minimize impacts on wildlife corridors and fish passage.

No work is proposed in water, which will ensure the project avoids impacts to fish passage along Kellogg Lake. Restoration with a diverse native plant community within the riparian corridor will ensure that impacts to wildlife habitat are minimized, and temporary.

(d) Allow for use of other techniques to further minimize the impacts of development in the resource area; such as using native plants throughout the site (not just in the resource area), locating other required landscaping adjacent to the resource area, reducing light spill-off into the resource area from development, preserving and maintaining existing trees and tree canopy coverage, and/or planting trees where appropriate to maximize future tree canopy coverage.

Impacts to the on-site resources have been minimized to the extent practicable.

c. Mitigate

If the applicant demonstrates that there is no practicable alternative that will avoid disturbance of the designated natural resource, then the proposed activity shall mitigate for adverse impacts to the resource area. All proposed mitigation plans shall meet the following standards:

- (1) The mitigation plan shall demonstrate that it compensates for detrimental impacts to the ecological functions of resource areas, after taking into consideration the applicant's efforts to minimize such detrimental impacts.*

As described above, implementation of the proposed mitigation will ensure the proposed project minimizes adverse effects to the ecological functions of the WQR and loss of habitat, as follows:

- The minimization of areal impacts as well as the proposed plantings to restore a native plant community on the east side of Kellogg Lake will ensure that the WQR continues to provide a vegetated corridor that separates protected water features from development.
- As the proposed tree and shrub plantings east of Kellogg Lake mature, they will increasingly provide microclimate regulation and shade for the lake and provide better microclimate regulation and shade as compared to the existing plant community.
- The diverse plant community within the WQR will continue to provide water filtration, infiltration, and natural purification functions. The proposed project will not adversely affect these functions.
- The proposed restoration plantings and the resulting diverse plant community within the WQR will continue to provide bank stabilization and sediment and pollution control functions. The proposed project will not adversely affect these functions.
- Trees will remain within the vegetated corridor following construction, and therefore, the WQR will continue to provide the potential for large wood recruitment and retention functions.
- Because the WQR will continue to be vegetated with a diverse plant community, the proposed project will not adversely affect the resource's ability to provide organic inputs to the stream and riparian area.

(2) Mitigation shall occur on the site of the disturbance, to the extent practicable. Off-site mitigation for disturbance of WQRs shall not be approved. Off-site mitigation for disturbance of HCAs shall be approved if the applicant has demonstrated that it is not practicable to complete the mitigation on-site and if the applicant has documented that they can carry out and ensure the success of the off-site mitigation as outlined in Subsection 19.402.11.B.5.

In addition, if the off-site mitigation area is not within the same subwatershed (6th Field Hydrologic Unit Code) as the related disturbed HCA, the applicant shall demonstrate that it is not practicable to complete the mitigation within the same subwatershed and that, considering the purpose of the mitigation, the mitigation will provide more ecological functional value if implemented outside of the subwatershed.

A portion of the mitigation will occur off-site at Dogwood Park immediately to the south.

(3) All revegetation plantings shall use native plants listed on the Milwaukie Native Plant List.

Only native species will be installed in the revegetation plantings. A list of species to be planted is provided on Figure 9.

(4) All in-stream work in fish-bearing streams shall be done in accordance with the allowable windows for in-water work as designated by ODFW.

No in-stream work is proposed to occur with this project.

(5) A mitigation maintenance plan shall be included and shall be sufficient to ensure the success of the planting. Compliance with the plan shall be a condition of development approval.

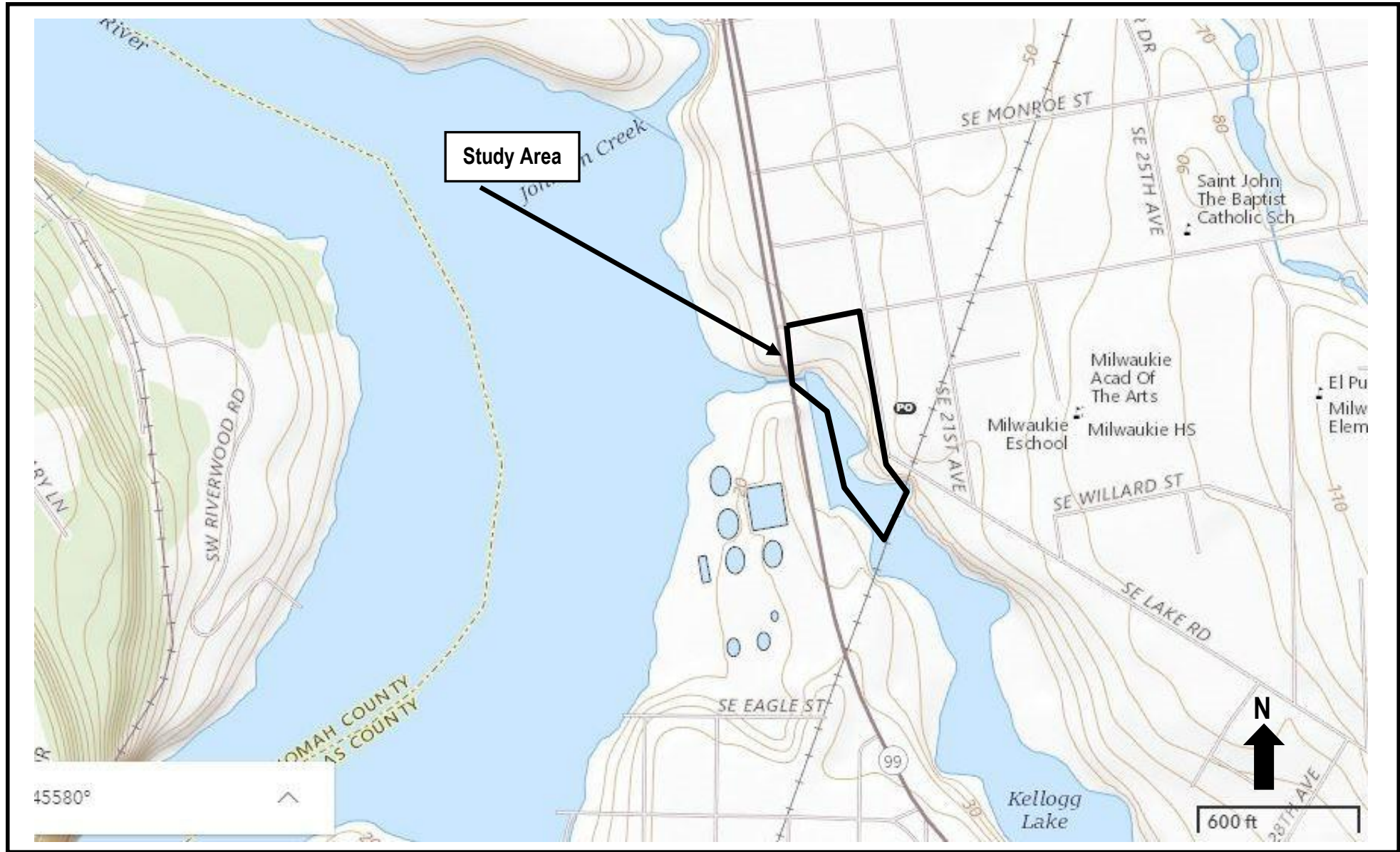
The Applicant will undertake the following mitigation maintenance measures to ensure a minimum of 80 percent of the trees and shrubs planted remain alive two years after the mitigation planting is completed.

- New plantings will be mulched to a minimum of 3-inch depth and 18-inch diameter to retain moisture and discourage weed growth.
- Non-native or noxious vegetation will be removed or controlled throughout the maintenance period.
- Plant sleeves or fencing will be used to protect trees and shrubs against wildlife browsing and the resulting damage to plants.
- New plantings will be watered at a rate of 1 inch per week between June 15 and October 15 for the first two years following planting.

Attachment A

Figures





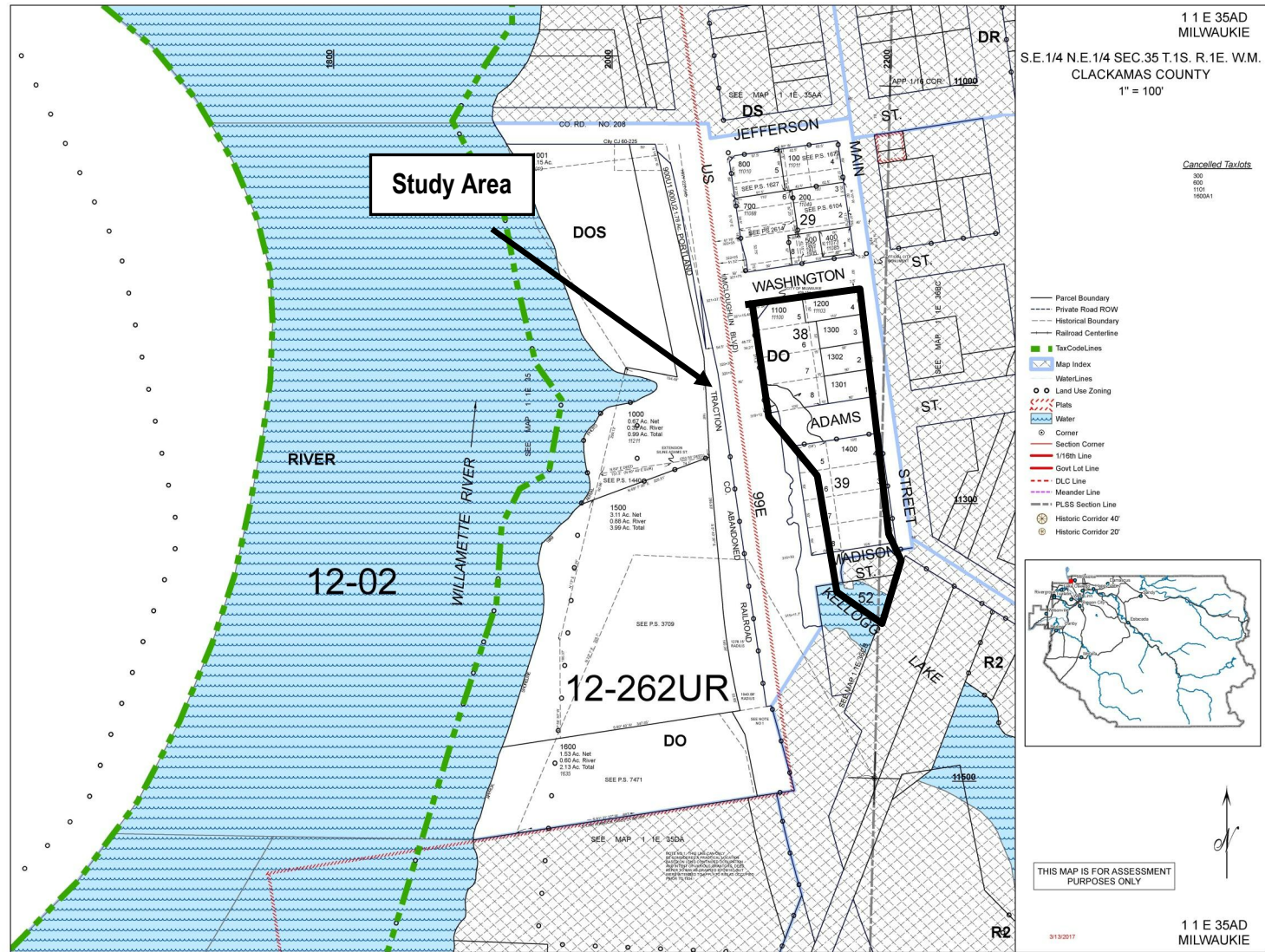
Project#6517
11/30/2020



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

General Location and Topography
Coho Point - Milwaukie, Oregon
United States Geological Survey (USGS) Gladstone, Oregon 7.5 quadrangle, 2020
(viewer.nationalmap.gov/basic)

FIGURE
1



Project#6517
11/30/2020



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Tax Lot Map
Coho Point - Milwaukie, Oregon
The Oregon Map (ormap.net)

FIGURE
2



Project#6517
11/30/2020



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Aerial Photo
Coho Point - Milwaukie, Oregon
GoogleEarth, 2019

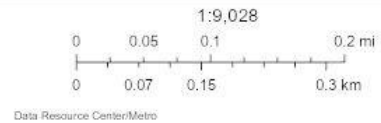
FIGURE
2A

City of Milwaukie Zoning



12/1/2020, 11:13:25 AM

-  Vegetated Corridors
-  Habitat Conservation Areas



City of Milwaukie GIS
City of Milwaukie

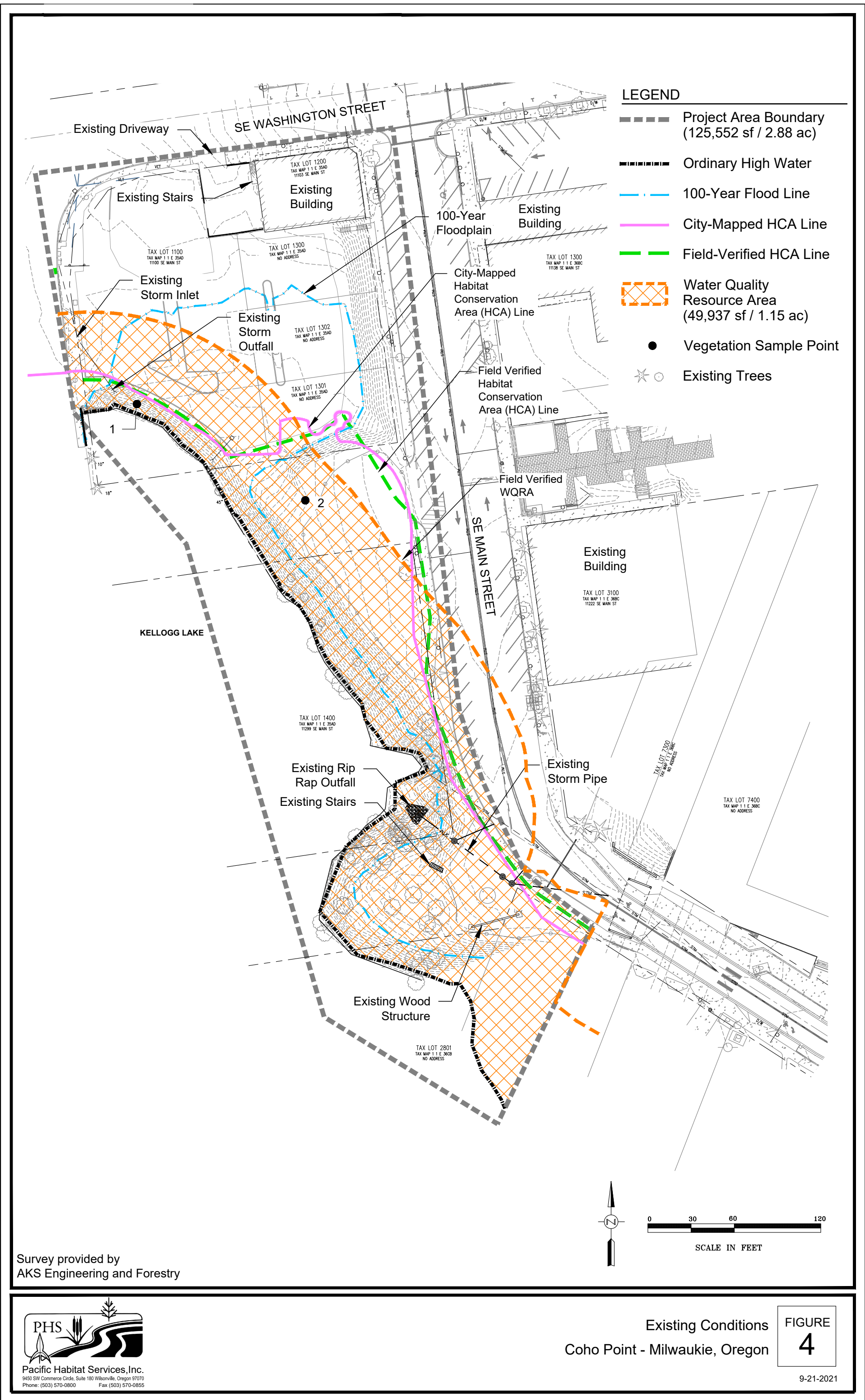
Project#6517
12/1/2020

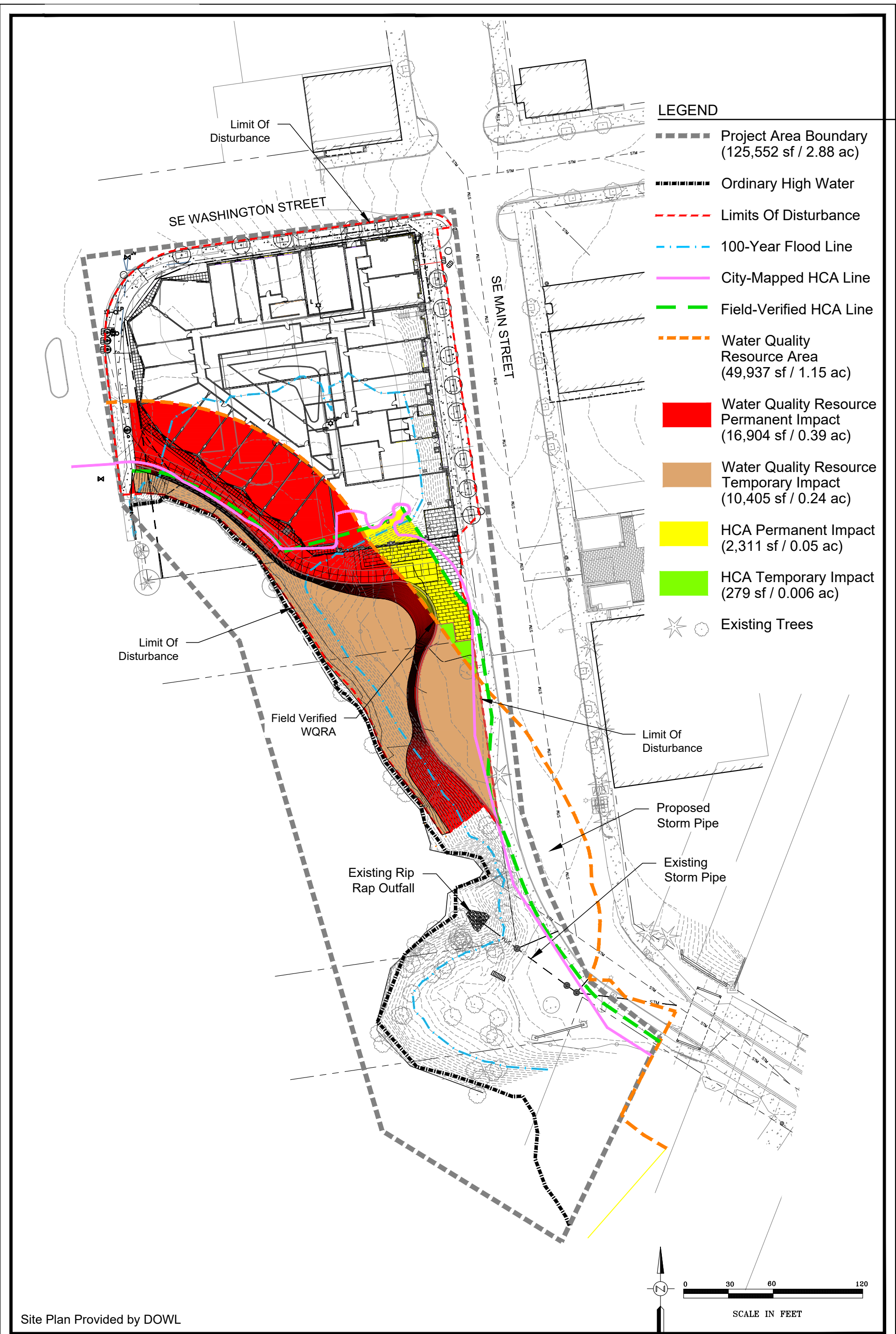


Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Vegetated Corridor and Habitat Conservation Area Map
Coho Point - Milwaukie, Oregon
Milwaukie.maps.arcgis.com

FIGURE
3





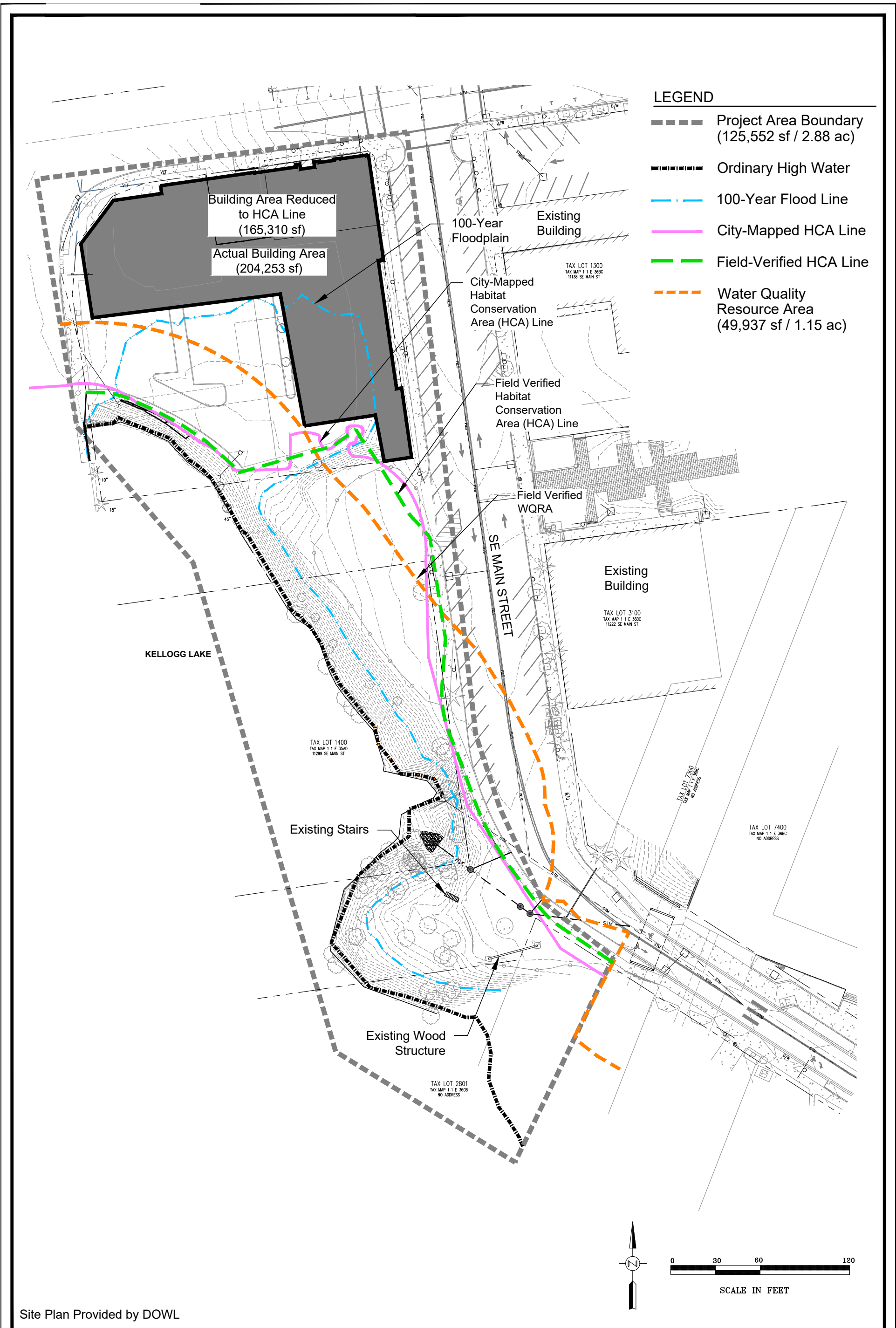
Site Plan Provided by DOWL



Site Plan
Coho Point - Milwaukie, Oregon

FIGURE
5

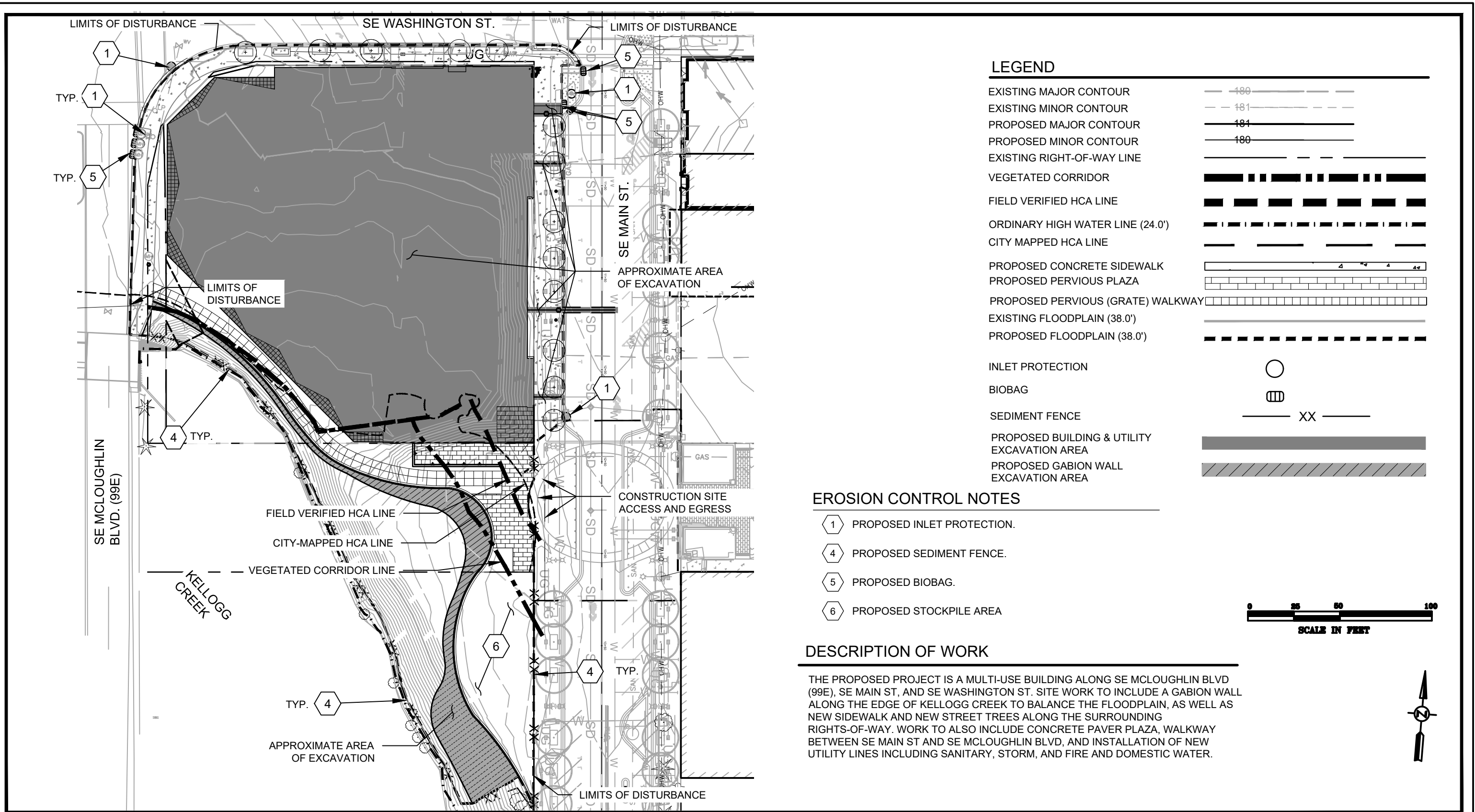
3-16-2021



Alternative Site Plan
 Coho Point - Milwaukie, Oregon

FIGURE 6

1-22-2021



LEGEND

EXISTING MAJOR CONTOUR	---	180
EXISTING MINOR CONTOUR	---	181
PROPOSED MAJOR CONTOUR	---	181
PROPOSED MINOR CONTOUR	---	180
EXISTING RIGHT-OF-WAY LINE	---	
VEGETATED CORRIDOR	█	
FIELD VERIFIED HCA LINE	█	
ORDINARY HIGH WATER LINE (24.0')	---	
CITY MAPPED HCA LINE	---	
PROPOSED CONCRETE SIDEWALK	▬	
PROPOSED PERVIOUS PLAZA	▬	
PROPOSED PERVIOUS (GRATE) WALKWAY	▬	
EXISTING FLOODPLAIN (38.0')	---	
PROPOSED FLOODPLAIN (38.0')	---	
INLET PROTECTION	○	
BIOBAG	▬	
SEDIMENT FENCE	XX	
PROPOSED BUILDING & UTILITY EXCAVATION AREA	█	
PROPOSED GABION WALL EXCAVATION AREA	▨	

EROSION CONTROL NOTES

- 1 PROPOSED INLET PROTECTION.
- 4 PROPOSED SEDIMENT FENCE.
- 5 PROPOSED BIOBAG.
- 6 PROPOSED STOCKPILE AREA

DESCRIPTION OF WORK

THE PROPOSED PROJECT IS A MULTI-USE BUILDING ALONG SE MCKLOUGHLIN BLVD (99E), SE MAIN ST, AND SE WASHINGTON ST. SITE WORK TO INCLUDE A GABION WALL ALONG THE EDGE OF KELLOGG CREEK TO BALANCE THE FLOODPLAIN, AS WELL AS NEW SIDEWALK AND NEW STREET TREES ALONG THE SURROUNDING RIGHTS-OF-WAY. WORK TO ALSO INCLUDE CONCRETE PAVER PLAZA, WALKWAY BETWEEN SE MAIN ST AND SE MCKLOUGHLIN BLVD, AND INSTALLATION OF NEW UTILITY LINES INCLUDING SANITARY, STORM, AND FIRE AND DOMESTIC WATER.



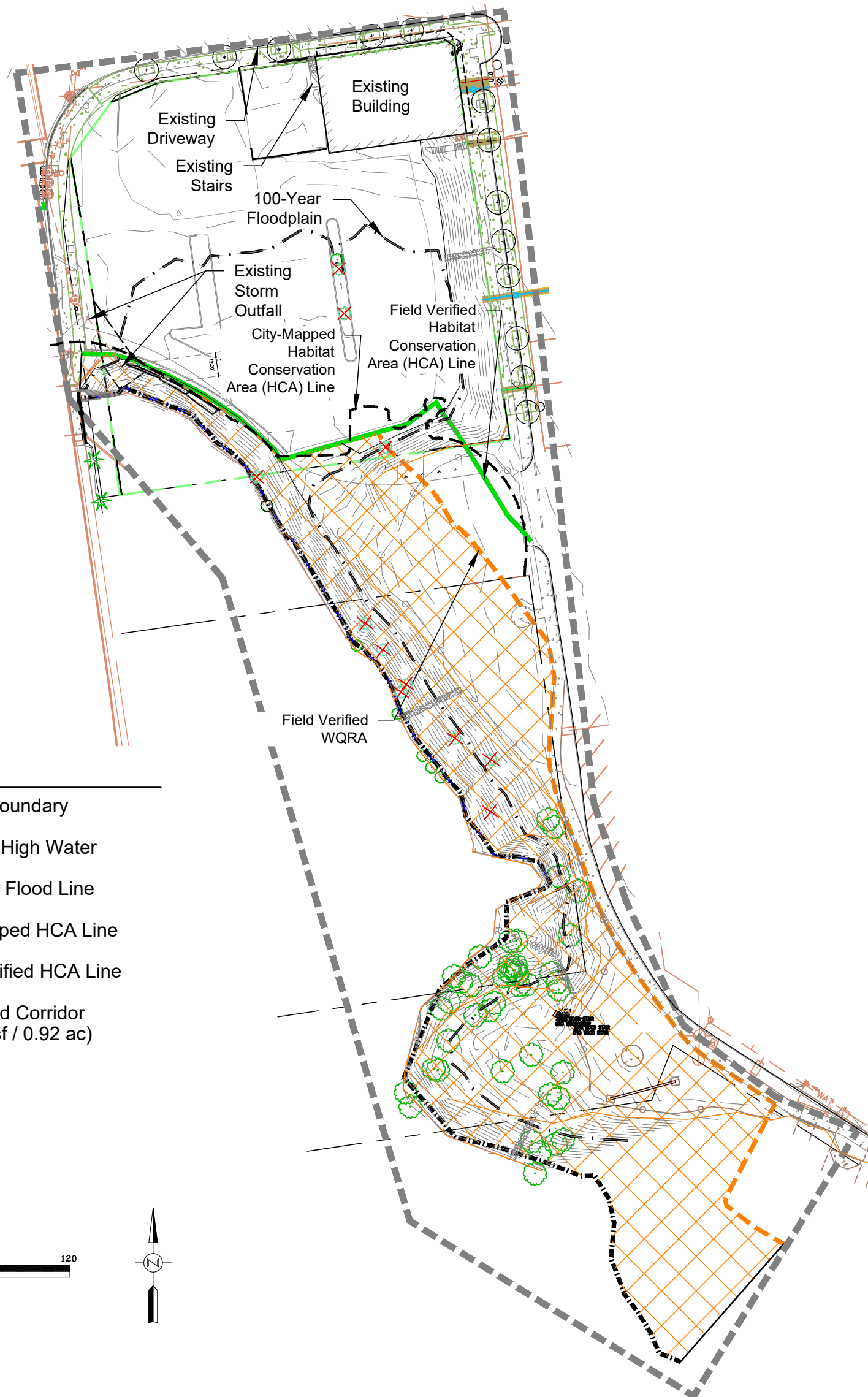
Base provided by DOWL.

Construction Management Site Plan
Project Name - Location

FIGURE
7

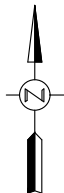
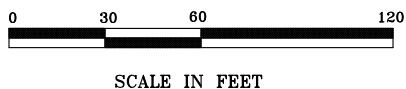
Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180 Wilsonville, Oregon 97070
Phone: (503) 570-0800 Fax: (503) 570-0855

1-19-2021



LEGEND

- Project Boundary
- - - Ordinary High Water
- . - 100-Year Flood Line
- - - City-Mapped HCA Line
- Field-Verified HCA Line
- ⊠ Vegetated Corridor (39,933 sf / 0.92 ac)



Survey provided by ??
 Survey and Sample point accuracy is sub-centimeter.



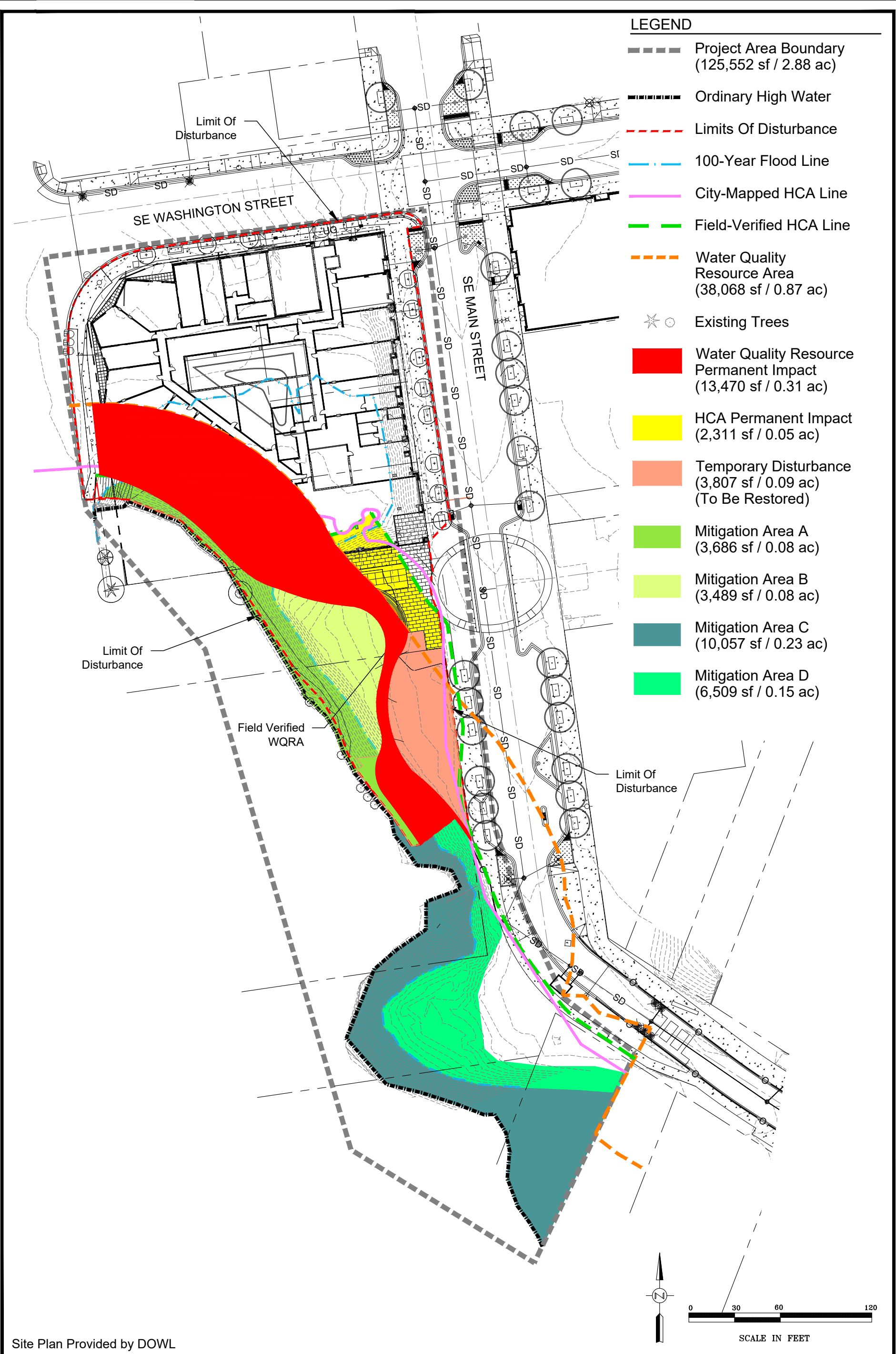
Tree Removal Site Plan
 Coho Point - Milwaukie, Oregon

FIGURE
8

1-19-2021

LEGEND

- Project Area Boundary (125,552 sf / 2.88 ac)
- Ordinary High Water
- - - Limits Of Disturbance
- . - . 100-Year Flood Line
- City-Mapped HCA Line
- Field-Verified HCA Line
- Water Quality Resource Area (38,068 sf / 0.87 ac)
- ⊗ Existing Trees
- Water Quality Resource Permanent Impact (13,470 sf / 0.31 ac)
- HCA Permanent Impact (2,311 sf / 0.05 ac)
- Temporary Disturbance (3,807 sf / 0.09 ac) (To Be Restored)
- Mitigation Area A (3,686 sf / 0.08 ac)
- Mitigation Area B (3,489 sf / 0.08 ac)
- Mitigation Area C (10,057 sf / 0.23 ac)
- Mitigation Area D (6,509 sf / 0.15 ac)



Site Plan Provided by DOWL



Mitigation Site Plan
 Coho Point - Milwaukie, Oregon

FIGURE
9

9-21-2021

Enhancement Area A (3,686 sf) Planting List

Species	Common Name	Quantity	Stock Type	Plant Size
Trees				
<i>Fraxinus latifolia</i>	Oregon ash	20	Container or field grown	½ in caliper
<i>Populus balsamifera</i>	Black cottonwood	20	Container or field-grown	½ in caliper
Shrubs				
<i>Cornus alba</i>	Red-osier dogwood	62	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	62	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	62	1 gal.	12 in
Herbaceous seed mix				
<i>Agrostis exarata</i>	Spike bentgrass	2.0 lbs/ac	Seed	n/a
<i>Bromus carinatus</i>	California brome	2.0 lbs/ac	Seed	n/a
<i>Deschampsia cespitosa</i>	Tufted hairgrass	3.0 lbs/ac	Seed	n/a
<i>Elymus glaucus</i>	Blue wildrye	3.0 lbs/ac	Seed	n/a
<i>Hordeum brachyantherum</i>	Meadow barley	2.0 lbs/ac	Seed	n/a

Additional Enhancement Area B (3,489 sf) Planting List

Species	Common Name	Quantity	Stock Type	Plant Size
Trees				
<i>Acer macrophyllum</i>	Bigleaf maple	12	Container or field grown	½ in caliper
<i>Quercus garyana</i>	Oregon Oak	12	Container or field grown	½ in caliper
<i>Pseudotsuga menziesii</i>	Douglas Fir	12	Container or field-grown	½ in caliper
Shrubs				
<i>Cornus alba</i>	Red-osier dogwood	35	1 gal.	12 in
<i>Lonicera involucrata</i>	Twinberry Honeysuckle	35	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	35	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	35	1 gal.	12 in
<i>Symphoricarpos alba</i>	Snowberry	35	1 gal.	12 in
Herbaceous seed mix				
<i>Agrostis exarata</i>	Spike bentgrass	2.0 lbs/ac	Seed	n/a
<i>Bromus carinatus</i>	California brome	2.0 lbs/ac	Seed	n/a
<i>Deschampsia cespitosa</i>	Tufted hairgrass	3.0 lbs/ac	Seed	n/a
<i>Elymus glaucus</i>	Blue wildrye	3.0 lbs/ac	Seed	n/a
<i>Hordeum brachyantherum</i>	Meadow barley	2.0 lbs/ac	Seed	n/a

Enhancement Area C (10,057 sf) Planting List

Species	Common Name	Quantity	Stock Type	Plant Size
Trees				
<i>Alnus rubra</i>	Red alder	35	Container or field grown	½ in caliper
<i>Fraxinus latifolia</i>	Oregon ash	35	Container or field grown	½ in caliper
<i>Populus balsamifera</i>	Black cottonwood	35	Container or field-grown	½ in caliper
Shrubs				
<i>Cornus alba</i>	Red-osier dogwood	110	1 gal.	12 in
<i>Lonicera involucrate</i>	Twinberry Honeysuckle	110	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	110	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	110	1 gal.	12 in
<i>Symphoricarpos alba</i>	Snowberry	110	1 gal.	12 in
Herbaceous seed mix				
<i>Agrostis exarata</i>	Spike bentgrass	2.0 lbs/ac	Seed	n/a
<i>Bromus carinatus</i>	California brome	2.0 lbs/ac	Seed	n/a
<i>Deschampsia cespitosa</i>	Tufted hairgrass	3.0 lbs/ac	Seed	n/a
<i>Elymus glaucus</i>	Blue wildrye	3.0 lbs/ac	Seed	n/a
<i>Hordeum brachyantherum</i>	Meadow barley	2.0 lbs/ac	Seed	n/a

Enhancement Area D (6,509 sf) Planting List

Species	Common Name	Quantity	Stock Type	Plant Size
Trees				
<i>Acer macrophyllum</i>	Bigleaf maple	25	Container or field grown	½ in caliper
<i>Quercus garyana</i>	Oregon Oak	25	Container or field grown	½ in caliper
<i>Pseudotsuga menziesii</i>	Douglas Fir	25	Container or field-grown	½ in caliper
Shrubs				
<i>Cornus alba</i>	Red-osier dogwood	65	1 gal.	12 in
<i>Lonicera involucrata</i>	Twinberry Honeysuckle	65	1 gal.	12 in
<i>Physocarpus capitatus</i>	Pacific ninebark	65	1 gal.	12 in
<i>Sambucus racemosa</i>	Red elderberry	65	1 gal.	12 in
<i>Symphoricarpos alba</i>	Snowberry	65	1 gal.	12 in
Herbaceous seed mix				
<i>Agrostis exarata</i>	Spike bentgrass	2.0 lbs/ac	Seed	n/a
<i>Bromus carinatus</i>	California brome	2.0 lbs/ac	Seed	n/a
<i>Deschampsia cespitosa</i>	Tufted hairgrass	3.0 lbs/ac	Seed	n/a
<i>Elymus glaucus</i>	Blue wildrye	3.0 lbs/ac	Seed	n/a
<i>Hordeum brachyantherum</i>	Meadow barley	2.0 lbs/ac	Seed	n/a