

SEATTLE PUBLIC UTILITIES
SEPA ENVIRONMENTAL CHECKLIST

This SEPA environmental review of Seattle Public Utilities' 45th Ave SW Culvert Replacement and Habitat Restoration Project has been conducted in accord with the Washington State Environmental Policy Act (SEPA) (Revised Code of Washington [RCW] 43.21C), State SEPA regulations (Washington Administrative Code [WAC] Chapter 197-11), and the City of Seattle SEPA ordinance (Seattle Municipal Code [SMC] Chapter 25.05).

A. Background

1. Name of proposed project, if applicable:

45th Ave SW Culvert Replacement and Habitat Restoration Project (The Project)

2. Name of applicant:

Seattle Public Utilities (SPU)

3. Address and phone number of applicant and contact person:

Seattle Public Utilities
Attn: Jonathan Brown
Address: 700 5th Ave, Seattle, WA 98104
Phone: (206) 561-2581
Email: Jonathan.Brown@seattle.gov

4. Date checklist prepared:

February 24, 2025

5. Agency requesting checklist:

Seattle Public Utilities

6. Proposed timing of schedule (including phasing, if applicable):

Construction is anticipated to begin as soon as spring of 2026, once the required permits and approvals are obtained. Construction duration is estimated at approximately 2 years.

The Project would include a mix of upland and in-water work. In-water work is typically constrained to certain months each year to avoid impacts to fish life. However, in May 2024, Washington Department of Fish and Wildlife (WDFW) tentatively approved SPU's proposal to work below the Ordinary High-Water Mark (OHWM) of Fauntleroy Creek outside WDFW's prescriptive in-water work window (July 16 to September 30 in any year) given that the existing culvert blocks fish passage into the Project area. Therefore, in-water work would occur year-round over the 2-year construction duration. This approach shortens the overall construction duration, which reduces impacts to adjacent homes and businesses,

restores fish passage 9 to 12 months sooner, and reduces Project costs because work would occur in one continuous progression and avoid the need to stop construction and restart.

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

SPU intends to replace the failing California Ave SW culvert on Fauntleroy Creek upstream of the 45th Ave SW culvert. This future Project would replace the California Ave SW culvert, to restore fish passage and enhance fish habitat. The design process for the California Ave SW Culvert Project is anticipated to begin in 2025.

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

Confluence Environmental Company. 2024a. *Fauntleroy Creek 45th Ave SW Culvert Replacement and Habitat Restoration Project. Wetland and Stream Assessment and Mitigation Plan*. Prepared for Seattle Public Utilities, Seattle, Washington. 11 December.

Confluence Environmental Company. 2024b. No Effect Determination; 45th Ave SW Culvert Replacement and Habitat Restoration Project. Memorandum from Chris Berger and Jenny Love, Confluence Environmental Company, to Jonathan Brown, SPU. 10 December.

DCG/Watershed. 2023. *Task 2 – Culvert Structure Revision Alternatives Memo*. Memorandum from Tracey Belding, Dylan Martin, and Matt Spellacy, DCG/Watershed; Kevin Sakai and Paul Clements, Ott-Sakai; and Tessa Gardner-Brown, Floyd|Snider, to Jonathan Brown, SPU. 28 December.

ERCI. 2024. *Technical Memo (Cultural Resources Report): Fauntleroy Creek 45th Avenue Southwest Culvert Replacement and Habitat Restoration Project*. Memorandum from Kelly R. Bush and Kylee Moneyppenny, ERCI. 19 December.¹

Farallon Consulting. 2021. *Monitoring Well Installation and Sampling Report*. Endolyne Garden Apartments. 11 June.

Osborn Consulting, Inc. 2021. *Fauntleroy Creek Culvert Replacement Hydraulics Technical Memorandum*. Memorandum from Shannon Gray, Osborn Consulting Inc.; Peter Wurden-Foster, Osborn Consulting Inc.; and Patrick Powers, Waterfall Engineering, LLC, to Cody Nelson, SPU. 7 April.

Arborist Report (not available at this time; in preparation).

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

There are no pending governmental approvals of other proposals directly affecting the Project area.

¹ Under RCW [42.56.300](#), information on archaeological sites is exempt from public disclosure.

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

The following environmental approvals and permits are anticipated for the Project, in addition to this SEPA Checklist:

Agency	Environmental Approval/Permit Required
Federal Permits/Approvals	
United States Army Corps of Engineers (USACE)	Clean Water Act, Section 404: Nationwide Permit 14, Linear Transportation Projects
U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS)	Consistency reviews for Endangered Species Act (ESA) Section 7. A No Effect determination to ESA-listed species is anticipated because there are no known occurrences of ESA-listed species (aquatic or terrestrial) or designated critical habitat in or around Fauntleroy Creek.
National Historic Preservation Act (NHPA)	Section 106 Consultation
State Permits/Approvals	
Washington Department of Fish and Wildlife (WDFW)	Hydraulic Project Approval for Fish Habitat Enhancement Project (FHEP)
Washington State Department of Ecology (Ecology)	Clean Water Act, Section 401: Water Quality certification was granted with conditions for Nationwide Permit 14, Linear Transportation Projects, which includes authorization for 180 feet of habitat restoration upstream and 80 feet of restoration downstream from the culvert. Coverage under the State’s Construction Stormwater General Permit.
Local Permits/Approvals	
Seattle Department of Construction and Inspections (SDCI)	SPU received confirmation from SDCI in May 2024 that because the Project has been characterized as a FHEP, it is exempt from the requirement to obtain local permits (RCW 77.55.181). SPU would coordinate with SDCI throughout design to provide updates on key timelines and design milestones.
Seattle Public Utilities (SPU)	Affected environmentally critical areas (ECA) include a fish and wildlife habitat conservation area, steep slopes and steep slope buffers, wetlands and wetland buffers, a riparian corridor, a liquefaction prone area, and a potential slide area. SPU has self-regulation authority for work in ECAs and would document the Project’s compliance with the City’s ECA regulations (SMC 25.09).

11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

SPU owns and maintains a 24-inch diameter, 220-foot-long, vitrified clay culvert conveying Fautleroy Creek under 45th Ave SW in the Fautleroy neighborhood of the City of Seattle (Figure 1). The culvert is a complete fish passage barrier and is failing. This Project would replace the existing culvert with a 14-foot-wide, 237-foot-long, three-sided, open-bottom culvert. The new culvert would meet State requirements for passage of fish and stream flows. Additionally, the Project would restore wetland, riparian, and streambed habitat in areas up to 180 feet upstream and up to 80 feet downstream of the replacement culvert. The Project would also construct a small public amenities area ('45th Ave SW Landing') at street level and would include a stair system for worker access to the new culvert. Figures 2a, 2b, and 2c include conceptual renderings.

The Project is designed to:

- Replace a failing culvert
- Improve safety of SPU maintenance crews with improved access conditions
- Restore fish passage
- Engage the floodplain and improve adjacent riparian and wetland habitat
- Increase climate resiliency with a culvert design accommodating a range of flows
- Build opportunities for community connection to the Fautleroy Creek watershed
- Ensure compatibility with the anticipated future California Ave SW culvert replacement

Primary construction activities would occur adjacent to and in Fautleroy Creek, and along the culvert alignment (approximately 300 feet east to west and 75 feet north to south. Due to the urban site conditions and limited space near Fautleroy Creek, construction staging may also occur on adjacent properties to the north and in the right-of-way of 45th Ave SW (Figure 3). Construction staging areas provide for equipment storage, temporary Project offices, stockpiling of materials, and access to the work area. SPU is considering other nearby areas for construction staging, depending on space requirements and approvals.

SPU's contractor would select the equipment and construction methods that would achieve the Project requirements in the most efficient and cost-effective manner, while complying with all best management practices (BMPs), as well as agency approvals and permit conditions. The general construction sequence, which may be refined by the contractor, is currently understood to be as follows:

- Close a portion of 45th Ave SW between SW Director St and just north of the intersection at SW Wildwood Place and develop a detour.
- Prepare site and temporarily relocate utilities.

- Install a temporary creek bypass system and erosion protection measures.
- Install drilled soldier piles and shoring to support construction of the new culvert through the roadway, including excavation, dewatering, and access for construction equipment, materials, and personnel.
- Remove the existing 24-inch-diameter culvert and construct a new 14-foot-wide culvert with an open bottom.
- Construct creek habitat enhancements including large woody material (LWM), streambed gravels, and habitat boulders.
- Backfill deep excavation area to roadway grade.
- Construct maintenance stairs, retaining walls, and public amenities.
- Install plantings and slope stabilization measures.
- Remove the temporary bypass system, restore utilities, restore street-level improvements, and demobilize.
- Monitor post-construction conditions.

This SEPA Checklist has been prepared acknowledging the proposed Project elements and anticipated construction methods, which are described below in more detail. Consistent with WAC 197 11 055(1), which directs the SEPA process to be integrated with agency activities at the earliest possible time to ensure planning and decisions reflect environmental values, the Project description has been developed based on the current concept plan. During development of the Project design certain elements may be refined or changed. SPU acknowledges Project refinements or changes may be subject to further review under SEPA if they extend beyond the Project footprint or result in environmental effects that exceed those addressed in this SEPA Checklist. For purposes of the environmental review within this Checklist, the lifespan of the replacement culvert is estimated to be 50 years.

Site Preparation

Site preparation would include relocating and/or disconnecting overhead power, communications, drainage lines, and water lines to route them outside the work area to avoid long-term disruptions. In addition, erosion and sedimentation controls would be constructed and maintained for the duration of the construction period. Street modifications needed to facilitate construction would be put in place. Figure 3 shows potential street modifications and Figure 4 shows haul routes.

A temporary pumped bypass system would also be installed to divert Fauntleroy Creek around the construction area and a temporary cofferdam-type system (e.g., gravel bag berm) would be constructed across the creek channel to isolate the work area both upstream and downstream of the existing culvert (Figure 5).

Pile Installation, Shoring, and Excavation

A shoring system would be installed to support excavation depths, which are up to 40 feet below the existing roadway grade (Figure 5). This shoring system comprises approximately

100 drilled soldier piles (concrete-encased steel H-piles) installed at 6-foot spacing along the north and south sides of the culvert alignment. This shoring system would be integrated into the culvert design to support construction of the final culvert walls. Approximately 20 additional drilled soldier piles would be installed adjacent to the creek upstream and downstream of the culvert to create wingwalls for the new culvert. A drill rig positioned on the street or on temporary benches in the ravine would install 24-inch-diameter steel pile casings down to approximately 60 feet below ground surface (bgs). A steel H-pile would then be placed in the casing and the annular space would be backfilled with concrete via a tremie pipe as the casing is removed.

A temporary shoring system would be constructed on the slopes east and west of 45th to support construction as it advances into the ravine and creek and would be subsequently removed within 4 feet of ground surface. The temporary shoring system would likely be completed with H-piles and timber lagging and removed or cut below grade after construction is complete.

As pile installation and shoring advances across the site, an excavator would remove soil within the roadway alignment, between the soldier pile walls. Earthen access ramps would be constructed to allow equipment and materials to reach the culvert and creek bottom and wingwalls. Access ramps would primarily be within the shoring system. The existing culvert would be removed and disposed of off-site.

The water table is expected to be approximately 25 to 30 feet bgs in the vicinity of the road; therefore, dewatering within the area of excavation is anticipated. As excavation advances, the concrete soldier pile encasements would be chipped out and timber lagging would be installed to form the walls of the shoring system.

Culvert Construction

Once the shoring system is installed and excavation is complete, 500 CY of crushed rock would be placed at the bottom of the excavated area to form a level subgrade. Forms would be constructed for the cast-in-place culvert wall footings and concrete would be pumped via a concrete pump trunk. Once the footings have cured, the north and south walls of the culvert and wingwalls would be surfaced with shotcrete. Concrete would be pumped through a high-pressure hose and sprayed at close range onto the timber lagging to consolidate and seal the surface with shotcrete.

Materials for streambed construction would then be lowered into the culvert using a crane or excavator. A streambed aggregate mix comprising rounded cobble, sand, and finer sediment would be placed above the footings. Boulders and other natural materials such as embedded slash (woody material such as small-diameter tree branches) would be placed in the creek channel to increase habitat complexity. Once the streambed material and boulders are placed and graded, the pre-cast culvert lid segments would be lowered into place using a crane. The total interior dimensions of the constructed culvert would be approximately 7 feet tall, 14 feet wide, and 237 feet long.

Backfilling and 45th Ave SW Landing

With the culvert in place, the excavation area would then be filled with lightweight structural fill and utility lines would be installed or reinstalled.

On both the west and east ends of 45th Ave SW, access stairs would be constructed from the street surface down to the creek bottom to provide maintenance access. The stairways would be screened from view with fencing and evergreen plantings. Each fence would have a locked gate, allowing access for maintenance staff only.

On the west side of 45th Ave, between Fauntlee Woods and Wildwood Glen multi-family residential units, the 45th Ave SW Landing would be developed, which would serve as a public amenities area for passive engagement of the watershed improvements. The 45th Ave SW Landing would be paved and would include fencing on the north, west, and south sides, landscape boulders, plantings, and lighting. On the east side of 45th Ave, the parking lot for the Alpine Chalet Apartments and the Endolyne Condominiums would remain consistent with existing conditions.

Grading, Creek Construction, and Planting

The stream has been designed to incorporate step pools, LWM, boulders, as well as channel regrading, and meandering to increase channel complexity and floodplain storage. New streambed material would enhance the existing channel. Then the streambanks would be graded and planted to better engage the floodplain and improve riparian conditions (Figure 5).

Native plant species tolerant of flooding and saturated soils and typically found along streambanks would be planted in the floodplain. An upland planting mix using species adapted to higher and drier ground would be planted in the riparian buffer. Planting would also occur along the ravine slopes to restore areas that would be impacted during construction and to replace trees that would need to be removed to construct the Project. Similarly, impacted street trees and other trees at street level would be replaced in accordance with City of Seattle requirements. show

Bypass System Removal, and Restoration of Utilities and Pavements

Upon completion of creek restoration and planting, the long-term temporary bypass system would be removed and creek flow restored. At that time, fish passage would be restored through the culvert and to upstream reaches of Fauntleroy Creek.

All remaining overhead power and communication lines temporarily removed/relocated would be re-installed. Construction and staging areas would be restored to pre-construction conditions and the temporary detour around and closure of 45th Ave SW would be removed.

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

The Project area is located on 45th Ave SW in West Seattle, between SW Wildwood Pl and SW Director St (Figure 1). The existing culvert runs east-west under 45th Ave SW. The Project extent is approximately 300 feet upstream and downstream of the roadway center. The culvert is approximately 200 feet north of the intersection of 45th Ave SW and SW Wildwood Pl (Township 24N, Range 3E, Section 35 (SW quarter)).

B. Environmental Elements

1. Earth

a. General description of the site:

Underline the applicable: Flat, rolling, hilly, steep slopes, mountainous, other:

b. What is the steepest slope on the site (approximate percent slope)?

45th Ave SW is a flat and paved public roadway with a ravine on both its east and west sides. The portion of the ravine in the Project area has slopes as steep as 40% or more. Fautleroy Creek runs under 45th Ave SW in the existing culvert at the base of the steep ravine. Creek gradients extending east and west of the existing culvert are moderate, with some steeper sections generally upstream in Fautleroy Park.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The fill material supporting the 45th Ave SW roadway is gravelly sandy loam and glacial deposits. Silt, sand, and clay are found between 27 and 32 feet bgs. Gravelly soil is present from 20 to 29 feet bgs. Below this layer, silty sands to sandy silts range from 3 to 11 feet deep and then transition to Lawton clay. The soil in the Project area is moderately well-drained.

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

The creek ravine is characterized by 40% slopes with relatively low bond strength, which can be indicative of unstable soil.

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

Roadway/Culvert

The Project would replace the existing creek culvert buried approximately 35 feet beneath 45th Ave SW in an east-west direction. To access the culvert and begin construction, a section of 45th Ave SW would need to be excavated. This section is located between the Endolynne Condominiums and Alpine Chalet Apartments, as well as between Wildwood Glen and Fauntlee Woods multi-family residential units. Excavation would be minimized to only what is necessary for the construction process, covering about 8,000 square feet (SF) of the roadway. Up to 8,800 cubic yards (CY) of soil would be removed and disposed of off-site to access the existing culvert. Structural fill would then be added to the excavated area to restore the roadway to its original grade. In addition, light grading may be required for some of the proposed/potential staging areas.

Creek and Habitat Restoration

Grading and fill would occur in the creek, adjacent wetlands, and riparian areas to form the desired creek channel and restore habitat. The creek grading would cover up to 2,500 SF, involving removal of roughly 125 CY of soil off-site and importing 160 CY of new streambed material. Similarly, grading in wetland and riparian areas would extend across approximately 3,000 SF, requiring removal of 200 CY of soil and importing 125 CY of fill material to restore habitat.

- f. Could erosion occur because of clearing, construction, or use? If so, generally describe.**

The proposed tree removal, excavation, and grading in the ravine to support culvert construction and to improve habitat conditions would temporarily expose soil and increase potential erosion during construction. A Temporary Erosion and Sediment Control (TESC) plan would be developed, and the BMPs provided in the response to Question B.1.h would be implemented and adjusted as necessary throughout construction to reduce erosion and sediment-laden water from leaving the Project area.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

Approximately 60% of the Project area is impervious surface under existing conditions. This consists primarily of the paved surfaces of 45th Ave SW. The Project would add approximately 550 SF of impervious surface for new stairs for maintenance workers. This represents less than a 2% increase to impervious surface across the Project area, and notably, the new impervious surface would not be pollution generating.

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

General Water Quality Protection Measures

These general water quality protection measures have been developed to avoid and minimize impacts on the environment due to Project activities. Additional protective measures specific to certain aspects of the work, (e.g., installation of the long-term creek bypass system, vegetation, concrete work, vegetation protection) are detailed in the subsequent sections.

- All work would be conducted in accordance with the Project permits and approvals.
- A TESC Plan would be developed and enforced throughout the Project. The plan would include ongoing inspection and maintenance of the following:
 - Stabilized construction entrances
 - All construction and staging areas
 - Silt fences and straw wattles
 - Slope protection
 - Storm drain inlet protection
 - Dust control measures
 - Sweeping to prevent debris, dust, and mud from accumulating on paved surfaces
 - Covering stockpiled soil with plastic sheeting when not in active use and outside working hours
 - Clean and debris-free work areas
- TESC facilities would be inspected and maintained, as needed, to ensure optimal performance. Inspections would be conducted daily and within 24 hours after a storm event exceeding 0.5 inches of rain per 24 hours or lasting more than 2 hours.
- Before beginning construction activities, appropriate BMPs for stormwater, soil, and erosion control would be in place prior to construction activities to comply with Ecology's Construction Stormwater General Permit requirements.
- All equipment, materials, and personnel would remain within the limits of disturbance.
- High-visibility fencing and straw wattles (or other) would delineate wetlands and stream buffer outside the limits of disturbance.
- All boundaries would be clearly marked to prevent disturbance outside of the Project area.
- All activities in and around water would be conducted to reduce turbidity, erosion, and other adverse effects on water quality.

- All construction equipment would be inspected daily for leaks and checked to be free of accumulated grease, oil, or mud. All leaks would be repaired prior to arriving on-site or repaired immediately if already on-site. Any equipment working within the limits of disturbance would use vegetable-grade hydraulic fluid whenever possible.
- Fueling and servicing of equipment would occur only in designated areas equipped with specific BMPs and spill containment systems.
- A Spill Prevention, Control, and Countermeasure (SPCC) Plan would be created for activities involving heavy equipment. This plan would outline measures to prevent and address accidental leaks or spills, proper handling and storage of hazardous materials, and monitoring methods for their use.
- An emergency spill kit would be kept on-site during construction.
- All debris and spill materials would be properly disposed of at an approved facility. Any spills, aside from construction debris, would be reported immediately to Ecology.

Long-Term Creek Bypass

A temporary creek pumped bypass system would be installed to divert Fauntleroy Creek around the construction work area.

- Temporary cofferdams would be placed both upstream and downstream of the existing culvert. The design and materials used for cofferdams must comply with water quality standards throughout the construction process.
- Though no fish are presumed present, fish exclusion efforts using nets to sweep the work zone would be conducted prior to installing the bypass system (or screens) to ensure no fish entrapment.
- The creek bypass system would be maintained and monitored 24/7. If repairs are necessary, all construction would be halted until the bypass is restored.
- A rock dissipation pad would be installed at the discharge point of the creek bypass to reduce erosion at the discharge point.

Concrete/Shotcrete

- Concrete forms would be designed to be mortar tight to prevent leakage of wet concrete.
- Pollution control measures would be in place around the concrete pour area to manage stormwater and surface water. Uncontained wash-down activities would be prohibited near the creek, and no concrete residue or wash-down would be allowed to enter stormwater or the creek.
- Drip pans or absorbent materials would be used to catch drips from equipment, with collected material and absorbents properly discarded. Any spills or drips would be cleaned immediately, and vacuums and absorbent materials would be available on-site to address minor spills.

- Concrete process water would be prevented from entering stormwater or the creek.

2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.**

The proposed Project would generate greenhouse gas (GHG) emissions during construction through the operation of diesel-powered equipment (e.g., excavators, cranes, and loading equipment) and through the transport of materials, equipment, and workers to and from the Project area. The emissions associated with proposed construction would primarily be related to pile installation, excavation and grading, and material import/export. Construction activities would generate an estimated 2,428 metric tons of carbon dioxide emissions (MTCO_{2e}; Table 1). One metric ton is 2,204.6 pounds. Construction operations may also result in transient airborne dust during excavation and grading activities.

The assumptions included in the GHG calculations are provided in Attachment A. GHG emissions have been estimated for equipment use associated with the Project using assumptions based on their total operating hours during the duration of the Project and their average fuel consumption rate in gallons per hour. Emissions from truck use have also been estimated using assumptions based on the number of trips per day during construction, the miles traveled (round trip), and the average fuel consumption in gallons per hour.

The GHG emissions and dust would largely be localized in the immediate construction area. No increase in GHG emissions or dust is expected after the proposed Project is completed.

Activity/Emission Type	GHG Emissions (pounds of CO_{2e})¹	GHS Emissions (metric tons of CO_{2e})¹
Buildings	<i>Not applicable</i>	<i>Not applicable</i>
Import Material	79,722	36
Construction Activities (Diesel)	5,264,679	2,388
Construction Activities (Gasoline)	0	0
Long-term Maintenance (Diesel)	7,965	3.6
Long-term Maintenance (Gasoline)	0	0
Total GHG Emissions	5,352,366	2,428

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

The proposed Project would not be impacted by emissions or odors from off-site sources.

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

Construction emissions would be reduced through the maintenance of construction equipment and minimizing vehicle and equipment idling. Dust control BMPs would also be implemented, as needed, to manage fugitive dust during construction operations.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The Project would replace an existing culvert that conveys Fauntleroy Creek, which is a perennial watercourse fed by springs and stormwater runoff. The creek originates south and east of the Project area, flows directly through the central portion of the Project area, and ultimately discharges into Puget Sound near the Washington State Department of Transportation's Fauntleroy Ferry Terminal. Fauntleroy Creek is classified by WDFW as a Type F waterbody.

Wetlands A, B, and C were identified and delineated in the Project area in August 2023. Wetland A is a relatively narrow, steeply sloped wetland on both sides of and including Fauntleroy Creek located upstream of the culvert, east of 45th Ave SW. It is a 9,663-SF, Category III palustrine scrub-shrub slope wetland. Wetland B is a small wetland adjacent to Fauntleroy Creek west of 45th Ave SW. It is a 221-SF, Category III palustrine emergent riverine wetland. Wetland B is hydrologically connected to Fauntleroy Creek, which provides some hydrologic inputs during heavy precipitation events when flow in the stream is high. The wetland also receives inputs from groundwater and precipitation. Wetland C is a 300-SF, Category IV palustrine emergent slope wetland spanning both sides of Fauntleroy Creek. It is located downstream of the culvert, west of 45th Ave SW. The primary sources of hydrology are groundwater discharges and precipitation.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The entire Project is proposed above, in, and along Fauntleroy Creek. To support construction, a long-term temporary (approximately 1.5 years) pumped bypass system would be installed to divert Fauntleroy Creek around the work area. The bypass would create drier conditions for construction of the new culvert and

streambed and would allow the work to be performed outside of the active flows in Fautleroy Creek.

A dispersion pad would be constructed at the discharge point of the bypass to reduce erosion as the bypass discharges flow back into Fautleroy Creek downstream of the Project area. After construction of the culvert and development of the new streambed, the bypass would be removed and flow would be restored through the culvert and creek.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

One of the primary Project goals is to improve the conditions of Fautleroy Creek and adjacent wetland and riparian habitats. The new culvert has been designed with an open bottom, which would create a continuous creek channel. This would provide an opportunity to improve the creek conditions, which are currently impeded by a 24-inch-diameter pipe culvert. The new culvert would restore a natural streambed within the new 14-foot-wide culvert, with continuous channel connectivity through this portion of Fautleroy Creek. The culvert has been sized to meet fish passage guidelines with additional width for a natural creek channel, while remaining within City of Seattle (City) rights-of-way and in consideration of adjacent utilities and other important infrastructure.

To widen and construct the creek through the Project area, grading would occur over a total area of approximately 5,500 SF. Some soil would be removed within the grading extents, and new streambed aggregate would be placed as described in the response to Question A.11.

In addition to widening, the creek channel would also need to be realigned with the new culvert, which would require grading within existing wetlands and buffers adjacent to the creek. This would result in some conversion of existing wetland to stream (approximately 1,250 SF), and some existing stream channel into floodplain habitat as it is moved (approximately 800 SF). The Project is thusly intended to be self-mitigating for wetland and stream impacts and the proposed structural and hydrologic modifications would result in no net loss of wetland or stream function or value. Overall, this would improve ecological conditions given the restoration of a more appropriately sized creek that is designed to better engage adjacent wetlands and floodplain.

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

A long-term temporary pumped bypass system would be installed to redirect Fautleroy Creek around the construction area, as described in the response to Question B.3.a.2. Once construction is complete, there would be no continued water withdrawals or diversions because natural flow patterns would be restored.

A dispersion pad would be constructed of rock at the downstream discharge point of the bypass to prevent erosion as the flow is discharged back into Fautleroy Creek downstream of the Project area. A temporary cofferdam-type system (e.g., gravel bag berm) would then be constructed across the creek channel to isolate the work area both upstream and downstream of the existing culvert.

The bypass would be sized in accordance with permit requirements. It would be buried as it crosses 45th Ave SW to allow for the movement of construction equipment throughout the Project area.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) panel 53033C0620G shows the Project area is outside the 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The Project would not discharge waste materials to surface waters.

b. Ground:

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

In the roadway prism, groundwater is expected to be approximately 25 to 30 bgs (i.e., near the elevation of Fautleroy Creek). Therefore, during the deep excavation required to reach the culvert and streambed, dewatering is anticipated. Vacuum well points would be installed by a licensed driller (in accordance with WAC 173-160) and a surface vacuum pump or sump pump would pump water from the well points for collection. Collected groundwater would then be treated and discharged to Fautleroy Creek, or could be discharged to the sewer system under a separate authorization from King County. Once construction is complete, there would be no continued groundwater withdrawals or discharges to groundwater.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

The proposed Project would not discharge waste material into the ground.

c. Water Runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

As described in response to Question B.1.g, approximately 60% of the Project area is impervious. Within that area, defined by 45th Ave SW and adjacent buildings, stormwater is conveyed to several locations, including the sanitary sewer, storm drainage lines, and directly to Fautleroy Creek. The Project proposes to add water quality treatment in the form of non-infiltrating bioretention treatment areas on the east side of 45th Ave SW to treat runoff from pavement on SW Barton St (east side of 45th Ave SW). Currently, runoff from SW Barton St east of 45th Ave SW is discharged to Fautleroy Creek without water quality treatment, although some flow control is provided, which will be replaced in kind. The bioretention treatment areas will be planted with low maintenance plants that are approved for use in bioretention and will be maintained by SPU. Following treatment in the bioretention areas, flow will discharge to Fautleroy Creek, with energy dissipation to reduce potential for erosion. Bioretention has been shown to be an effective water quality treatment BMP for reducing contaminants typically found in runoff from roadways. The remaining portion of the site is pervious, within the ravine and Fautleroy Creek. In these areas, stormwater does and would continue to infiltrate naturally.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.**

Most work would be conducted in-the-dry behind cofferdams after Fautleroy Creek is bypassed around the Project area. This is a primary measure to avoid discharge of waste or other materials into ground or surface waters. As work advances in the ravine and near the new creek channel, there is some potential for leaks and spills of fuel, hydraulic fluids, lubricants, and other chemicals from standard construction equipment and storage containers. The response to Question B.1.h lists BMPs that would be implemented to avoid and minimize potential for waste materials to enter surface water.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

During construction, the Project would temporarily affect drainage patterns because stormwater would be collected from the Project area, treated, and discharged back Fautleroy Creek or adjacent storm drainage infrastructure.

The replacement culvert would restore more natural drainage within and adjacent to Fautleroy Creek. During certain storm events, the existing 24-inch-diameter culvert cannot pass certain high flows and causes backwatering and ponding in the ravine. When the existing culvert is removed and the streambed restored, appropriately sized, and reconnected to the floodplain, drainage conditions would be meaningfully improved.

4) Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any.

The response to Question B.1.h lists BMPs that would be implemented to avoid or minimize potential impacts to surface, ground, and runoff water, as well as drainage patterns.

4. Plants

a. Check the types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- orchards, vineyards, or other permanent crops
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

The riparian environment in the east portion of the Project area (east of 45th Ave SW) contains some areas with overhanging native vegetation dominated by salmonberry (*Rubus spectabilis*), Pacific willow (*Salix lucida*), and red alder (*Alnus rubra*). The riparian environment in the west portion of the Project area (west of 45th Ave SW) is dominated by English ivy (*Hedera helix*) and Himalayan blackberry (*Rubus bifrons*). The wetlands contain a mix of western red-cedar (*Thuja plicata*), giant horsetail (*Equisetum telmateia*) and lady fern (*Athyrium filix-femina*).

Approximately 72 mature trees would be removed to facilitate access into the ravine for construction (Attachment B). Up to 16,000 SF of established riparian vegetation would also be impacted by grading in the ravine. To avoid and minimize impacts to plants and other vegetation during construction, measures from an approved Tree, Vegetation, and Soil Protection Plan (TVSPP) would be implemented by the Contractor.

The Project would offset construction impacts by planting new trees and restoring the graded areas with native vegetation. The response to Question B.4.d provides planting details.

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

No federally listed endangered or threatened or state-listed sensitive plant species are known to be present on or near the Project site.

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

During construction, these vegetation protection measures would preserve vegetation on-site:

- All existing trees, unless noted for removal, would be left in place and protected. Construction activity would not debark or damage live trees.
- All saplings and trees to be removed would be clearly marked and approved by the Owner or Owner's representative.
- Some trees and branches removed for construction may be temporarily stockpiled within the limits of disturbance. Stockpiled trees and branches would be incorporated into the finished Project.

Overall, the Project provides a meaningful opportunity to enhance ecological conditions in the Fauntleroy Creek ravine. Native vegetation would be replanted across the limits of disturbance in the floodplain, wetlands, riparian areas, and ravine slopes upstream and downstream of the culvert.

Plant species tolerant of flooding would be planted adjacent to the creek channel and in wetlands, including salmonberry, Nootka rose (*Rosa nutkana*), and twinberry honeysuckle (*Lonicera involucreta*). Within the riparian buffer, an upland mix of species adapted to higher and drier ground with less inundation frequency, such as Pacific willow and Sitka willow (*Salix sitchensis*).

Planting would also occur along the ravine slopes over approximately 15,500 SF area. Tree species planted on the ravine slopes would include Douglas-fir, western red cedar, and vine maple (*Acer circinatum*). Up to 85 would be planted. Native shrubs and other vegetation would also be planted to enhance ecological biodiversity in the restored areas. To reduce erosion and increase plant survivability, the ravine slopes would be reinforced with jute mat and coir logs for erosion control and would be topped with soil or compost supplement and arborist chip mulch.

Planting could also occur in the new hardscaped spaces. The top of the upstream and downstream culvert ends could be planted with species such as red twig dogwood (*Cornus sericea*), red flowering currant (*Ribes sanguineum*), and slough sedge (*Carex obnupta*). The 45th Ave SW Landing and right-of-way would be planted with durable native groundcovers and street trees. Street trees would be selected according to City guidelines, considering their placement relative to utilities, driveways, and other structures.

A post-construction monitoring and adaptive management plan would be implemented to periodically assess the Project plantings. As needed to meet performance criteria, SPU would remove invasive vegetation, irrigate plants, and replant.

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

The downstream extent of the Project area is largely covered with invasive species including English ivy and Himalayan blackberry. The Project would provide an opportunity to remove these invasive species across the upstream and downstream extent of restoration limits and replant with native vegetation.

5. Animals

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

Examples include:

- **Birds: hawk, heron, eagle, songbirds, other:**
- **Mammals: deer, bear, elk, beaver, other:**
- **Fish: bass, salmon, trout, herring, shellfish, other:**

Upland species in the Project area are common to urban environments and include hawks, eagles, herons, songbirds, deer, raccoons, rabbits, and other similar species. There are no known eagle nests in the Project area.

The existing 45th Ave SW culvert is a 100% fish passage barrier. There are no resident or ESA-listed fish upstream of the culvert except for hatchery-raised coho fry released in Fautleroy Park (upstream of the 45th Ave SW culvert) annually by the Salmon in the Schools program. Below the culvert, an average of 56 adult coho are observed in Fautleroy Creek each year and coho redds have also been observed in the lower creek. Chum salmon and adult cutthroat trout are also occasionally observed in the lower creek, but chum redds have not been observed. Near the mouth of the creek, staghorn sculpin are occasionally observed. SPU understands most of the adult coho observed in the lower portion of Fautleroy Creek are returning hatchery fish previously released by the Salmon in the Schools program. This program would be re-located or otherwise adjusted during construction to ensure coho fry are not impacted by the Project.

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

No terrestrial ESA-listed species or designated critical habitat have been identified in or around Fautleroy Creek. As described above, the Project area is not passable for anadromous salmon or other aquatic species. No other aquatic ESA-listed species have been observed in the Project area. Fautleroy Creek could serve as Essential Fish Habitat for salmonid fish species protected under the federal Magnuson–Stevens Fishery Conservation and Management Act. This Project would improve creek habitat and all species of fish would have complete access to Fautleroy Creek up to California Ave SW.

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

While the Project area is not part of a specific known migration route, Seattle is located within the migratory route of many bird species and is part of the Pacific Flyway—a major flight corridor for migrating waterfowl, migratory songbirds, and other birds. The Pacific Flyway extends from Alaska to Mexico and South America. Lower reaches of Fautleroy Creek support rearing and spawning for migrating salmon species.

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

The Project would provide meaningful benefit to fish and other aquatic species by replacing a complete fish passage barrier, restoring approximately 200 feet of streambed that has been routed through the culvert, streambed restoring streambeds extending 180 feet upstream and 80 feet downstream of the culvert, and improving floodplain connectivity and riparian habitat.

The creek design incorporates step pools, LWM, boulders, and channel regrading and meandering to achieve stream complexity and floodplain storage. LWM installations upstream and downstream would provide habitat and cover for fish, serve as spawning and rearing habitat by reducing flow velocities in portions of the creek, and increase channel and floodplain roughness.

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

Several terrestrial invasive species could exist in the area including the European starling, house sparrow, eastern gray squirrel, and fox squirrel.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The completed Project would not require energy to operate.

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

The Project would not impact potential use of solar energy by adjacent properties. Upon completion, the culvert would be an underground structure. Replanting of trees would not increase shading compared to existing site conditions.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

The proposal would not have any impact on energy or natural resources; therefore, no measures to control energy impacts are necessary.

7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.**

During construction, contained gasoline and diesel would be available on-site for refueling construction equipment. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and provided to Ecology as part of the application for coverage under the State’s Construction Stormwater General Permit and would include BMPs that would be implemented to avoid and minimize discharge of related pollutants. These pollution control BMPs would be used:

- Design, install, implement and maintain effective pollution prevention measures to minimize discharge or spillage of pollutants.
- Handle and dispose of all pollutants, including waste materials that occur on-site, in a manner that does not cause contamination of stormwater.
- Provide cover, containment, and protection from vandalism for all chemicals, liquid products, petroleum products, and other materials having potential to pose a threat to human health and the environment. Provide secondary containment for tanks holding pollutants, including on-site fueling tanks.
- Conduct maintenance, fueling, and repair of heavy equipment and vehicles using spill prevention and control measures. Clean contaminated surfaces immediately following any spill incident.

The new culvert and restored stream would not create any new environmental health hazards.

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

A former gas station and automotive repair shop operated on the Endolyne Condominium parcel between the 1940s and 1980s. During redevelopment of this parcel, petroleum-impacted soil was identified, which led to the 1989 decommissioning and removal of six underground storage tanks used to store gasoline and heating oil. Petroleum-contaminated soil was also removed and disposed of off-site.

Subsequent sampling in 2016 and 2021 identified limited petroleum exceedances of Model Toxics Control Act (MTCA) A cleanup levels in both soil and groundwater. Between 2016 and 2018 *in situ* chemical injections were completed to remediate remaining contamination and the site received a No Further Action determination from Ecology in June 2024.

Contamination is not expected to be encountered during construction based on existing information. However, if signs of contamination are discovered during construction (stained or oily soil, petroleum-like odors or sheens), impacted soil

would be segregated. Excavated soil would be characterized for disposal purposes prior to transfer off-site to determine the appropriate permitted landfill facility.

All water pumped during dewatering activities would be treated to meet State water quality standards (WAC 173-201A) prior to discharge to the creek outlet, storm drain, or sanitary sewer pipe.

All imported soil and habitat substrates would be clean and from a natural source.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

No known hazardous chemicals or conditions exist on-site.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

No toxic or hazardous chemicals would be stored, used, or produced during the Project. As noted above in the response to Question B.7.a, materials typically found on construction sites, such as gasoline, diesel fuel, oils, and lubricants would be present but would not pose substantial risks to health and safety due to proper management, safe handling, and implementation of BMPs. Operation and maintenance of the new culvert would not require toxic or hazardous chemicals to be stored or used on-site.

4) Describe special emergency services that might be required.

Emergency fire and medical response services may be needed during construction at levels typical to other similar construction sites but not likely resulting in an overall increased demand to emergency services in the city of Seattle. During construction, the contractor would provide typical construction site security services. The completed Project would not increase demand for special emergency services beyond existing levels in the Project area.

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

To prevent impacts resulting from an unintentional release of fuel, lubricants, or other hazardous materials, the Contractor would prepare an SPCC Plan to be used for the duration of construction. The response to Question B.1.h describes additional conservation measures that would avoid environmental health hazards.

b. Noise and Vibration

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

The Project is in a residential area with mixed use/commercial businesses to the south. Noise is generated from traffic and other activities accompanying residential and business uses. The background noise typical for this type of urban environment is estimated at 55 dBA. No existing sources of noise would affect the proposal.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Construction duration is estimated to last up to 2 years. Throughout that duration, construction activities would increase noise in the Project area and for the adjacent residences and businesses. During typical work hours, there would be noise generated by truck traffic and operation of standard construction equipment. Noise levels produced by the more common construction machinery would average around 85 A-weighted decibels (dBA).

Based on noise generated by the three loudest pieces of construction equipment, the estimated average noise generated by construction could be approximately 88 dBA. This would be an increase to existing ambient sound levels by approximately 33 dBA. The distance at which the construction attenuates to the background noise level is estimated to be approximately 1,000 feet from the Project limits.

Construction activities would typically be completed by 7 p.m. each day, based on the City's noise ordinance (Chapter 25.08). In circumstances where construction must continue beyond typical work hours, SPU would obtain a noise variance from SDCI.

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

SPU will work directly with adjacent residents to determine whether mitigation is needed to reduce or minimize the potential impacts of construction noise. SPU will also complete a structural evaluation during the design process to support vibration and settlement monitoring of adjacent structures during construction.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The culvert runs east-west under 45th Ave SW, which is primarily a residential area. Four multi-family residential properties are directly adjacent to the culvert, including Fauntlee Woods (a 6-unit condominium) to the northwest (Parcel 2485500000), Alpine Chalet Apartments (a 10-unit apartment) to the northeast (Parcel 2488200480), Endolyne Condominiums (a 14-unit condominium with retail) to the southeast (Parcel

2346700000), and Wildwood Glen senior living home (Seattle Housing Authority, a 24-unit apartment) to the southwest (Parcel 2487201221).

Various single-family homes, multi-family residential properties, Seattle Public School parcels, and Fauntleroy Hall exist north of the Project area. South of the Project area, on the south side of SW Wildwood Place, mixed use/commercial business buildings include a hair salon, a bakery, and a restaurant, among other businesses. Fauntleroy Church, Fauntleroy YMCA, Kilbourne Park, and Fauntleroy Park are east of the Project area.

Construction would temporarily and indirectly impact these adjacent properties through interruption to parking, access revisions, street closure along 45th Ave SW, and increased construction traffic to and from the Project site. There are no anticipated impacts to land use after construction; access, transportation patterns, and there would be no permanent loss of parking.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

No working farms or forest lands exist on or near the Project area.

- c. Describe any structures on the site.**

The Project area is predominantly residential, with typical urban infrastructure such as sidewalks, parking spaces, and utility poles. Several multi-family condominiums and apartments, single-family residences, and independent businesses are present (Figure 1). The existing culvert is approximately 35 feet bgs at the base of the ravine between the Endolyne Condominiums/Wildwood Glen and the Alpine Chalet Apartments / Fauntlee Condominiums. The City right-of-way separates these buildings with a railing on the east and west sides of the street to restrict public access to the ravine. Direct impacts to these existing structures are not anticipated. A free-standing brick wall at the Alpine Chalet Apartments serves as privacy screening for the residence. The Project would remove and replace the brick wall, in coordination with the property owner.

- d. Will any structures be demolished? If so, what?**

The Project would demolish the existing 24-inch diameter vitrified clay culvert under 45th Ave SW.

e. What is the current zoning classification of the site?

The properties along 45th Ave SW are zoned Multi-Family Low-Rise 2 (LR2), except for the Endolyne Condominiums, which is zoned Neighborhood Commercial 1 (NC1-40). Surrounding areas are predominantly zoned for single-family residential use, with SF requirements of 9,600 SF to the west and 5,000 SF to the east.

f. What is the current comprehensive plan designation of the site?

The current comprehensive plan designation of the site is Neighborhood Residential.

g. If applicable, what is the current shoreline master program designation of the site?

Fauntleroy Creek is not a Shoreline of Statewide Significance, and the Project area is not within 200 feet of such a Shoreline.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

The Project area is classified within five ECAs including steep slopes and steep slope buffers, wetlands and wetland buffers, riparian corridor, liquefaction-prone area, and potential slide area (upstream from the Project area). These all exist within the ravine where work would occur and where the streambed and habitat would be restored.

i. Approximately how many people would reside or work in the completed project?

Four existing condominium buildings surround the Project area. The completed Project would not result in new residences or employment opportunities.

j. Approximately how many people would the completed project displace?

No permanent displacement is anticipated to occur.

k. Proposed measures to avoid or reduce displacement impacts, if any.

The Project is not expected to result in permanent displacement, so no measures for avoidance or reduction are proposed. If property acquisition is pursued, it would follow the Uniform Relocation Assistance and Real Property Acquisition Policies Act.

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

Infrastructure renewal and habitat enhancement are permitted uses within LR2 and NC1-40 zoning. The Project would not inherently change the land use type from residential.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any.

The Project would not impact agricultural or forest lands; no mitigation or control measures are proposed.

9. Housing

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

The Project would not provide any additional housing units.

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

The Project is not expected to eliminate any existing housing units.

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

Because the Project does not propose a change to adjacent housing, measures to mitigate housing impacts are not proposed.

10. Aesthetics

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

The culvert and Fauntleroy Creek are below the roadway grade and street level of 45th Ave SW and are not part of the larger viewshed of the neighborhood and surrounding area.

The proposed concrete culvert would be buried and remain below roadway grade; however, a primary Project goal is to increase culvert sizing, which would restore fish passage and accommodate higher-flow events. The new culvert would be roughly 7 feet tall, 14 feet wide, and 237 feet long. Stairs for maintenance access would also be installed on both the east and west sides of 45th Ave SW from street level to the bottom of the ravine. The 45th Ave SW Landing would be constructed on the west side of the roadway at street level to allow access to the maintenance gate and would contain fencing, lighting, boulders, and planting.

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

Views in the immediate area would be altered during construction due to the large-scale construction effort that would require street closure, excavation and machinery to support culvert construction, construction personnel, and other construction support activities. This would become the predominant view of the immediately adjacent residents in this neighborhood and of the pedestrian traffic that frequents the

corner businesses. The viewshed would be meaningfully changed as a result of construction activities for approximately 2 years.

Existing vegetation provides a screened view for residences adjacent to the ravine. Approximately 30 mature trees would be removed as a result of excavation to construct the new culvert. Although this is associated with construction, the change in the viewshed from the removed trees would have an impact extending beyond construction duration.

After construction, views in the Project area would largely return to preconstruction conditions over time, though new hardscaping would be introduced to the immediate Project area. Existing maintenance access east of 45th Ave SW would be replaced with new maintenance stairs, fencing, and guardrail. New maintenance access including stairs, fencing, and handrails would also be constructed west of 45th Ave SW. Stairs constructed on either side of 45th Ave SW would be visible to residences or pedestrians that are close to the Project area.

The 45th Ave SW Landing would provide a small and informal public area, compared with the existing location on the west side of 45th Ave SW that is dedicated to parking only.

The culvert wingwalls would also be a new feature visible from adjacent residences but would be planted to reduce the visual predominance.

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

During construction, the range of construction activities may introduce visual interest to the Project area. There are no specific measures to reduce or control potential aesthetic impacts from construction aside from requiring the contractor to keep the work area clean.

The Project would remove invasive plant species within the limits of disturbance and replant these areas with native vegetation. The Project would also restore 180 feet of creek habitat upstream and 80 feet downstream of the culvert and would introduce new habitat features into the creek, including LWM that increases channel complexity. The embankment on the culvert inlet and outlet as well as the ravine slopes would also be planted. Smaller restoration plants would be used for better survival on steep slopes. To enhance screening quickly, up to 15 6-foot coniferous trees would be placed in less steep areas. Existing alder and bigleaf maple (*Acer macrophyllum*) trees would naturally spread, further enhancing screening over time. These habitat enhancements would improve aesthetics in the immediate Project area.

SPU would construct a 6-foot-tall fence for the new maintenance access stairs constructed on either side of 45th Ave SW. This would reduce the aesthetic impact of new hardscaping for residences with views into the ravine. Restoration plantings and street tree replacements would also minimize aesthetic impacts. The Project would also install a fence or screen atop the concrete wall at the back entrance of the Seattle

Housing Authority building, located near the existing parking area on the west side of 45th.

The proposed 45th Ave SW Landing has been designed to include ornamental fences, signage, planting beds, lighting, and boulders. These amenities would enhance the aesthetic appeal of the area, especially compared to existing conditions, and would complement the surrounding environment.

11. Light and Glare

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

Light and glare from the proposed Project would be generated by equipment and trucks during construction. Most work would occur during regular work hours, requiring minimal lighting. If needed, lighting would typically be used at the beginning and end of the standard workday when natural light levels are lower. Once construction is complete, the Project would produce minimal light and glare in the form of one new streetlight in the 45th Ave SW Landing.

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

One new streetlight at the 45th Ave SW landing would provide security lighting. This would not substantially increase light levels or glare beyond existing conditions. No additional lighting would be needed for the completed Project.

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

Existing sources of light and glare come from streetlights and nearby residences. These sources would not affect construction or the proposed culvert replacement and habitat restoration.

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

Construction lighting would be used during working hours and downcast onto the construction activities. These measures would minimize light spillage onto adjacent residential properties. The completed Project is not expected to produce light or glare; therefore, measures to reduce lighting and glare are not proposed.

12. Recreation

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

The ravine and Fauntleroy Creek in the Project area are closed to public access. Kilbourne Park is about 500 feet east of the Project area. Fauntleroy Park is about 1,000 feet to the southeast, across from SW Brace Point Dr/California Ave SW. These parks are generally used for walking and other passive outdoor activities.

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

The proposed Project would not displace existing recreational uses. Public access to the ravine and Fauntleroy Creek is restricted to maintenance access only. The completed Project would not change these access limitations.

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

The Project would not affect recreational opportunities; therefore, no measures to mitigate or control recreational impacts are proposed.

13. Historic and Cultural Preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

To evaluate the potential for cultural resources in the Project Area, and to consider potential effects of the Project to those resources, SPU contracted with Equinox Research and Consulting International Inc. (ERCI) to review existing site forms and reports on file at the Washington State Department of Archaeology and Historic Preservation (DAHP), to review County Assessor's records, and to review a range of other archaeological information.

Within the Project Area, 34 buildings are over 45 years old and 6 are newer buildings. None of the buildings would be directly affected by the project. Historic Property Inventory (HPI) forms have been prepared and submitted to DAHP for 6 of the buildings greater than 45 years old; however, no eligibility determinations have been made.

The most notable of the buildings greater than 45 years old is the Fauntleroy School, built in 1917 at 9131 California Ave SW. This building is listed in the Washington State Archaeological and Historical Analysis and Reporting Database (WISAARD). A preliminary HPI was conducted by Artifacts Consulting, Inc. in 2011, but no determination has been made regarding its eligibility for any national, state, or local register. The Project would not impact this building.

As part of the cultural resources evaluation, ERCI noted that the former streetcar line of the early 1900s transited through the Project Area. According to ERCI (2023), by 1907,

“the streetcar line left from Youngstown in West Seattle traveled south along California Avenue, passing Myrtle Street, Rose Street, Lincoln Park, and then the Fauntleroy Ferry. It crossed Fauntleroy Creek on a trestle, then up a hill to the intersection of 45th Avenue Southwest and

West Roxbury Street, where the terminus, waiting station, and a turnaround were built. Over time, a common story emerged out of locals living in the area: numerous residents recalled that the Fauntleroy streetcar line's conductor, W.C. Fonda, would routinely call out 'end o' line' when arriving at the terminus. Those living at the end of the Fauntleroy line lovingly adopted the name 'Endolyne' for their burgeoning neighborhood."

The streetcar enabled residential and commercial development to flourish across West Seattle, including the Fauntleroy and Endolyne neighborhoods.

However, by 1941, as a result of individual automobile ownership, the streetcar system was officially closed and streetcar rails were removed across West Seattle. It is unclear whether the old streetcar trestle constructed to cross Fauntleroy Creek was removed as part of that decommissioning effort and if remains in place, whether it would have eligibility for listing on any national, state, or local register.

Nearest National Register-listed properties are more than 1 mile from the Project Area.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

The cultural resources survey completed by ERCI in 2023 also evaluated historic use of the Project Area by Native Americans. There are 14 other reports on file with DAHP from previous cultural resources surveys within 1.5 miles of the Project Area.

The Project Area is within the traditional cultural territory of the southern Coast Salish, prominently the Duwamish. There is strong ethnographic record of tribal use along the shoreline of present-day West Seattle. DAHP also considers the risk of encountering precontact cultural resources to be high in places near lakes or streams.

There are no documented village sites or other significant landmarks or features within the Project Area. The nearest known Native American burial is almost 1 mile away.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

ERCI's cultural resources survey was designed to identify and document cultural resources in the Project area and to provide recommendations regarding significance and potential effects on those identified resources. ERCI has reviewed published and unpublished documents, conducted a pedestrian survey, and monitored geotechnical drilling adjacent to the Project area. DAHP will also review the cultural resources survey and consult with SPU regarding potential impacts to cultural and historic resources.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

Prior to construction, a detailed monitoring and inadvertent discovery plan would be developed to outline measures that would be taken if intact remains of the streetcar trestle are encountered. Archaeological monitoring would then occur during ground disturbance throughout construction, including but not limited to excavation, grading, and culvert removal.

14. Transportation

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

The Project area is in street right-of-way for 45th Ave SW, approximately 200 feet from the intersection with SW Wildwood Pl to the south. Surrounding public streets include SW Brace Point Dr and California Ave SW to the southeast, SW Director St to the north, and Fautleroy Way SW to the west.

A portion of 45th Ave SW between SW Director St and SW Wildwood Pl would be closed to vehicular traffic for the anticipated 2-year construction duration. This is needed to support construction equipment access, activities, and associated staging. Figure 3 provides an overview of the work area, including proposed/potential staging areas and potential access restrictions. Within the street closure area, street parking would be impacted to accommodate construction activities. Construction is also expected to temporarily impact parking at the immediately adjacent residential units. Mitigation for this impact would be coordinated with property owners of affected parcels.

At least one access corridor for pedestrian use would be retained through 45th Ave SW during times of light construction but would be unavailable during heavy construction. All other public roadways would remain open.

The Project site is approximately 0.3 miles southeast of the Fautleroy Ferry Terminal. Traffic from Fautleroy Ferry Terminal is routed either north via Fautleroy Way SW or south/east via Fautleroy Way SW and SW Wildwood Pl/SW Brace Point Dr/California Ave SW. The proposed closure of 45th Ave SW may cause delays along the latter southern route due to congestion.

All public street access and any temporary street modifications would be restored after construction is complete.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

The closest bus stops are located roughly 200 feet south of the Project area at the intersection of 45th Ave SW and SW Wildwood Pl. Two Metro C Line bus stops are located here, but the bus routes do not go through the project site.

Fauntleroy Ferry Terminal is roughly 0.3 miles northwest of the Project area at the intersection of Fauntleroy Way SW and SW Barton St. The C Line bus also provides two stops at this intersection.

During heavy construction periods, pedestrian access through 45th Ave SW would be unavailable. At these times, the most accessible bus stops for pedestrians from Alpine Chalet Apartments, Fauntlee Wood Condominiums, and areas north of them would be at the Fauntleroy Ferry Terminal. These stops are about a 10-minute walk away. SPU would coordinate with affected residents to provide alternatives for individuals requiring assistance to reach these stops.

During light construction periods, pedestrians would have access through 45th Ave SW. During this time, residents north of the construction area can also reach the C Line bus stops at the intersection of 45th Ave SW and SW Wildwood Pl. Residents in the Endolyne Condominiums and Wildwood Glen senior living home would be able to access these stops throughout the entire construction period.

Additionally, two more C Line bus stops are east of the Project area on California Ave SW, approximately 800 feet from the intersection of 45th Ave SW and SW Wildwood Pl.

c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The Project would temporarily remove the section of roadway atop the new culvert and would restore the area completely after construction of the new culvert.

Between SW Director St and SW Wildwood Pl approximately 25 existing street parking spots would be temporarily impacted during construction. Some parking associated with the buildings surrounding the immediate Project area would also be impacted (Figure 3). Approximately six parking spots would be temporarily removed from the Alpine Chalet Apartments and three parking spots would be temporarily removed from the Endolyne property. All temporarily removed parking spots would be replaced upon completion of construction, resulting in no permanent loss of parking. SPU would work directly with adjacent property owners to identify appropriate mitigation for temporary parking impacts.

Modifications may be necessary to nearby streets during construction to support truck traffic and provide detour routes. This may require some one-way streets to be

modified to accommodate two-way access, potential island and curb removal, and/or widening of existing streets to allow for safe truck movement through the Project site (Figure 4). SW Director St has been identified as one potential access route for construction equipment. This would likely result in increased traffic on SW Director St compared to existing conditions, with much of that traffic generated by construction.

Upon Project completion, temporary street modifications would be returned to existing condition, including replacement of the traffic island at 45th Ave SW and SW Director St, and resumption of one-way traffic on SW Director St near California Ave SW.

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

The Project is approximately 0.3 miles southeast of the Fauntleroy Ferry Terminal. Construction may cause some impacts to ferry traffic via Fauntleroy Way SW, SW Wildwood Pl, and California Ave SW given the closure of 45th Ave SW and increased construction traffic routing through the general area. The proposal does not occur in the vicinity of commercial air or rail transportation.

e. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Approximately 35 trucks may access and leave the work area on a typical workday between the hours of 7 a.m. and 7 p.m. throughout construction. SPU has been coordinating with SDOT to determine the local streets to be used as haul routes.

The completed Project is expected to generate approximately four round trips per year to conduct culvert maintenance and monitoring of the habitat enhancements. Ongoing maintenance of the culvert is expected to last 50 years.

f. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

The Project and construction would not interfere with or be impacted by the transportation of agricultural and forest products on nearby roads or streets.

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

Three haul route alternatives are being evaluated to determine which would have the least impact on existing streets and traffic. Figure 3 shows proposed street modifications and Figure 4 shows proposed haul routes.

15. Public Services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

The Project would not result in an increased need for public services such as fire, police, public transit, healthcare, or schools.

- b. Proposed measures to reduce or control direct impacts on public services, if any.**

The temporary and partial closure of pedestrian access on 45th Ave SW during heavy construction activities may make access to public transit stops located at the intersection of 45th Ave SW and SW Wildwood Place more difficult for some residents. Measures to reduce these impacts are discussed above in the response to Question B.14.b.

16. Utilities

Underline utilities currently available at the site:

- a. electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:**
- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

Before construction, some utilities would be temporarily relocated and/or cut and capped to route them outside of the work area to avoid long-term disruption. There may be some short-term interruption in services to adjacent buildings, which would be coordinated in advance. Utility lines would be reinstalled once the culvert replacement is complete, unless coordinated otherwise with local utility providers. The Project would install a new underground electrical service for the Endolyne Condominiums, with the conduit attached to the side of the building near the existing meters.

Some refuse service areas would need to be relocated during construction so that Waste Management can access refuse bins. Areas to discard waste would be well defined for affected residents.

The proposed culvert would not require or generate utility infrastructure to operate.

C. Signature

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

X

SPU Project Manager

Type name of signee: Jonathan Brown

Position and agency/organization: Seattle Public Utilities

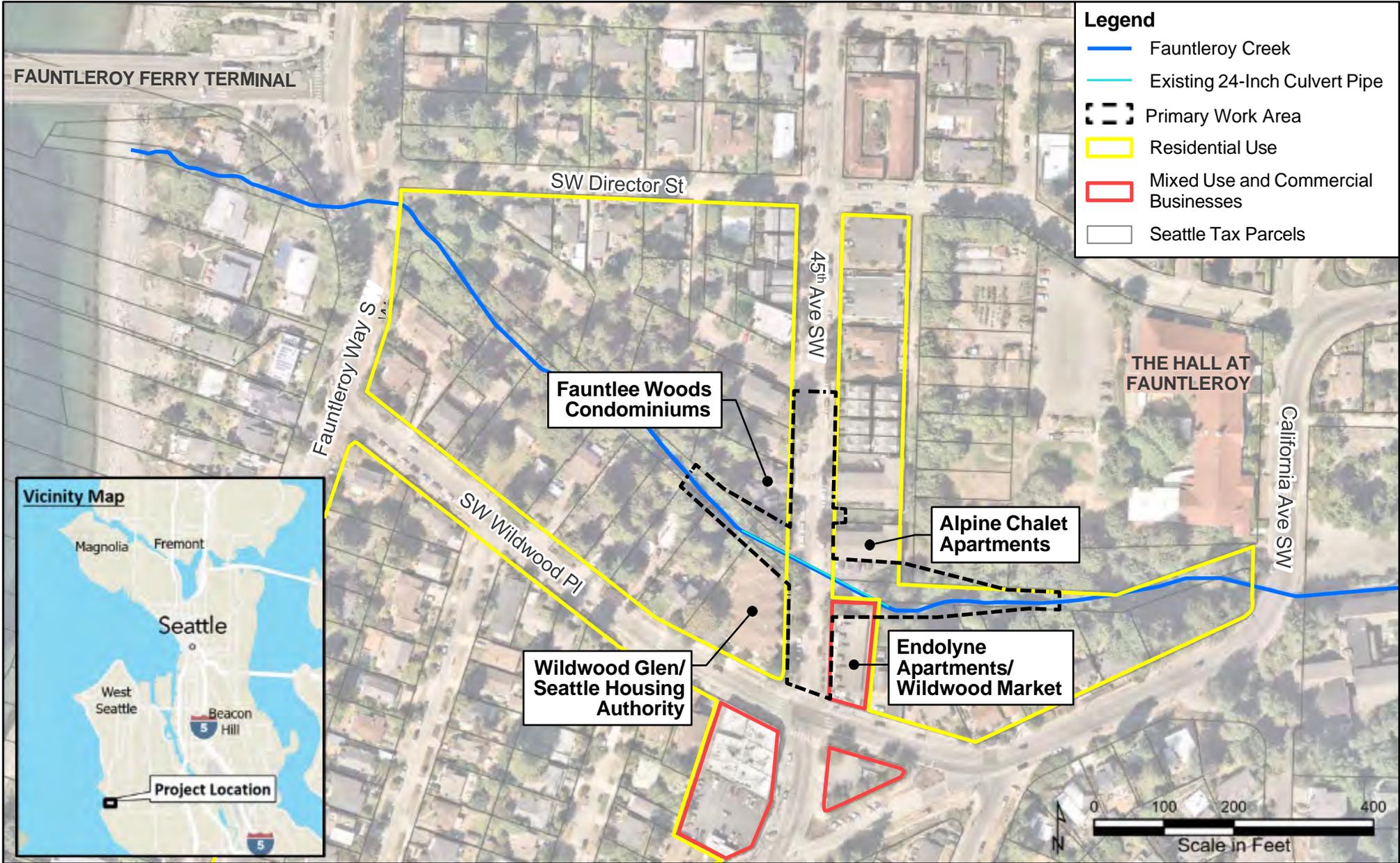
ATTACHMENTS

Figures

Attachment A – Greenhouse Gas Emissions Calculations

Attachment B – Tree Inventory Table

Figures





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**45th Ave SW Culvert Replacement
and Fish Passage Restoration Project
Seattle Public Utilities
Seattle, Washington**

Figure 2a
45th Ave SW Landing Facing More Northwest



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**45th Ave SW Culvert Replacement
and Fish Passage Restoration Project
Seattle Public Utilities
Seattle, Washington**

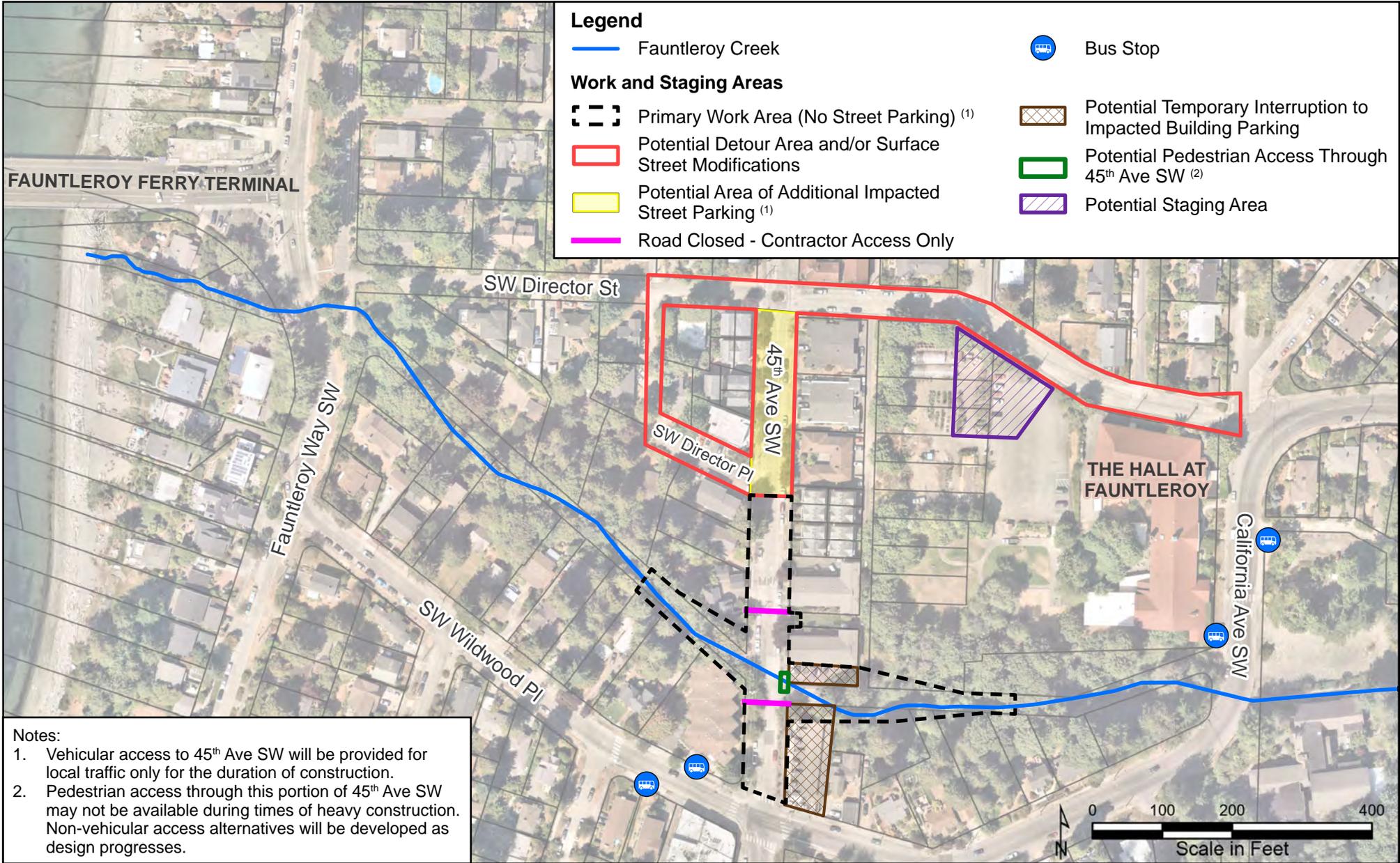
Figure 2b
45th Ave SW Facing East



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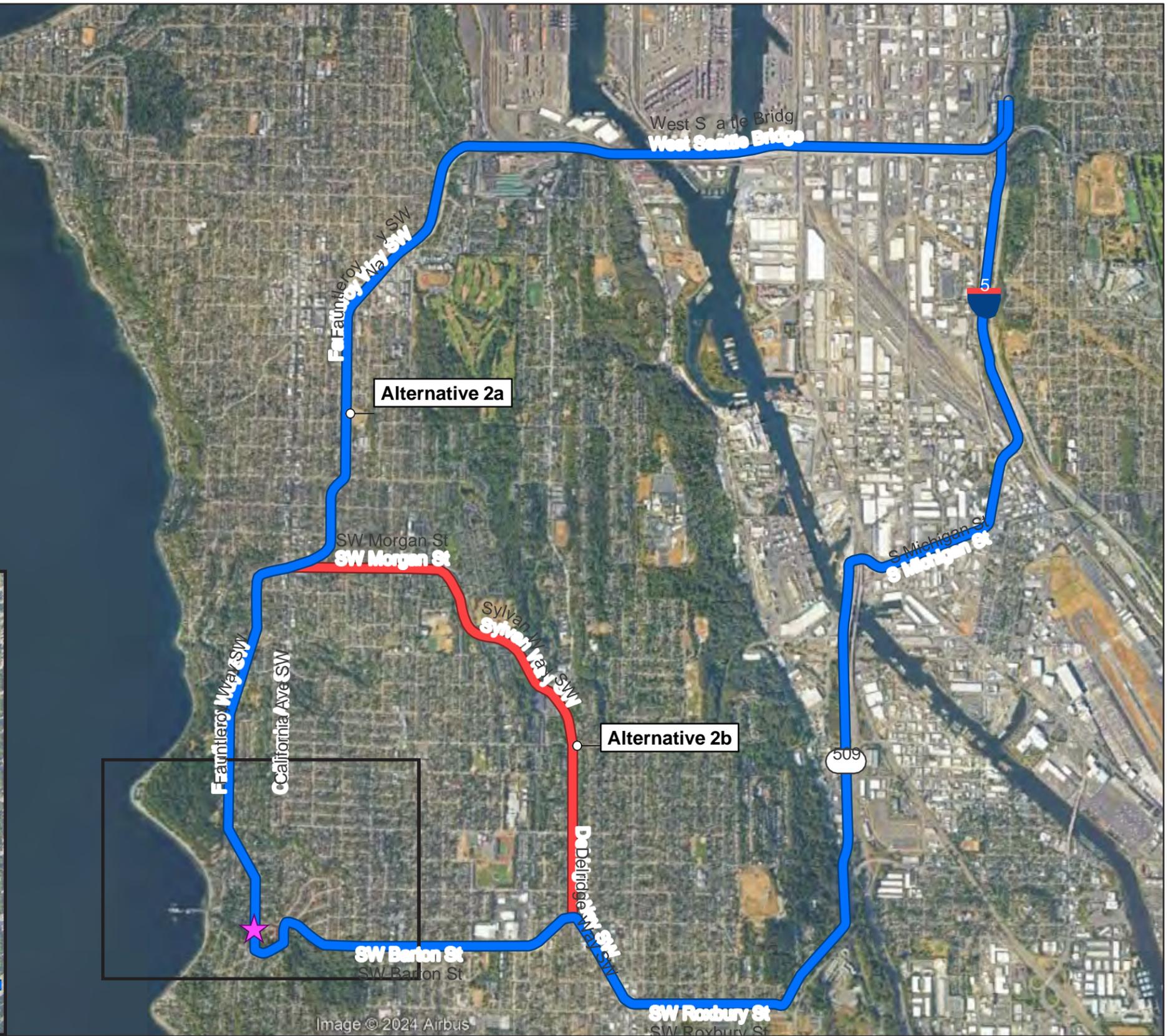
**45th Ave SW Culvert Replacement
and Fish Passage Restoration Project
Seattle Public Utilities
Seattle, Washington**

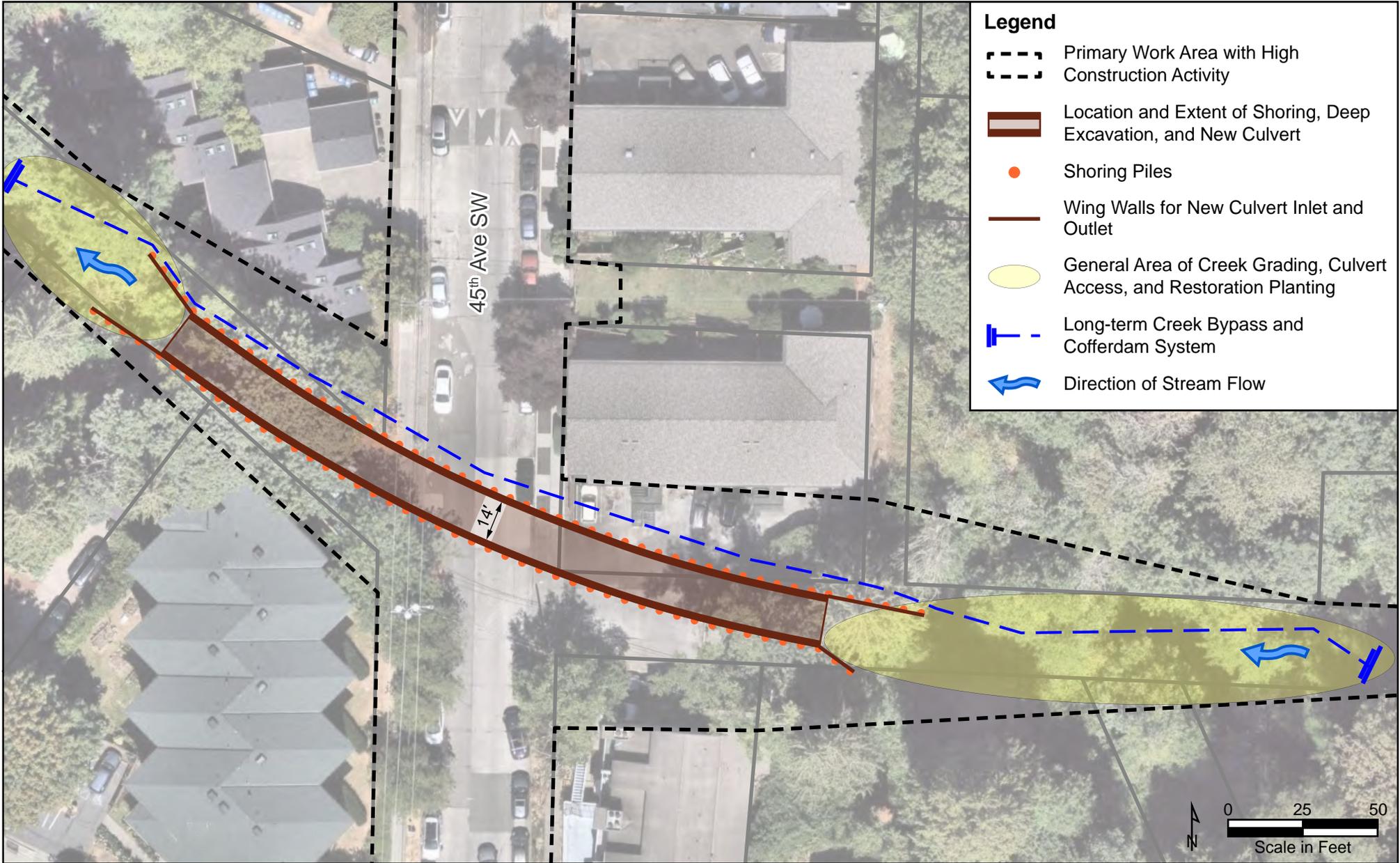
Figure 2c
Fautleroy Creek Restoration with New Culvert



- Legend**
- █ Alternative 1
 - █ Alternative 2a
 - █ Alternative 2b
 - █ Alternative 3
 - ★ Project Area

Note:
 1. SW Director St may be temporarily altered from a one-way to a two-way street during construction and returned to one-way after construction is completed.





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**45th Ave SW Culvert Replacement
and Fish Passage Restoration Project
Seattle Public Utilities
Seattle, Washington**

**Figure 5
45th Ave SW Culvert Replacement
and Habitat Restoration**

Section I: Buildings						
Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO ₂ e)			Lifespan Emissions (MTCO ₂ e)
			Embodied	Energy	Transportation	
Single-Family Home	0		98	672	792	
Multi-Family Unit in Large Building	0		33	357	766	
Multi-Family Unit in Small Building	0		54	681	766	
Mobile Home	0		41	475	709	
Education		0	39	646	361	
Food Sales		0	39	1,541	282	
Food Service		0	39	1,994	561	
Health Care Inpatient		0	39	1,938	582	
Health Care Outpatient		0	39	737	571	
Lodging		0	39	777	117	
Retail (Other than Mall)		0	39	577	247	
Office		0	39	723	588	
Public Assembly		0	39	733	150	
Public Order and Safety		0	39	899	374	
Religious Worship		0	39	339	129	
Service		0	39	599	266	
Warehouse and Storage		0	39	352	181	
Other (new and replaced overwater structures)		0	39	1,278	257	
Vacant		0	39	162	47	
TOTAL Section I Buildings						
Section II: Import Material						
Import Material		Volume (cubic yards) ¹	Weight (Metric tons)	Square Feet		Emissions (MTCO ₂ e)
All Gravel, asphalt, concrete, and soil substrates (import volume material is converted to tons with a conversion factor of 1.4 MT/CY and multiplied by emissions conversion factor of 0.0034 per metric ton of material) ⁽¹⁾		7,597	10,636			36.2
TOTAL Section II Pavement						36.2
¹ 4,860 CY (structural and lightweight fill) 500 (fill outside shoring walls and ravine slopes) 700 (streambed aggregate inside culvert) 160 (total import material for creek) 125 (total import material for wetland) 86 (total import material for outside reg. resources) 500 (rock for culvert) 200 (concrete for culvert) 143 (arborist mulch for replanting) 143 (compost for replanting) 103 (soil for public space planting) 17 (mulch for public space) 30 (new asphalt for roadway) 30 (new concrete for sidewalk)						
Section III: Construction						
(See detailed calculations below)						Emissions (MTCO ₂ e)
TOTAL Section III Construction						2,388.0
Section IV: Operations and Maintenance						
(See detailed calculations below)						Emissions (MTCO ₂ e)
TOTAL Section IV Operations and Maintenance						3.6
TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT (MTCO₂e)						2,427.8
Note(s)						
1) For purposes of estimating GHG emissions associated with the 45th Ave SW Culvert Replacement and Habitat Restoration Project (the Project), construction materials and the volumes of import were converted to tonnage with the above indicated conversion factor. The tonnage was multiplied by the most appropriate USEPA estimated emissions rate identified in USEPA's Spreadsheets for Environmental Footprint Analysis, using 0.0034 tons GHG per metric ton of gravel/sand rock. Emissions associated with construction equipment used to construct the Project are presented in Section III.						

TAG #	TREE (BOTANICAL NAME/ COMMON NAME)	REMOVE? Y/N	DSH/DBH (IN)	HEIGHT (FT)	CRZ (Radius FT)	CONDITION	NOTES
1	Crataegus laevigata (English hawthorn)	Y	10.5	30	10.5	Fair	ROW, was missing tag. Impacts: proposed utility pole relocation.
2	Crataegus laevigata (English hawthorn)	Y	10.5	30	10.5	Fair	ROW. Impacts: proposed utility pole relocation and proposed underground utilities.
3	Crataegus laevigata (English hawthorn)	Y	9.6	30	9.6	Fair	ROW. Impacts: proposed utility pole relocation and proposed underground utilities.
4	Robinia pseudoacacia (Black locust)	Y	10.8	35	10.8	Fair	Private parcel, previously pruned for utility clearance. Impacts: proposed utility pole relocation.
5	Acer circinatum (Vine maple)	Y	7.1	30	7.1	Fair	ROW. Surveyed as 2 tree points, remove adjacent 4" tree from survey. Impacts: street/frontage improvements.
6	Acer circinatum (Vine maple)	Y	5.5	30	5.5	Fair	ROW. Surveyed as 2 tree points, remove adjacent 4" tree from survey. Impacts: street/frontage improvements.
7	Acer circinatum (Vine maple)	Y	6.9	30	6.9	Fair	ROW. Between sidewalk and fence. Impacts: street/frontage improvements.
8	Acer circinatum (Vine maple)	Y	6.0	30	6.0	Fair	ROW. Between sidewalk and fence. Impacts: street/frontage improvements.
9	Acer circinatum (Vine maple)	Y	10.9	25	10.9	Fair	Private parcel. Declining due to verticillium wilt. Impacts: proposed access, stairs.
10	Photinia × fraseri (Fraser photinia)	Y	14.1	30	14.1	Fair	Private parcel. Impacts: proposed regrading, access, stairs, retaining wall
11	Acer macrophyllum (Bigleaf maple)	Y	12.6	45	12.6	Fair	City/SPU. Mid slope. Impacts: proposed regrading, trenching, construction access, etc.
12	Acer macrophyllum (Bigleaf maple)	Y	24.3	60	24.3	Fair	City/SPU. Half-way down slope. Impacts: stairs, proposed regrading, trenching, construction access, etc.
13	Acer macrophyllum (Bigleaf maple)	Y	6.5	35	6.5	Poor	City/SPU. Half-way down slope. Impacts: stairs, proposed regrading, trenching, construction access, etc.
14	Alnus rubra (Red alder)	Y	25.0	65	25.0	Fair	City/SPU. At stream bank, southern bank. Impacts: stairs, proposed regrading, trenching, construction access, etc.
15	Acer macrophyllum (Bigleaf maple)	Y	36.0	70	36.0	Fair	Private parcel. Southern slope. Impacts: proposed regrading for access stairs, culvert trenching, drainage, etc.
16	Thuja plicata (Western red cedar)	Y	43.0	45	43.0	Fair	Private parcel. Southern slope. Minor impacts: stairs, culvert outfall, stream improvements. May need to be removed
17	Alnus rubra (Red alder)	Y	27.0	65	27.0	Very Poor	City/SPU. Fungal bodies at base, northern slope. Impacts: located within rerouted stream.
18	Alnus rubra (Red alder)	Y	21.6	55	21.6	Fair	City/SPU. At stream bank. Impacts: located within rerouted stream.
19	Pseudotsuga menziesii (Douglas-fir)	Y	45.7	125	45.7	Good	Private parcel. On slope, within 5' of condo. Impacts: proposed construction access.
20	Tsuga heterophylla (Western hemlock)	Y	24.0	90	24.0	Good	Private parcel. Northern slope, within 8' of condo. Impacts: proposed construction access.
21	Acer macrophyllum (Bigleaf maple)	Y	13.0	40	13.0	Fair	City/SPU. On northern slope. Impacts: proposed construction access.
22	Pseudotsuga menziesii (Douglas-fir)	Y	30.5	125	30.5	Fair	Private parcel. Northern slope within 10' of condo. Impacts: proposed construction access.
23	Pseudotsuga menziesii (Douglas-fir)	N	34.0	125	34.0	Fair	Private parcel. Northern slope within 10' of condo. Outside limits of disturbance, protect.
24	Thuja plicata (Western red cedar)	N	28.0	100	28.0	Fair	Private parcel. Northern slope within 15' of condo. Outside limits of disturbance, protect.
25	Alnus rubra (Red alder)	Y	20.0	70	20.0	Poor	City/SPU. Excessive ivy on trunk. Outside limits of disturbance, but located within rerouted stream.
26	Alnus rubra (Red alder)	Y	14.0	55	14.0	Poor	City/SPU. Outside limits of disturbance, but located within rerouted stream.
27	Alnus rubra (Red alder)	Y	10.0	35	10.0	Very Poor	Private parcel. In decline. Cannot sustain minor impacts from proposed stream improvements.
28	Acer macrophyllum (Bigleaf maple)	N	38.0	50	38.0	Fair	Private parcel. South slope. Kretzschmaria, internal decay, die back. Outside limits of disturbance. Retain as habitat.

TAG #	TREE (BOTANICAL NAME/ COMMON NAME)	REMOVE? Y/N	DSH/DBH (IN)	HEIGHT (FT)	CRZ (Radius FT)	CONDITION	NOTES
29	Tsuga heterophylla (Western hemlock)	N	13.5	35	13.5	Very Poor	Private parcel. South slope, west end. Outside limits of disturbance. Retain as habitat.
30	Tsuga heterophylla (Western hemlock)	N	48.0		48.0	Fair	Private parcel. Within 15" of house. South slope, west end. Outside limits of disturbance.
499	Acer macrophyllum (Bigleaf maple)	N	26.0	60	26.0	Good	Private parcel. Next to deck fence. Not previously tagged. Outside limits of disturbance.
500	Tsuga heterophylla (Western hemlock)	N	18.0	60	18.0	Fair	Private parcel. Not tagged, growing through deck. No survey point. Outside limits of disturbance.
501	Tsuga heterophylla (Western hemlock)	N	13.0	50	13.0	Fair	Private parcel. Not tagged, ivy up trunk. Outside limits of disturbance.
502	Thuja plicata (Western red cedar)	N	31.1	60	31.1	Fair	Private parcel. Top of slope. Not tagged. No survey point. Outside limits of disturbance.
503	Thuja plicata (Western red cedar)	N	18.0	50	18.0	Fair	Private parcel. Top of slope. Not tagged. Outside limits of disturbance.
504	Thuja plicata (Western red cedar)	N	26.0	50	26.0	Fair	Private parcel. Top of slope. Not tagged. Outside limits of disturbance.
505	Thuja plicata (Western red cedar)	N	28.0	50	28.0	Fair	Private parcel. Top of slope. Not tagged. No survey point. Outside limits of disturbance.
506	Acer macrophyllum (Bigleaf maple)	N	16.0	40	16.0	Fair	Private parcel. Mid slope, previously tagged. Outside limits of disturbance.
507	Thuja plicata (Western red cedar)	N	28.0	60	28.0	Fair	Private parcel. Mid slope, previously tagged. Outside limits of disturbance.
31	Betula pendula (European white birch)	Y	7.3	35	7.3	Poor	Private parcel. In planter between sidewalk/parking garage. Birch bark borer. Impacts: utilities underground.
32	Betula pendula (European white birch)	Y	8.5	35	8.5	Poor	Private parcel. In planter between sidewalk/parking garage. Birch bark borer. Impacts: utilities underground.
33	Alnus rubra (Red alder)	Y	13.5	35	13.5	Fair	Private parcel. In planter between sidewalk/parking garage. Impacts: reroute utilities underground.
34	Acer circinatum (Vine maple)	Y	5.5	20	5.5	Fair	Private parcel. In planter between sidewalk/parking garage. Impacts: reroute utilities underground.
38	Alnus rubra (Red alder)	Y	20.2	60	20.2	Fair	City/SPU. East of 45th. Downed alder #37 leaning on trunk. Impacts: culvert excavations, stairway construction, regrading.
39	Alnus rubra (Red alder)	Y	10.7	50	10.7	Fair	City/SPU. East of 45th. Impacts: culvert excavations, stairway construction, regrading.
40	Alnus rubra (Red alder)	Y	14.9	55	14.9	Fair	City/SPU. East of 45th. Impacts: culvert excavations, stairway construction, regrading.
41	Acer macrophyllum (Bigleaf maple)	Y	15.5	65	15.5	Good	City/SPU. East of 45th. Impacts: culvert excavations, stairway construction, regrading.
42	Acer macrophyllum (Bigleaf maple)	Y	10.3	45	10.3	Fair	City/SPU. East of 45th. Kretzschmaria at base. Impacts: culvert excavations, stairway construction, regrading.
43	Thuja plicata (Western red cedar)	Y	42.5	100	42.5	Good	City/Unmaintained ROW. East of 45th. Impacts: proposed construction access.
44	Acer macrophyllum (Bigleaf maple)	Y	28.8	60	28.8	Poor	Private parcel. Surveyed as 2 trees. Remove adjacent 11" tree from survey. Impacts: proposed construction access.
45	Acer macrophyllum (Bigleaf maple)	Y	6.4	35	6.4	Poor	Private parcel. No survey point. Impacts: proposed construction access.
46	Alnus rubra (Red alder)	Y	24.8	35	24.8	Poor	Private parcel. Broken leader. Impacts: proposed construction access.
47	Acer macrophyllum (Bigleaf maple)	Y	28.2	75	28.2	Poor	Private parcel. Mid slope. Asymmetrical crown, Kretzschmaria. Impacts: proposed access.
48	Acer macrophyllum (Bigleaf maple)	Y	14.6	45	14.6	Fair	Private parcel. Mid slope. Impacts: proposed construction access.
49	Acer macrophyllum (Bigleaf maple)	N	17.5	65	17.5	Fair	Private parcel. Top of slope. Retain in group as habitat trees.

TAG #	TREE (BOTANICAL NAME/ COMMON NAME)	REMOVE? Y/N	DSH/DBH (IN)	HEIGHT (FT)	CRZ (Radius FT)	CONDITION	NOTES
50	Acer macrophyllum (Bigleaf maple)	N	15.1	60	15.1	Fair	Private parcel. Top of slope. Retain in group as habitat trees.
51	Acer macrophyllum (Bigleaf maple)	Y	21.2	70	21.2	Fair	Private parcel. Mid slope. Impacts: construction access ramp.
52	Acer macrophyllum (Bigleaf maple)	N	28.5	80	28.5	Good	Private parcel. Top of slope. Retain in group with others: #49, 50, 52, 286, etc.
53	Acer macrophyllum (Bigleaf maple)	Y	43.6	90	43.6	Fair	Private parcel. Irregular longitudinal trunk bulges. Mid to low slope. Impacts: construction access. SNAG.
54	Alnus rubra (Red alder)	Y	30.2	65	30.2	Poor	City/SPU. Broken leader. Next to stream bank. Impacts: regrading, within stream restoration
55	Acer macrophyllum (Bigleaf maple)	Y	23.0	70	23.0	Fair	Private parcel. Mid slope. Surveyed as 2 trees, delete adjacent 11" tree. Impacts: proposed access ramp.
56	Acer macrophyllum (Bigleaf maple)	Y	19.1	60	19.1	Very Poor	Private parcel. Mid slope. Declining. Impacts: proposed access ramp. SNAG.
57	Tsuga heterophylla (Western hemlock)	Y	15.0	65	15.0	Fair	Private parcel. Mid slope. No survey point. Exposed roots, stream side. Impacts: proposed access ramp.
58	Acer macrophyllum (Bigleaf maple)	Y	28.3	85	28.3	Poor	Private parcel, mid slope. No survey point. Broken/dead leaders. Trunk cavity. Impacts: construction access.
59	Acer macrophyllum (Bigleaf maple)	N	30.0	90	30.0	Fair	Private parcel. Mid-to upper slope, east side of study area. No survey point. No impacts.
70	Alnus rubra (Red alder)	Y	28.5	80	28.5	Fair	Private parcel. East of 45th. Targets structure. Impacts: culvert excavations, regrading, access stair installation.
71	Thuja plicata (Western red cedar)	Y	34.1	65	34.1	Good	Private parcel. Visible support roots, previously topped at 40'. May be impacted or removed outright.
72	Thuja plicata (Western red cedar)	N	70.2	75	70.2	Good	Private parcel. No excavations or regrading within CRZ to retain. Exceptional.
73	Acer macrophyllum (Bigleaf maple)	Y	27.0	35	27.0	Fair	Private parcel, near stream bank. Broken leader. Impacts: regrading, within stream restoration.
74	Alnus rubra (Red alder)	N	30.4	50	30.4	Very Poor	Private parcel. South slope. Dead leader. Outside limits of disturbance, retain as habitat tree.
76	Tsuga heterophylla (Western hemlock)	N	9.6	35	9.6	Good	Private parcel. South slope. Outside limits of disturbance, retain in group.
77	Thuja plicata (Western red cedar)	N	28.0	55	28.0	Good	Private parcel. South slope. Outside limits of disturbance, retain in group.
78	Alnus rubra (Red alder)	N	18.2	45	18.2	Fair	Private parcel. South slope. Codominant stems. Outside limits of disturbance, retain in group.
79	Acer macrophyllum (Bigleaf maple)	N	45.0	65	45.0	Fair	Private parcel. South slope. Outside limits of disturbance, retain in group. Asymmetrical crown, ivy on trunk.
80	Acer macrophyllum (Bigleaf maple)	N	39.0	60	39.0	Fair	Private parcel. South slope. Outside limits of disturbance, retain in group. Ivy approaching crown.
299	Arbutus menziesii (Pacific madrone)	Y	10.6	25	10.6	Poor	Private parcel. Severe dieback, decay. Surveyed as 2 trees, delete adjacent 11" tree. Impact: proposed access ramp.
298	Acer macrophyllum (Bigleaf maple)	N	15.4	50	15.4	Fair	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
297	Acer macrophyllum (Bigleaf maple)	N	7.0	30	7.0	Fair	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
296	Acer macrophyllum (Bigleaf maple)	N	6.6	30	6.6	Good	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
295	Acer macrophyllum (Bigleaf maple)	N	11.0	40	11.0	Good	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
294	Acer macrophyllum (Bigleaf maple)	N	12.1	40	12.1	Good	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
293	Acer macrophyllum (Bigleaf maple)	N	7.6	30	7.6	Good	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
292	Acer macrophyllum (Bigleaf maple)	N	17.2	50	17.2	Good	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.

TAG #	TREE (BOTANICAL NAME/ COMMON NAME)	REMOVE? Y/N	DSH/DBH (IN)	HEIGHT (FT)	CRZ (Radius FT)	CONDITION	NOTES
291	Acer macrophyllum (Bigleaf maple)	N	7.8	40	7.8	Fair	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
290	Acer macrophyllum (Bigleaf maple)	N	7.5	40	7.5	Fair	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
289	Acer macrophyllum (Bigleaf maple)	N	7.9	40	7.9	Fair	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
288	Acer macrophyllum (Bigleaf maple)	N	30.0	60	30.0	Poor	Private parcel. Top of slope. Severe dieback and decay. Outside limits of disturbance. Retain in group.
287	Acer macrophyllum (Bigleaf maple)	N	19.6	60	19.6	Fair	Private parcel. Top of slope. Surveyed as 2 trees. Remove adjacent 12" tree from survey. Outside limits of disturbance, retain in group.
286	Acer macrophyllum (Bigleaf maple)	N	27.8	70	27.8	Good	Private parcel. Top of slope. Outside limits of disturbance. Retain in group.
285	Acer macrophyllum (Bigleaf maple)	N	26.0	60	26.0	Fair	Private parcel. Top of slope. Surveyed as 5 trees, delete 4 adjacent points. Retain as group.
284	Acer macrophyllum (Bigleaf maple)	N	20.7	60	20.7	Good	Private parcel. Top of slope. Surveyed as 3 trees, delete 2 adjacent points. Retain as group.
283	Pseudotsuga menziesii (Douglas-fir)	N	10.6	30	10.6	Poor	Private parcel. South slope, east end. Sparse canopy. Outside limits of disturbance, retain as group.
282	Alnus rubra (Red alder)	N	26.0	80	26.0	Fair	Private parcel. South slope, east end. Duplicate tag no. Outside limits of disturbance, retain as group.
282	Picea sitchensis (Sitka spruce)	N	16.0	70	16.0	Fair	Private parcel, south slope west end. Duplicate tag. Outside limits of disturbance, retain as group
281	Alnus rubra (Red alder)	Y	7.9	30	7.9	Good	Private parcel, south slope west end. No survey point. Impacts: within rerouted/restored stream.
202	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	Y	20.5	25	20.5	Fair	ROW along 45th. No survey point. Impacted by street improvements.
203	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	N	13.4	25	13.4	Good	ROW along 45th. No survey point. No proposed improvements.
204	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	N	9.4	25	9.4	Good	ROW. No proposed improvements, outside limits of disturbance.
205	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	N	7.0	25	7.0	Poor	ROW. No proposed improvements, outside limits of disturbance..
206	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	N	10.0	25	10.0	Fair	ROW. No proposed improvements, outside limits of disturbance..
207	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	N	6.7	20	6.7	Fair	ROW. No proposed improvements, outside limits of disturbance.
208	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	N	12.0	12	12.0	Poor	Private parcel at Wildwood/45th intersection. No proposed improvements.
209	Cercis canadensis (Eastern redbud)	N	48.5	35	49	Poor	Private parcel at Wildwood/45th intersection. No proposed improvements. Ganaderma conchs present.
210	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	Y	5.0	10	5.0	Poor	ROW. Remove for staging area.
211	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	Y	5.0	10	5.0	Very Poor	ROW. Remove for staging area.
212	Thuja plicata (Western red cedar)	N	50.0	65	50.0	Good	Private parcel adjacent to ROW. No proposed improvements, outside limits of disturbance.
213	Prunus cerasifera 'Thundercloud' (Thundercloud flowering plum)	Y	6.0	10	6.0	Poor	ROW. Remove for staging area.
214	Crataegus sp. (Hawthorn species)	Y	9.6	20	9.6	Good	Private parcel adjacent to Director, sloped. Volunteer. Impacts: proposed construction staging area.
215	Acer macrophyllum (Bigleaf maple)	Y	28.8	40	28.8	Poor	Private parcel adjacent to Director, sloped. Dieback. Impacts: proposed construction staging area.
216	Acer macrophyllum (Bigleaf maple)	Y	38.4	50	38.4	Good	Private parcel adjacent to Director, sloped. Impacts: proposed construction staging area.

TAG #	TREE (BOTANICAL NAME/ COMMON NAME)	REMOVE? Y/N	DSH/DBH (IN)	HEIGHT (FT)	CRZ (Radius FT)	CONDITION	NOTES
217	Crataegus sp. (Hawthorn species)	Y	15.1	35	15.1	Fair	Private parcel adjacent to Director, sloped. Volunteer, ivy. Impacts: proposed construction staging area.
218	Crataegus sp. (Hawthorn species)	Y	13.4	40	13.4	Good	Private parcel adjacent to Director, sloped. Volunteer. Impacts: proposed construction staging area.
219	Acer macrophyllum (Bigleaf maple)	Y	35.9	50	35.9	Fair	Private parcel adjacent to Director, sloped. Impacts: proposed construction staging area.
220	Acer macrophyllum (Bigleaf maple)	Y	13.4	50	13.4	Good	Private parcel adjacent to Director, sloped. One tree with adjacent 6" surveyed tree. Impacts: proposed construction staging area.
222	Acer macrophyllum (Bigleaf maple)	Y	11.0	55	12.4	Fair	Private parcel adjacent to Director, sloped. Impacts: proposed construction staging area.
223	Acer macrophyllum (Bigleaf maple)	Y	10.0	55	11.0	Fair	Private parcel adjacent to Director, sloped. Impacts: proposed construction staging area.
224	Acer macrophyllum (Bigleaf maple)	Y	22.6	55	10.0	Good	Private parcel adjacent to Director, sloped. Impacts: proposed construction staging area. Survey included adjacent 10" tree, 24" tree.
225	Acer macrophyllum (Bigleaf maple)	Y	12.0	45	22.6	Good	Private parcel adjacent to Director, sloped. Impacts: proposed construction staging area.
226	Acer macrophyllum (Bigleaf maple)	Y	51.0	55	12.0	Good	Private parcel adjacent to Director, sloped. Large DBH maple. Impacts: proposed construction staging area.