SEATTLE PUBLIC UTILITIES
SEPA ENVIRONMENTAL CHECKLIST

This SEPA environmental review of Seattle Public Utilities' North Thornton Natural Drainage Systems Project has been conducted in accord with the Washington State Environmental Policy Act (SEPA) (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:**

   North Thornton Natural Drainage Systems (NDS) Project (the Project)

2. **Name of applicant:**

   Seattle Public Utilities

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

   Wan-Yee Kuo, Project Manager

   Seattle Public Utilities

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4. **Date checklist prepared:**

   June 18, 2026

5. **Agency requesting checklist:**

   Seattle Public Utilities

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

   Final Design is scheduled to be completed in the 3rd quarter of 2026. Construction is scheduled to begin in the 3rd quarter of 2027 and be substantially completed during the 4th quarter of 2028. Construction is expected to require 260 working days. Project commissioning and plant establishment would occur between the 1st quarter 2028 and up to 2nd quarter 2029 (2 to 3 years for plant establishment). The completed Project is expected to have a 50-year lifespan.

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

   This Project (SPU Project #C601138) is part of Seattle Public Utilities' (SPU's) Natural Drainage Systems (NDS) Partnering Program that proposes to treat effective impervious area by constructing bioretention facilities in street rights-of-way (ROW) in the Longfellow, Thornton, and Pipers Creeks watersheds. The NDS Partnering Program has other projects in design and construction in these watersheds. This Project would be constructed independently of the other projects in SPU's NDS

Partnering Program. The primary goal of the Project is to improve water quality in Thornton Creek and downstream receiving waters by reducing stormwater-runoff borne pollution from the north portion of the Thornton Creek basin. The Project is designed to manage up to 9.33 acres of effective impervious area.

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

These documents have been prepared:

- SPU. 2024. (April). Geotechnical Report, North Thornton Drainage Systems Infiltration Feasibility Study (60% Design).
- Cultural Resource Consultants, LLC . 2022 (April). Cultural Resources Assessment for the North Thornton Natural Drainage System (NDS) Project.[1]
- Herrera Environmental Consultants. 2022 (September). Technical Memorandum, Environmentally Critical Areas for the North Thornton Drainage Improvements Project.
- Richard Martin Groundwater LLC. 2022 (October). Infiltration Feasibility Technical Memorandum.
- Herrera Environmental Consultants. 2022 (November). Basic Tree Assessment Form, Blue Atlas Cedar.
- Herrera Environmental Consultants. 2026a (March). Technical Memorandum, Tree Valuation – 12705 27th Avenue Northeast, Seattle.
- Herrera Environmental Consultants. 2026b (March). Technical Memorandum, Opinion – Observed Condition of Large Conifer in Front Yard of 12705 25th Avenue Northeast, Seattle, Washington.
- Toole Design Group, LLC. 2022 (May). Parking Analysis Summary – 10% Phase North Thornton NDS.

[1]Document is exempt from public disclosure (RCW 42.56.300).

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.

No applications are known to be pending for governmental approvals of other proposals directly affecting the property covered by this Project.

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

Implementation of this project may require some or all of the following permits and approvals:

City of Seattle Departments of Transportation (SDOT)

- Street Improvement Permit
- Temporary No Parking Permit
- Street Tree Permit

City of Seattle Department of Construction and Inspections (SDCI):

- Variance from the City of Seattle noise ordinance, if construction outside of authorized hours is necessary
- Industrial Waste Discharge Permit for Construction Dewatering

SPU

- Stormwater Code Compliance
- Property Access, Easements, Encroachments

King County

- Industrial Waste Discharge Permit for Construction Dewatering

Washington State Department of Ecology (Ecology)

- National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit coverage
- Municipal Stormwater (MS4) General Permit notifications

Seattle City Light (SCL)

- Permit or approval to alter, move, or temporarily support or temporarily relocate SCL-owned utility poles

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

The Project is in the North Branch Thornton Creek basin in northeast Seattle and aims to provide water quality treatment of urban stormwater runoff by constructing bioretention facilities in City of Seattle (City) street ROW. This project is one of the stormwater-focused NDS Partnering projects identified in SPU's 2015 Protecting Seattle's Waterways Integrated Plan for addressing pollution from stormwater to Puget Sound and its tributaries and complying with the City's federal Consent Decree (Case 2:13-cv-00678). The Project will improve conveyance and drainage infrastructure and build on existing community improvement planning efforts to provide additional community benefits, including pedestrian and intersection improvements, as well as traffic calming.

The Project includes a retrofit of approximately five blocks of City ROW. The sites included in the 90 Percent Design manage runoff for up to 9.3 acres of effective impervious area. The Project proposes conveyance improvements and installation of bioretention facilities to capture and treat stormwater runoff prior to discharging into Thornton Creek, a tributary of Lake Washington. The Project includes two sites (Figure 1):

1. **Olympic Hills site** - 25th Ave NE between NE 127th St and NE 130th St; NE 127th St between 25th Ave NE and 27th Ave NE; and 27th Ave NE between NE 125th St and NE 127th St. This site ultimately discharges stormwater runoff to Littlebrook Creek, a tributary to North Branch Thornton Creek. Treated stormwater runoff is infiltrated via bioretention facilities. Overflow from the bioretention facilities on 25th Ave NE and NE 127th St is directed to the existing ditch and culvert system along NE 127th St and overflow from the facility on 27th Ave NE connects to the existing on-block public storm drain (PSD). Overflows combine near the intersection of NE 125th St and 28th Ave NE and will continue east along NE 125th St towards Littlebrook Creek.

2. **Little Brook site** - 32nd Ave NE between NE 135th St and NE 137th St. Treated stormwater runoff from this site will be discharged to Littlebrook Creek, a tributary to North Branch Thornton Creek. The bioretention facilities on the Little Brook site are lined; therefore, both treated runoff and overflow are directed to the existing ditch and culvert system along NE 135th St and discharge into the culverted portion of Littlebrook Creek.

The Project includes these major work elements:

Olympic Hills site:

a) Six infiltrating bioretention facilities with no liner or underdrain
b) Conveyance swales, conveyance pipes, and associated structures direct stormwater runoff into the bioretention facilities. Stormwater that does not infiltrate overflows into the existing storm drainage system downstream.
c) Curbs and asphalt thickened edge direct stormwater runoff into the bioretention facilities
d) Pedestrian sidewalks along sections of NE 127th St and 27th Ave NE adjacent to the proposed conveyance swales and bioretention facilities.
e) Regrading, removal of existing pavement, pavement restoration, and adjustments to existing street elements (such as traffic signs) to allow construction of proposed improvements
f) Existing driveway replacement, where needed, for grading transitions with in-kind material
g) Installation of new American with Disabilities Act (ADA) curb ramps at some intersections
h) Utility relocations involving a gas main, gas services, a water main, and water services

Little Brook site:

a) Five bioretention facilities with underdrain and liners. Two are side-sloped facilities and three are formed with modular structural soil cells that extend the facilities under the sidewalk.
b) Storm drainage pipes and associated structures to direct flow into the bioretention facilities and discharge treated runoff and overflows into the existing downstream storm drainage system
c) Installation of three flow splitters (FS) to divert low flows from two large contributing drainage areas to the bioretention facilities.

a. FS 38-1 reroutes stormwater runoff from an existing culvert on NE 137th St that currently outfalls to Littlebrook Creek at NE 137th St. Low flows are rerouted to proposed bioretention facilities on 32nd Ave NE and will outfall to Littlebrook Creek at NE 135th St. High flows continue to route to the Littlebrook Creek outfall on NE 137th St. This flow splitter features a downturned elbow with orifice plate for flow control and an adjustable weir. A gate valve is proposed on the low-flow pipe (downstream of the structure) to allow manual shutoff of runoff to the bioretention facilities from this flow splitter if needed.
b. FS 39-1, distributes low flows from FS 38-1 between three upstream bioretention facilities (B-1 to B-3) and two downstream bioretention facilities (B-4 and B-5) to further reduce flow rates and sediment loads contributing to any single facility.
c. FS 40-1 conveys low flows from the First Student “bus barn” and includes an extended sump for pre-settling and a downturned elbow to prevent floating debris, trash, and oil from entering the bioretention facilities. An orifice plate on the downturned elbow is proposed for flow control.

d) Curbs and street edge treatment to direct untreated stormwater runoff into the proposed bioretention facilities
e) Pedestrian concrete sidewalks adjacent to the bioretention facilities and asphalt walkways at intersection of NE 137th St and 32nd Ave NE, and along the western side of 32nd Ave NE, north of the proposed facilities
f) Regrading, removal of existing pavement, pavement restoration, and adjustments to existing street elements (such as traffic signs) to allow construction of proposed improvements
g) Existing driveway replacement, where needed, for grading transitions, with material match the adjacent sidewalk or walk
h) Installation of new ADA curb ramps at some intersections
i) Utility relocations involving a gas main, gas services, a water main, water services, and underground communication lines

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 is in Section 21, Township 26N, Range 4E in street ROWs on various blocks in the northeast part of the Thornton Creek Watershed. The Project would be constructed entirely in these street ROWs in the City of Seattle, King County, Washington:

- Olympic Hills site:
  - 25th Ave NE between NE 127th St and NE 130th St
  - NE 127th St between 25th Ave NE and 27th Ave NE
  - 27th Ave NE between NE 125th St and NE 127th St
- Little Brook site:
  - 32nd Ave NE between NE 135th St and NE 137th St

Figures 1, 2, and 3 include a vicinity map, drainage basin map, and proposed drainage infrastructure for the sites, respectively.

B. Environmental Elements

1. Earth

a. General description of the site: Circle or highlight one:

Flat ☒ Rolling☒ Hilly ☐ Steep Slopes☐ Mountainous☐ Other☐(Identify):

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

Both sites are generally on upland plateaus at elevations ranging between 200 and 220 feet above sea level. The steepest roadway has approximately a 5 percent slope. The steepest slope beyond the roadway edges but within the ROW is on 32nd Ave NE where existing street parking adjacent to the Toyota dealership ties into the roadway at approximately 20 percent slope. The steepest constructed bioretention facility side slopes and tie-in slopes would be graded at a slope of 2.5H:1V.

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.

Information in this section is based on SPU (2024):

Olympic Hills site—Soils are largely mapped as urban land and consist of very dense, cemented, silty sand with gravel. Generally, fill underlain by recessional outwash was encountered during geotechnical explorations. Fill materials consist of brown to dark brown silty sand with varying amounts of gravel. Native recessional outwash deposits consist of light brown to gray sand.

Little Brook site— Soils are largely mapped as urban land and consist of very dense, cemented, silty sand with gravel. Generally, fill underlain by recessional lacustrine, recessional outwash,

and glacial till were encountered during geotechnical explorations. Fill materials consist of brown to dark brown silty sand with varying amounts of gravel. Native recessional outwash deposits consist of light brown to gray sand; glacial till deposits consist of gray silty sand with gravel.

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

There are no indications of unstable soils in the Project area or immediate vicinity. SDCI maps a Peat-settlement-prone Environmentally Critical Area (ECA) near NE 130th St between 27th and 30th Avenues NE, which is closest to the Olympic Hills site but is approximately 500 feet north of the site and no impacts are anticipated. The same applies to two Liquefaction-prone ECAs approximately 500 feet northeast and southwest of the Olympic Hills site. There are mapped steep slope areas nearby by both sites, but not within 100 feet.

https://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=f822b2c6498c4163b0cf908e2241e9c2

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.

This Project would disturb up to 1.98 acres in the 4-acre Project area (defined by ROW boundaries and extents of disturbance) due to excavation, grading, and filling during clearing, pavement removal, and construction of underground utilities, roadway improvements, and installation of bioretention facilities. Up to 3,700 cubic yards (CY) of material would be excavated for roadway and utility improvements. Up to 3,900 CY of mineral aggregate, landscape soil, borrow material, bioretention soil, and backfill for utilities would be imported as fill material. Fill material would be obtained from a commercial purveyor licensed by the State of Washington. Excavated materials would be reused on-site where feasible or exported off-site and disposed of in an approved upland disposal location per construction contract requirements.

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

Erosion could occur due to ground-disturbing activities, although the risk is low because areas to be disturbed are relatively flat and proposed construction would begin only after best management practices (BMPs) to limit erosion potential are installed. BMPs identified in the City of Seattle's Stormwater Code Seattle Municipal Code (SMC) Title 22, Subtitle VIII, relevant City of Seattle Director's Rules, and Volume 2 Construction Stormwater Control Manual would be used to control erosion and sedimentation during construction. All proposed construction would be required to comply with a SPU-approved construction erosion and sedimentation control (CESC) plan and meet Ecology's NPDES Construction Stormwater General Permit requirements.

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

Table 1 contrasts pre- and post-construction impervious surface areas. Construction would reduce impervious surfaces in street ROW and Temporary Construction Easements (TCE) by

14,600 square feet (SF) (0.34 acre)—a reduction of roughly 8 percent in the 4.05-acre Project area—by replacing currently paved areas with bioretention facilities.

Table 1: Pre- and Post-construction Impervious Surface Areas.

Surfaces	Preconstruction (SF)	Post-Construction (SF)
Pollution-generating Impervious (roadways, driveways, including paved and compacted gravel surfaces, impervious in ROW)	151,200 (86%)	122,300 (69%)
Non-pollution-generating Impervious (sidewalk/paved footpath, impervious in Parcel)	10,400 (6%)	24,600(14%)
Pervious (grass, landscape, bioretention)	15,000 (9%)	29,700 (17%)
Total Impervious (in ROW+TCEs)	161,600 (91%)	146,900 (83%)

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

The Project would be required to implement a CESC plan with BMPs appropriate to the site, conditions, and activities. During construction, work would be monitored, maintained, and adjusted as necessary to meet changing conditions and to meet requirements of the NPDES construction stormwater permit. Upon completion of construction, disturbed areas would be permanently stabilized through plantings and paving to protect soil from erosion.

2. Air

a. What types of emissions to the air would result from the proposal [e.g., dust, automobile, odors, industrial wood smoke, greenhouse gases (GHG)] during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Construction equipment would include handheld power tools, gasoline and diesel-powered compressors and generators, and gasoline and diesel-powered vehicles to remove existing roadway and utility infrastructure and construct new roadway and utility improvements. These tools generate emissions due to the combustion of gasoline and diesel fuels, and include oxides of nitrogen, carbon oxides, particulate matter and smoke, uncombusted hydrocarbons, hydrogen sulfide, and water vapor. Other emissions during construction could include dust and exhaust from construction vehicles. These effects are expected to be localized, temporary, and minimized. The completed project is not expected to generate odors.

The Project would produce GHG in three ways: embodied in materials to be installed on the project; through construction activity (especially as described above); and by regular operation, maintenance, and monitoring activities throughout the 50-year lifespan of the completed Project. Emissions generated during the manufacturing of materials used in this Project are not estimated or otherwise considered in this environmental review due to the difficulty and inaccuracy inherent in calculating such estimates. New bioretention facilities and street trees are expected to capture and accumulate biomass (organic matter). However, the mass of carbon sequestered by the bioretention facilities during their anticipated 50-year lifespan is not

estimated or otherwise considered in this environmental review due to the difficulty and inaccuracy inherent in calculating such estimates.

Table 2 summarizes the estimated emissions that would be released as a result of construction. Emissions were estimated according to the Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985–1999 (US EPA 2001). Air emissions due to operation and maintenance of the completed Project are expected to be similar to existing conditions. Maintenance required to manage new stormwater infrastructure is expected to offset the maintenance required currently to address ponding and sediment buildup due to the lack of sufficient drainage infrastructure on Project blocks.

The Project would generate GHG emissions during construction through the operation of diesel- and gasoline-powered equipment, and in the transportation of materials, equipment, and workers to and from the site. The estimates provided are based on assumptions for typical numbers of vehicle operations to execute the work (Appendix A). The completed Project would generate GHG emissions through routine and emergency operation, maintenance, and monitoring of the project through an assumed lifespan of 50 years.

Table 2: Summary of Greenhouse Gas (GHG) Emissions

Activity/Emission Type	GHG Emissions (pounds of CO_2e)[1]	GHS Emissions (metric tons of CO_2e)[1]
Buildings	NA	NA
Paving	5,158,730	2,340
Construction Activities (Diesel)	1,030,007	467
Construction Activities (Gasoline)	133,942	61
Long-term Maintenance (Diesel)	21,240	10
Long-term Maintenance (Gasoline)	9,720	4
Total GHG Emissions	6,353,639	2,882

[1]Note: 1 metric ton = 2,204.6 pounds of CO_2e. 1,000 pounds = 0.45 metric tons of CO_2e

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

No off-site sources of emissions or odors would affect the Project. However, the First Student property "bus barn" (13525 Lake City Way NE) and Toyota of Lake City (13355 Lake City Way NE) are adjacent the Little Brook site. The bus barn property is used for parking and refueling school buses, which could be a source of emission or odors. Toyota of Lake City performs vehicle maintenance and stores large quantities of vehicles on their site, which could be a source of emissions.

Neighborhood and parcels adjacent to the Little Brook site (32nd Ave NE between NE 135th St and NE 137th St) are developed primarily as neighborhood commercial and high-density multi-family residential. The Olympic Hills site (25th Ave NE between NE 127th St and NE 130th St; NE 127th St between 25th Ave NE and 27th Ave NE; 27th Ave NE between NE 125th St and NE 127th St) is developed primarily as neighborhood residential, neighborhood commercial with high-density multi-family. The 27th Ave NE between NE 125th St and NE 127th St of the Olympic Hills site is adjacent to Albert Davis Park.

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

During construction, impacts to air quality would be reduced and controlled through implementation of federal, state, and local emission control criteria and City of Seattle required construction practices. These would include requiring contractors to use BMPs for construction methods, proper vehicle maintenance, and minimizing vehicle and equipment idling.

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.

No surface water bodies are on or in the immediate vicinity of the Olympic Hills site. Littlebrook Creek is adjacent to the Little Brook site (but not within the Project boundary). At the intersection of NE 137th St and 32nd Ave NE, Littlebrook Creek has an open channel portion that is approximately 150 feet from the site. At the intersection of NE 135th St and 32nd Ave NE, Littlebrook Creek is fully piped and less than 100 feet from the site. Piped watercourses do not have regulated Riparian Management Environmentally Critical Areas (ECAs) per SMC 25.09.012.D.5.a.

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 Project would not require work over or in surface waters. The Little Brook site would require work within 100 feet of Littlebrook Creek. No work would occur in the Creek, including the piped section adjacent to the Project area. This work would include installation of five lined bioretention facilities with an underdrain, structural soil cells, improved sidewalks, ADA-compliant curb ramps, and sidewalk. Piped watercourses do not have regulated Riparian Management ECAs per SMC 25.09.012.D.5.a. See Figure 3 for the Proposed Infrastructure.

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.

No fill or dredge material would be placed in or removed from surface waters or wetlands.

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

   No surface water withdrawals are proposed. Stormwater runoff would be diverted at the Little Brook site prior to discharging to Littlebrook Creek. At the Olympic Hills site, stormwater would be directed to bioretention facilities where it partially infiltrates into native soil. Stormwater that does not infiltrate would follow existing drainage flow paths. Drainage flow paths do not match existing conveyance infrastructure alignment in the Little Brook site. Untreated low stormwater flows from two large contributing areas would be diverted into the bioretention facilities at NE 137th St via flow splitters before the flows reach Littlebrook Creek. Treated stormwater flows would reenter Littlebrook Creek at NE 135th St, one block south of NE 137th St.

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

   The Project is not within a 100-year floodplain. No Flood-prone ECAs are mapped within 200 feet of either Project area.

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.**

   This Project would not discharge waste material 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.**

   This Project would not withdraw 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.**

   This 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.**

Sources of stormwater runoff include upstream neighborhood streets, sidewalks, driveways, and impervious areas on adjacent parcels (such as rooftops, driveways, pathways, and parking lots). The Project includes new curb and gutter and/or asphalt thickened edge to convey stormwater along the road edge to new stormwater facilities that include catch basins, flow splitters on PSD mains, inlets, and curb cuts into bioretention facilities. Stormwater from catch basins/flow splitters and curb cuts would be directed to bioretention facilities or the PSD system. Bioretention facilities would be designed to infiltrate stormwater runoff passing through the bioretention soil media or discharge stormwater via an underdrain to the public storm drain piped. Runoff entering the PSD system from the Olympic Hills site and Little Brook site would both discharge to Littlebrook Creek.

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

During construction, it is possible erosion from construction sites could enter surface waters. However, a CESC plan using appropriate BMPs (straw wattles, silt fence, inlet protection, etc.) would be implemented to avoid or minimize this risk. Work would be monitored, maintained, and adjusted as necessary to meet changing on-site conditions and to meet requirements of the construction stormwater NPDES permit. Runoff passing through the bioretention facilities would infiltrate into the ground after passing through bioretention soil media (18 inches deep) providing water quality treatment in accord with City of Seattle and Ecology stormwater requirements.

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

The Project is designed to collect surface-generated stormwater to provide water quality treatment and infiltrate treated runoff when feasible. The work would not alter overall existing surface drainage patterns. At the Olympic Hills site, the existing informal ditch-and-culvert system would be replaced with conveyance pipes, conveyance swales, or bioretention facilities, meeting SPU's current design standards. Conveyance pipes would direct untreated runoff into the bioretention facilities. Where site conditions do not allow for replacement of an existing ditch with conveyance swales, flow would be conveyed through a culvert and the ditch would be backfilled.

The proposed drainage flow path has been slightly altered from the existing conveyance alignment in the Little Brook site. Flow splitters are proposed to divert low flows from two large contributing drainage areas to the bioretention facilities. The flow splitter on NE 137th St would reroute stormwater runoff from an existing culvert on NE 137th St that currently outfalls to Littlebrook Creek at NE 137th St. Low flows would be rerouted to the proposed bioretention facilities on 32nd Ave NE and would outfall to Littlebrook Creek at NE 135th St. High flows would continue to route to the Littlebrook Creek outfall on NE 137th St. Another flow splitter, located on 32nd Ave NE, conveys low flows from the First Student "bus barn" to the bioretention facilities. High flows continue south along 32nd Ave (matching existing drainage).

The Project includes retrofitting the ROW to accommodate roadside bioretention facilities with an underdrain to intercept and treat the stormwater runoff for each site. The unlined facilities at the Olympic Hills site intercept street runoff and filters through bioretention facilities before partial infiltration into native soil, while the remaining stormwater would overflow into the existing conveyance system that outfalls to Littlebrook Creek.

Treated runoff from the bioretention facilities at the Little Brook site will be collected in the lined bioretention swales (due to high groundwater level, potential soil and/or groundwater contamination and hydraulically restrictive subsurface soil conditions) and conveyed downstream in underdrains to the existing public drainage system and discharged to Littlebrook Creek.

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

This Project is intended to provide water quality treatment for surface-generated stormwater runoff currently flowing to Thornton Creek. Runoff from the Project area is generated within a densely urbanized basin where no flow control or water quality treatment is provided in the ROW prior to the runoff entering the PSD system and discharging to Thornton and Littlebrook creeks. The Project would provide some flow attenuation for surface runoff via bioretention facilities and improve conveyance systems to provide water quality treatment for runoff from pollution-generating impervious surfaces.

The Project would use typical construction methods; no adverse impacts to surface or ground waters are expected. BMPs identified in the City of Seattle's Stormwater Code SMC Title 22, Subtitle VIII, relevant City of Seattle Director's Rules, and Volume 2 Construction Stormwater Control Manual would be used to control erosion and sedimentation during construction.

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?

An existing tree inventory is included in the 90 percent design plans. On-site trees have been identified from the topographic survey and basemap prepared by SPU. A tree assessment was conducted in November 2022 for the Blue Atlas Cedar (*Cedrus atlantica* 'Glauca') to be retained and protected on 32nd Ave NE. Existing trees, shrubs, groundcover, and lawn in street ROW conflicting with proposed improvements would be removed. The Project has been designed to

minimize removal and impacts to mature, healthy trees both in and outside the ROW. Trees in conflict with Project design have been recommended for removal by SDOT arborists because they are unhealthy, damaged, in conflict with utilities, or otherwise poorly located per City of Seattle Standard Plan 030 or are causing sidewalk or roadway damage. Table 3 lists the 7 trees that would be removed. Most trees recommended for removal are in the ROW. The Project team has worked with homeowners to obtain their approval for removal of a few trees that either straddle the ROW or are on private property adjacent to the ROW.

Table 2: Proposed Tree Removals.

Tree #	Species / Type	DSH[1] (inches)	Address (nearest)	In ROW?	Reason for Removal
9457	Holly (*Ilex* sp.)	17	12705 27th Ave NE	No	Invasive; too close to proposed sidewalk
15131	Apple (*Malus* sp.)	8	12705 27th Ave NE	Yes	Tree in poor/fair condition; too close to proposed sidewalk
15132	Apple (*Malus* sp.)	8	12705 27th Ave NE	Yes	Tree in poor/fair condition; too close to proposed sidewalk
15137	Rhododendron	6	12705 27th Ave NE	Yes	Mapped as a tree; too close to proposed sidewalk
30061	Pear (*Pyrus* sp.)	7	12705 27th Ave NE	Yes	Tree in poor/fair condition; too close to proposed sidewalk
60226	Not Specified	6	13539 32nd Ave NE	Yes	Too close to proposed sidewalk

[1] DSH = Diameter at standard height

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

According to a review of the Washington Department of Natural Resources (WDNR) Natural Heritage Program's Sata Explorer (accessed at https://experience.arcgis.com/experience/174566100f2a47bebe56db3f0f78b5d9/page/Rare-Plant-and-Ecosystem-Locations/), there are no documented occurrences of sensitive, threatened, or endangered plant species or high quality ecosystems at or near either site. No federally listed endangered or threatened plant species or State-listed sensitive plant species are known to occur within Seattle's municipal limits. Both sites have been intensively disturbed by development and redevelopment over the last 100 years and have been extensively excavated, filled, paved, or occupied by street, utility, and other constructed features. There is no habitat for threatened or endangered plants.

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

To preserve existing vegetation, Project design has been adjusted to avoid, minimize, and mitigate impacts, particularly to mature, healthy trees. Measures have included relocating Project features, identifying construction protection measures for existing vegetation to be retained, and requiring a tree and vegetation protection plan, which includes air-spading and potential directional drilling to expose and avoid impacts to tree roots.

Per a City of Seattle requirement to replace removed trees on City-owned property at a ratio of 3:1, 21 trees are proposed in proximity to the locations of the 7 trees proposed to be removed. Additionally, new street trees are proposed throughout the Project in accordance with City of Seattle's canopy goals and recommendations from SDOT Urban Forestry. Collectively, 28 new street trees are proposed, comprising three deciduous species—two of which are native to Seattle.

While some existing vegetation would be removed, most existing pavement and gravel parking areas (see Table 1) are being replaced with plantings. Proposed planting areas include bioretention facilities containing low-growing grasses, shrubs, bulbs, and perennials as well as small shrubs and trees to perform bioretention and water quality treatment functions. Planting areas outside of bioretention facilities would have soil amendments and generally be revegetated with seeded lawn, groundcovers, or arborist woodchip mulch. The specific treatment would be selected for suitability to conditions and to complement the existing context, along with new street trees. Plant selection for bioretention facilities and outside bioretention facilities would follow the City's GSI planting list (SPU Green Stormwater Infrastructure Manual for Capital Improvement Projects, Volume III: Design; Bioretention Plant List, and Bioretention Street Tree list; available at "https://700milliongallons.org/wp-content/uploads/2020/10/SPU-KCWTD-GSI-Manual-Volume-III-Design-Phase.pdf"). All plant selections would be approved by SDOT.

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

Both sites are in unvegetated paved street ROW, including sidewalks. However, numerous weeds are present in adjacent vegetated areas. According to the 'Noxious Weed' data layer in King County's iMap website, giant hogweed (*Heracleum mantegazzianum*; a Class A noxious weed in King County) and garlic mustard (*Alliaria petiolata*; a Class A noxious weed in King County), are known to be near the sites. If these weeds are found in project areas, they will be removed, bagged, and disposed of off-site.

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.

- **Birds: ☒ hawk, ☐heron, ☒eagle, ☒songbirds, ☐other:**
- **Mammals: ☐deer, ☐bear, ☐elk, ☐beaver, ☒other: Opossum, raccoon, squirrel, brown rat, Norway rat.**

- **Fish: ☐bass, ☒salmon, ☒trout, ☐herring, ☐shellfish, ☐other:**

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

According to WDFW's "Priority Habitat Species on the Web" database (accessed on October 21, 2024), there are no threatened or endangered species known to be on or near any of the sites.

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

Seattle is in the migratory route of many birds and other animal species and is part of the Pacific Flyway, a major north-south route of travel for migratory birds in the Americas extending from Alaska to Patagonia.

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

The Project would increase the number, diversity, and character of plantings in the street ROW. Plantings of native and non-native low-growing plants, shrubs, small trees, and public street trees are anticipated to increase resting, feeding, refuge, and nesting habitat for wildlife.

The Project would also minimize ground disturbance and deploy BMPs identified in the City of Seattle's Stormwater Code (SMC 22.800 through 22.808 and Director's Rule SPU's DWW-200 /SDCI's 10-2021) and Construction Stormwater Control Technical Requirements Manual (Volume 2) to generally protect fish and wildlife and manage stormwater. For example, equipment used for construction activity would be cleaned and inspected before it arrives at Project sites to avoid and minimize potential for fuel or lubricant leaks.

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

European starling, house sparrow, Eastern gray squirrel, and fox squirrel are terrestrial invasive species in King County. (http://www.kingcounty.gov/services/environment/animals-and-plants/biodiversity/threats/Invasives.aspx).

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 generate any new energy needs.

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

The Project would not construct structures or plant vegetation that would block access to the sun for adjacent properties.

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.

Measures to reduce or control energy impacts do not apply. The Project would not generate any new energy needs.

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.

Small amounts of materials present during construction include gasoline and diesel fuels, hydraulic fluids, oils, lubricants, solvents, paints, and other chemical products. A spill of one of these chemicals could potentially occur during construction due to either equipment failure or worker error. Contaminated soils, sediments, or groundwater could also be exposed during excavation. If disturbed, contaminated substances could expose construction workers and potentially other individuals in the vicinity through blowing dust, stormwater runoff, or vapors.

The Project's bioretention facilities would provide water quality treatment for urban stormwater runoff. Typical roadway contaminants found in runoff are expected to accumulate within bioretention soils, although SPU's review of recent scientific studies confirms that many contaminants bind (chelate) with organic matter in the amended bioretention soil media and plant material and/or undergo transformation. While the presence of contaminants and their concentration are not expected to be significant health hazards, bioretention facilities are designed to discourage recreational use. Additionally, for operation and maintenance budgeting purposes, SPU assumes some bioretention soil media/plants would be removed and replaced in 20 to 50 years depending upon monitoring results. The environmental effects of such removal and replacement are not included in this environmental review.

Completed bioretention facilities would not affect populations of mosquitoes, water-loving insects, or waterfowl because bioretention facilities are designed to: 1) have flowing water, which does not support mosquito breeding; 2) drain within 24 hours of a storm event, substantially less than the 72 hours required for development of mosquito larvae; and 3) have mature vegetation not attractive to ducks and geese.

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

   At the Little Brook site, results from an environmental investigation indicate two cleanup sites (CSID 10603 and 9805) within 500 feet, active underground storage tanks with a capacity of greater than 10,000 gallons within 100 feet, and environmental contaminants encountered in soil and/or groundwater samples. Barium and chromium were detected in all samples at concentrations below all screening levels; and acetone and methyl ethyl ketone were detected at the south end of the block at levels that exceed the screening level requirements of the Cedar Mountain Reclamation acceptance criteria [non-detect]. For these reasons, during the 60 percent design, bioretention facilities at the Little Brook site are proposed to incorporate an impermeable liner and an infiltration rate of 0 in/hr. Per the City of Seattle Stormwater Manual (5.8.2.4), vertical setback from the bottom of the Little Brook facilities is designed to be at least 1 foot from the seasonal high groundwater level.

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.**

There are no known hazardous chemicals/conditions. There are no known gas transmission pipelines. As described above, soil contamination was found in the south vicinity of the Little Brook site. SPUs 2024 Environmental Recommendations Memorandum, North Thornton Natural Drainage Systems: Block 45, notes that excavated soils at the southern end of the site should be disposed of at an inert waste landfill that accepts Class II soils or a Subtitle D landfill. However, no special handling requirements are anticipated. Additional information on soil disposal, contaminated soil handling and discharge considerations for dewatering can be found in that memorandum.

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.

Traffic-striping paint may be stored during construction prior to its use. Material would be stored and handled in accordance with City of Seattle standard specifications and requirements.

4. Describe special emergency services that might be required.

Fire and/or medic services could be required during Project construction, as well as possibly during maintenance of the completed Project. However, the completed Project would not demand higher levels of special emergency services than already exist. Typical emergency services required for medical emergencies are provided by the Seattle Fire Department. Typical security services are provided by the Seattle Police Department and SPU's contractor during construction.

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

No such measures are proposed because there would be no environmental health hazards.

b. Noise

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

Noises that exist in the area would not affect the Project.

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

Noise levels in the vicinity of construction would temporarily increase during construction activities. Short-term noise from construction equipment would be limited to the allowable maximum levels of City of Seattle's Noise Control Ordinance (SMC Chapter 25.08). Within the allowable maximum levels, SMC 25.08 permits noise from construction equipment between the hours of 7 am and 7 pm weekdays, and 9 am and 7 pm weekends and legal holidays; however, it is expected that most construction activity would occur from 7 am to 6 pm on weekdays. After Project completion, occasional noise from equipment used for

operation, maintenance, and monitoring would occur periodically, but would be limited to hours allowed by the City of Seattle's Noise Control Ordinance (SMC 25.08).

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

Construction equipment would be muffled in accordance with the applicable laws. SMC Chapter 25.08 prescribes limits to noise and construction activities and would be enforced 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 Project is within street ROW, except for small areas of TCEs on private property used for vehicle travel and/or parking. Land use at the Olympic Hills site is primarily single family residential with a mix of commercial and multi-family residential. The southeast portion of the site is adjacent to Albert Davis Park. Properties adjacent to the Little Brook site are primarily commercial and multi-family residential, including the First Student property "bus barn" (13525 Lake City Way NE) and Lake City Toyota (13355 Lake City Way NE). Both sites are along asphalt-paved streets generally adjacent to either an unimproved ROW shoulder used primarily for parallel parking or a formalized curb and gutter street edge with planting strip and sidewalk.

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?

Neither site has been recently used for working farm or forest lands.

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?

There is no surrounding farm or forest land.

c. Describe any structures on the site.

The Project area is in City-owned street ROW as well as a small areas of TCEs adjacent to the ROW. There are no structures in the Project area.

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

No structures would be demolished.

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

Both sites are entirely within the street ROW. Adjacent properties are primarily zoned residential neighborhood (NR2) and neighborhood commercial (NC3-55) for the Olympic Hill site. Adjacent properties in the Little Brook site are zoned neighborhood commercial (NC3-55, NC3-75).

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

Both sites are in the Plan's Neighborhood Residential Areas.

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

The Project is not in any Shoreline Management District.

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

The City of Seattle maps several ECAs in the vicinity of the Project. These include Thornton Creek and Littlebrook Creek, and Wetlands, Riparian Management, and potential Liquefaction ECAs. Of these ECAs, only the south portion of the Little Brook site, approximately 500 feet, is within one of the designated ECAs: Littlebrook Creek's Riparian Management ECA. The portion of the Creek in the Project site is fully piped. Per SMC 25.09.280: watercourses in pipes and culverts are not regulated as ECAs. Proposed improvements in this area are limited to sidewalk and drainage improvements, which will not impact ECAs.

SDCI maps a Peat-settlement-prone ECA near NE 30th St between 27th and 30th Avenues NE, which is closest to the Olympic Hills project site but is at least 500 feet north of the site. The same applies to two Liquefaction-prone ECAs approximately 500 feet northeast and southwest of Olympic Hills. There are some mapped Steep Slope ECAs nearby by both project areas, but not within 100 feet.

(https://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=f822b2c6498c4163b0cf908e2241e9c2).

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

No people would reside in the completed Project. City maintenance crews would work periodically in the ROW to maintain and monitor vegetation, drainage, and other City infrastructural assets.

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

No people would be displaced.

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

There would be no displacements.

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

The Project would be compatible with existing and projected land uses and plans.

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

There are no nearby agricultural and forest lands of long-term commercial significance.

9. Housing

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

The Project would not construct any housing units.

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

The Project would not eliminate any housing units.

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

No measures are proposed because there would be no housing impacts.

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?

No new buildings are proposed.

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

No views in the immediate vicinity would be altered or obstructed. Street trees planted in the ROW could partially obscure neighborhood and territorial views when they attain mature height.

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

The Project is developing a context-sensitive design for each site to respond to adjacent land uses and how people use and access ROWs. Design is intended to limit impacts to private parcels; lay-out street and sidewalk improvements to respond to existing site conditions (e.g., trees, ECAs) and constraints (e.g., topography); and deploy a communication outreach plan that includes on-site open houses and one-on-one meetings with adjacent property owners. Outreach began during preliminary design and would continue through final design to inform residents of the Project purpose, present the current design at each Project milestone, and offer opportunity for feedback that could meaningfully inform design.

11. Light and glare

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

No lighting is proposed.

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

No lighting is proposed.

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

No off-site sources of light or glare would affect the proposal.

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

No lighting is proposed.

12. Recreation

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

At both sites, the existing public roadway infrastructure provides facilities for people walking and biking along existing streets. The Olympic Hills site, specifically 27th Ave NE between NE 125th St and NE 127th St, sits along the west ROW, across the street from Albert Davis Park. The Park has a play structure, turf areas, and a small greenway. The Lake City Branch of the Seattle Public Library, the pavilion for the Lake City Farmers Market, and the Lake City Community Center are east of Albert Davis Park.

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

The Project would not displace existing recreational uses. Construction would temporarily disturb or detour walking and biking along existing city streets.

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 improve recreation opportunities in the neighborhood by providing new accessible sidewalks and pathways in the ROW where none currently exist. These improvements would improve access to nearby recreation opportunities. The Project contractor would be required to submit, obtain approval for, and implement a Temporary Traffic Control Plan to maintain vehicle, pedestrian, and bicycle access through or around both sites.

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.

A review of the Washington Information System for Architectural and Archaeological Records Data (WISAARD) revealed no buildings, structures, or sites in or adjacent to either Project site are listed in national or state preservation registers. A review of the City of Seattle's landmark register revealed no buildings, structures, or sites in or adjacent to the Project sites are designated Seattle landmarks.

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.

A cultural resources assessment was conducted by Cultural Resource Consultants (Cultural Resource Consultants, LLC 2022). The study did not identify landmarks, features, or other evidence of Native American or historic use or occupation, including human burials or old cemeteries. No historic-period or precontact material evidence, artifacts, or areas of cultural importance were identified in or adjacent to either site. There are no recorded archaeological

sites, Traditional Cultural Properties (TCPs), or cemeteries within 0.5 miles of the Project footprint.

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.

To determine if National Register, State of Washington Heritage, or City of Seattle Landmark properties are in or adjacent to the Project, the 2 Sites were checked against the following registers on October 22, 2024:

Washington Heritage Register and NRHP: http://www.dahp.wa.gov/historic-register

WISAARD database

City of Seattle Landmarks Map: http://www.seattle.gov/neighborhoods/programs-and-services/historic-preservation/landmarks/landmarks-map

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.

The Project would not affect buildings or known cultural resources; only City of Seattle existing roadway assets and stormwater systems would be affected and none of those objects are considered historically or culturally significant. The work would disturb upland areas that have been previously disturbed and filled by construction of roadways and utilities. The work's location on previously disturbed and filled ground reduces the chance of encountering contextually significant archaeological materials. However, the Washington State Department of Archaeological and Historic Preservation's Landscape Predictive Model indicates Sites are in areas with Moderate to High Risk of inadvertent discovery of archaeological resources.

As a result, construction at both sites would be conducted under an Inadvertent Discovery Plan (IDP) for cultural and archaeological materials. Should evidence of cultural artifacts or human remains, either historic or prehistoric, be encountered during ground-disturbing activities, work in that immediate area would be suspended and the find examined and documented by a professional archaeologist as per the IDP. Decisions regarding mitigation and further action, if needed, would be made at that time.

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 would occur primarily in existing improved City-owned street ROWs and a few small TCEs. Street types vary across the two sites as follows:

Olympic Hills site – A curb-less paved local/neighborhood street with intermittent adjacent gravel parking areas and intermittent concrete or gravel sidewalks with drainage ditches. Connections and access to the existing street system would not change.

Little Brook site – Paved commercial neighborhood streets with intermittent wood beams as curbs, adjacent paved parking areas and no sidewalks or landscaping. Connections and access to the existing street system would not change.

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?

Both Project sites are served by King County Metro public transit:

Olympic Hills site – The site has no public transit service. The nearest public transit stop is approximately 300 feet south at NE 125th ST and 28th Ave NE.

Little Brook site – The site has no public transit service. The nearest public transit stop is approximately 300 feet east at Lake City Way NE and NE 137th ST.

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).

Project improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities include:

- Public - Across the NDS sites, path extensions (constructed of either concrete or asphalt) would be added within the ROW to connect existing primary pedestrian pathways to the sidewalk or roadway.

- Public - New asphalt walkways on NE 137th St and 32nd Ave NE and concrete walkways on 27th Ave NE, 32nd Ave NE, and NE 127th St.

Public - New ADA-compliant curb ramps curb ramps across NDS sites.

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 would not use water, rail, or air 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?

Project construction would require approximately 2,165 roundtrips (estimated using Appendix A) due to workers and materials being transported to and from the Project location during the anticipated 260 working-day construction period. Generally, trips would occur between 7 am and 7 pm weekdays, and 9 am and 7 pm on weekends and legal holidays. Specific timing of peak volumes is not known.

The completed Project is expected to generate approximately 200 roundtrips (estimated using Appendix A) over its anticipated 50-year life span to support the on-going emergency and routine operation, maintenance, and monitoring. This assumes each project area will require one visit to site once per year for emergency operations and another trip for maintenance operations. Peak traffic volumes are not expected to change because of the completed Project.

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 proposal would not affect movement of products on roads or streets.

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

During construction, the contractor would be required to deploy a traffic control plan approved by SDOT for work on arterial streets, high impact areas, and construction hubs. Construction would comply with SDOT policies regarding temporary lane and sidewalk closures. SPU and SDOT would encourage the construction contractor to use carpooling for its employees. The Olympic Hills project is adjacent to an arterial street but is expected to have minimal impacts to the arterial street. Neither site is considered a high impact area. The Project will continue to work with SDOT to identify if either site is considered a "construction hub" but that is not anticipated.

The Project would result in new delineation of street edges, new curb and gutter or asphalt thickened edges, road width narrowing at some sites, curb bulbs, landscaped planting strips with street trees, and planted bioretention facilities. These features are expected to assist in traffic calming—especially for non-local access traffic using residential streets as cut-through routes to arterials.

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 create an increased need for public services.

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

No measures proposed to reduce or control direct impacts on public services because the Project would not create an increased need for public services.

16. Utilities

a. Check the utilities currently available at the site: ☒ electricity ☒ natural gas ☒ water, ☒ refuse service ☒ telephone ☒ sanitary sewer ☒ septic system ☒ other: Fiber Optic

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.

☐ **None**

The Project is expected to enhance the life and serviceability of critical public drainage assets and would continue to be owned, operated, and maintained by SPU. Construction would relocate the following utilities:

- Approximate 60 linear feet of 8-inch diameter water main would be replaced at the intersection of NE 127th St and 25th Ave NE, and approximately 80 linear feet of 8-inch diameter water main would be replaced at the intersection of NE 137th St and 32nd Ave NE. These relocations are due to proximity of proposed drainage infrastructure to cast iron pipes.
- Several water services and water meter boxes along 25th Ave NE, 27th Ave NE, and 32nd Ave NE due to conflicts with bioretention facilities and other proposed drainage features.
- Several gas services at both sites would be relocated by Puget Sound Energy (PSE) due to conflicts with bioretention facilities and other proposed drainage features, particularly on NE 127th St and 27th Ave NE.
- Approximately 140 feet of 4-inch diameter gas main and associated services along 27th Ave NE and 220 feet of 1.25-inch diameter gas main and associated services along 32nd Ave would be relocated by PSE.
- Approximately 170 linear feet of 1.5-inch diameter underground communication line along 32nd Ave NE would be relocated (moved to overhead) due to conflicts with proposed public improvements such as drainage, bioretention facilities, and landscape/furnishings and would be relocated (and designed) by the franchisee.

  Four power poles along 32nd Ave NE would require coordination between SCL and the contractor when work is performed within 5 feet of power poles. Only pole holds are anticipated. No poles are expected to be temporarily relocated to accommodate Project construction.

During Project construction, utility services could be interrupted for brief periods to construct these relocations. SPU, PSE, and utility franchisees would notify affected residents and businesses by issuing Service Disruption Notices—usually in the form of door hangers—at least 48 hours before those outages occur.

Inadvertent damage to underground utilities could occur during construction. While such incidents do not occur frequently, they could temporarily affect services to customers served by the affected utility while emergency repairs are made. In addition, some residents may need to place their curbside garbage and recycling containers in front of an adjacent neighbor's house (or other alternative location) on garbage pick-up days. No other interruptions to regular utility services are expected during construction.

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 _____

Type name of signee: Wan-Yee Kuo

Position and agency/organization: CMOM Program Manager

Date submitted:

Figures:

1. North Thornton Natural Drainage Systems 90% Project Location Map
2. Drainage Basin Areas
3. 90% Design Proposed Drainage Infrastructure

Figure 1 – North Thornton Natural Drainage Systems 90% Project Location Map

Figure 2 – Drainage Basin Areas

Figure 3 – 90% Design Proposed Drainage Infrastructure

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 ($MTCO_2e$) Embodied	Emissions Per Unit or Per Thousand Square Feet ($MTCO_2e$) Energy	Emissions Per Unit or Per Thousand Square Feet ($MTCO_2e$) Transportation	Lifespan Emissions ($MTCO_2e$)
Single-Family Home	0	N/A	98	672	792	**0**
Multi-Family Unit in Large Building	0	N/A	33	357	766	**0**
Multi-Family Unit in Small Building	0	N/A	54	681	766	**0**
Mobile Home	0	N/A	41	475	709	**0**
Education	N/A	0.0	39	646	361	**0**
Food Sales	N/A	0.0	39	1,541	282	**0**
Food Service	N/A	0.0	39	1,994	561	**0**
Health Care Inpatient	N/A	0.0	39	1,938	582	**0**
Health Care Outpatient	N/A	0.0	39	737	571	**0**
Lodging	N/A	0.0	39	777	117	**0**
Retail (Other than Mall)	N/A	0.0	39	577	247	**0**
Office	N/A	0.0	39	723	588	**0**
Public Assembly	N/A	0.0	39	733	150	**0**
Public Order and Safety	N/A	0.0	39	899	374	**0**
Religious Worship	N/A	0.0	39	339	129	**0**
Service	N/A	0.0	39	599	266	**0**
Warehouse and Storage	N/A	0.0	39	352	181	**0**
Other	N/A	0.0	39	1,278	257	**0**
Vacant	N/A	0.0	39	162	47	**0**
TOTAL Section I Buildings						**0**

Section II: Pavement

	Area (Sq. Ft.)	Emissions (lbs. CO2e)	Emissions ($MTCO_2e$)
Pavement (sidewalk, asphalt patch) (50 $MTCO_2$/1000 sq feet)	30,890	3,395,062	**1,540**
Concrete Pad (50 $MTCO_2e$/1,000 sq. ft. of pavement at a depth of 6 inches)	16,000	1,763,668	**800**
TOTAL Section II Pavement	**46,890**	**5,158,730**	**2,340**

Section III: Construction

	Emissions ($MTCO_2e$)
TOTAL Section III Construction (See detailed calculations below)	**528**

Section IV: Operations and Maintenance

	Emissions ($MTCO_2e$)
TOTAL Section IV Operations and Maintenance (See detailed calculations below)	**14**

TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT (lbs CO_2e)	**6,353,639**
TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT ($MTCO_2e$)	**2,882**

Section III Construction Details

Construction: Diesel

Equipment	Diesel (gallons)	Assumptions
Excavator x2	18,000	900 hrs x 20 gal/hr (345 hp engine)
Front End Loader x2	10,000	500 hrs x 20 gal/hr (345 hp engine)
Vibratory Roller	240	300 hrs x 0.8 gal/hr (185 hp engine)
Asphalt Paver	675	150 hrs x 4.5 gal/hr (80 hp engine)
Asphalt Truck	980	140 hrs x 7 gal/hr (345 hp engine)
Flat-Bed Truck	3,900	260 round trips x 75 mi/ round trip ÷ 5 mpg
Dump Truck and Pup x 4 (17 Cubic Yard/load)	4,320	360 round trips x 60 mi/ round trip ÷ 5 mpg
Concrete Truck (10 Cubic Yard/Load)	360	45 round trips x 40 mi/round trip ÷ 5 mpg
Street Sweeper	320	400 hrs x 0.8 gal/hr (185 hp engine)
Subtotal: Gallons of Diesel	38,795	
GHG Emissions in lbs CO_2e	1,030,007	26.55 lbs CO_2e per gallon of diesel
GHG Emissions in metric tons CO_2e	467	1 metric ton = 2,204.6 pounds of CO2e. 1,000 lbs = 0.45359237 metric tons

Construction: Gasoline

Equipment	Gasoline (gallons)	Assumptions
Pick-up Trucks or Crew Vans	5,200	260 workdays x 10 trucks x 1 round-trip/day x 40 miles/round-trip ÷ 20 mpg
Misc. Hand Equipment	312	260 workdays x 2 hours x 2 pieces of equipment x 0.3 gal/hour
Subtotal: Gallons of Gasoline	5,512	
GHG Emissions in lbs. CO_2e	133,942	24.3 lbs. CO_2e per gallon of gasoline
GHG Emissions in metric tons CO_2e	61	1 metric ton = 2,204.6 pounds of CO2e. 1,000 lbs. = 0.45359237 metric tons

Construction Summary

Activity	CO_2e (lbs)	CO_2e (Metric Tons)
Diesel	1,030,007	467
Gasoline	133,942	61
Total for Construction	**1,163,949**	**528**

Section IV Long-Term Operations and Maintenance Details

Operations and Maintenance: Diesel

Equipment	Diesel (gallons)	Assumptions
Emergency Operation	400	(1x/site/yr for 50 years) x 2 sites x 1 round-trip event x 20 miles/ round-trip ÷ 5 mpg
Maintenance Operation	400	(1 trip per site annually for 50 years) x 2 sites x 1 round-trip event x 20 miles/ round-trip ÷ 5 mpg
Subtotal: Diesel Gallons	800	
GHG Emissions in lbs. CO_2e	21,240	26.55 lbs. CO_2e per gallon of diesel
GHG Emissions in metric tons CO_2e	10	1 metric ton = 2,2046.6 pounds of CO2e. 1,000 lbs. = 0.45359237 metric tons

Operations and Maintenance: Gasoline

Equipment	Gasoline (gallons)	Assumptions
Pick-up Trucks or Crew Vans	400	(1 trip per site annually for 50 years) x 2 sites x 1 round-trip event x 20 miles/ round-trip ÷ 5 mpg
	-	
Subtotal Gasoline Gallons	400	
GHG Emissions in lbs CO_2e	9,720	24.3 lbs CO_2e per gallon of gasoline
GHG Emissions in metric tons CO_2e	4	1 metric ton = 2,2046.6 pounds of CO2e. 1,000 lbs = 0.45359237 metric tons

Operations and Maintenance Summary

	CO_2e (.Lbs)	CO_2e (Metric Tons)
Diesel	21,240	10
Gasoline	9,720	4
Total Operations and Maintenance	30,960	**14**