SEATTLE PUBLIC UTILITIES
SEPA ENVIRONMENTAL CHECKLIST

This State Environmental Policy Act (SEPA) environmental review of Seattle Public Utilities' (SPU's) Vine Basin Combined Sewer Overflow (CSO) Control Project has been conducted in accordance with the Washington SEPA (RCW 43.21C), state SEPA regulations (Washington Administrative Code [WAC] Chapter 197-11), and the City of Seattle (City) SEPA ordinance (Seattle Municipal Code [SMC] Chapter 25.05).

A. BACKGROUND

1. Name of proposed project:

Vine Basin CSO Control Project

2. Name of applicant:

Seattle Public Utilities

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

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4. Date checklist prepared:

September 5, 2019

5. Agency requesting checklist:

Seattle Public Utilities

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

Construction of the CSO control improvements in the Vine Basin (the Project) is anticipated to require approximately 12 to 16 months, with a tentative start date of July 2022. Construction is required to be completed no later than December 31, 2025.Project construction would progress block-by-block to minimize traffic impacts and impacts to the downtown urban environment and community.

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

The Project is part of a larger City-wide effort by SPU, as mandated through Consent Decree, to complete certain CSO-control related activities. Several CSO-reduction projects are being actively pursued throughout the City, including the Ship Canal Water Quality Project and the East Montlake (Basin 20), Portage Bay (Basin 138), and Magnolia (Basin 60) pump station upgrades. Cumulatively, these projects contribute to CSO reduction throughout the City;

however, this proposed Project – called the Central Waterfront (Basin 69) CSO Control Project in earlier planning documents – is subject to its own environmental review and permit processes. No additional expansions or additions related to this proposal are currently planned.

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

- Central Waterfront (Basin 69) CSO Control Project Draft Engineering Report (June 2019), which describes the project need, existing conditions, the alternatives that were evaluated, and the selected alternative to achieve the Consent Decree CSO performance standard. The Engineering Report will be approved by the Washington State Department of Ecology (Ecology) prior to construction. Submittal to Ecology will occur no later than December 31, 2019.
- On March 14, 2013, Seattle Department of Transportation (SDOT) issued a SEPA Final Environmental Impact Statement (FEIS) for the Elliott Bay Seawall Project, which has a project area that overlaps with a majority of the Project corridor (defined as the extent of proposed area of disturbance within the public right of way of Elliott Avenue) for the proposed Project. On December 16, 2013, SDOT issued a Final Supplemental Environmental Impact Statement (FSEIS) that analyzed impacts related to design refinements and adjustments to the construction sequencing and approach. These documents are on file with the City.

  The proposed Project lies largely within the area analyzed by the FEIS and FSEIS. Because the environments of the projects overlap, the Elliott Bay Seawall Project FEIS and FSEIS and all their supporting Discipline Reports, in their entireties and as corrected and amended, are incorporated by reference into this SEPA environmental review for SPU's proposed Project (per WAC 197-11-635 and 754 and SMC 25.05.635 and 754).

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.

According to the City of Seattle Land Use and Building Permit Maps, there are one active land use application and four building permit applications awaiting government approval adjacent to the Project area. However, these projects are located on private parcels, outside the Right-of-Way (ROW) where the majority of construction for this proposed Project would occur.

According to the SDOT Project and Construction Coordination Map, there are currently no planned ROW projects within the Project corridor that would be under construction during the Project's anticipated 2022–2025 construction window.

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

The following permits or approvals will be required before Project construction can commence:

- Ecology approval of the Vine (Basin 69) CSO Control Project Final Engineering Report
- SPU SEPA Review
- SDOT Street Improvement Permit
- SDOT Construction Street Use Permit

- Seattle Department of Construction and Inspections (SDCI) Noise Variance *(potential based on construction plan and equipment)*
- SDCI/King County Permit for Temporary Dewatering
- Ecology National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit (CSGP) *(potential based on approach to stormwater management)*
- Seattle Parks & Recreation Revocable Use Permit *(potential based on selected construction staging area)*

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.

Project Background

The proposed Project has been initiated to fulfill requirements from the City's Wastewater Consent Decree (Civil Action No. 2:13-cv-678, entered in U.S. District Court on July 3, 2013). SPU operates and maintains combined sewer systems within the City. During large storm events, the combined systems can overflow, resulting in CSOs. The Consent Decree requires the City to control CSO events to no more than one untreated discharge per year, assessed on a 20-year moving average, for each CSO outfall. The purpose of this Project is to construct system improvements to achieve that performance standard for Vine Basin (Basin 69). The Project is needed because during the period of 1999 to 2018, Outfall 69 averaged 1.8 CSOs per year.

The Consent Decree mandated the preparation of a Long-Term Control Plan (LTCP). The LTCP set the following milestones for controlling CSOs from Vine Basin:

- Submit Draft Engineering Report to Ecology by June 30, 2019.
- Submit Final Engineering Report to Ecology by December 31, 2019.
- Complete Draft Plans and Specifications by June 30, 2021.
- Complete Final Plans and Specifications by December 31, 2021.
- Begin Construction by July 1, 2022.
- Complete Construction by September 30, 2025.
- Achieve Controlled Status by September 30, 2026.

This proposed Project, as outlined in these discrete steps, will achieve the goal of controlling CSOs from the Vine Basin, as required by the Consent Decree and applicable environmental regulations.

This SEPA checklist analyzes the potential Project-specific environmental impacts that could result from construction and operation of the recommended alternative.

Project Description

The proposed Project would control the frequency of Vine Basin CSOs by increasing combined sewer system conveyance capacity upstream of an existing CSO Control Structure. It would also establish a new discharge connection to King County's Elliott Bay Interceptor. The Project would increase peak flows and total discharged flows to King County's Elliott Bay Interceptor, which would reduce the flow managed by the existing CSO Control Structure. The combined sewer system currently experiences a CSO event when the hydraulic grade line in the existing

Alaskan Way sewer and CSO Control Structure are elevated above the CSO overflow weir elevation. The Project would provide additional conveyance capacity by adding a new sewer in Elliott Avenue and diversion structure upstream of the CSO Control Structure to divert flows away from the existing CSO Control Structure. This delays the hydraulic grade line from rising above the CSO weir elevation, resulting in a reduction in CSO event frequency.

Proposed Project Elements:

- Installation of approximately 1,800 linear feet of new 24-inch-diameter gravity sewer pipe and other appurtenances, such as maintenance holes, within Elliott Avenue, from Vine Street to Bay Street
- Installation of a new connection to King County's existing Elliott Bay Interceptor
- Construction of a new sewer diversion vault and weir at the crossing of the existing sewer line at the intersection of Vine Street and Elliott Avenue

The following Project elements may be required by Seattle Department of Transportation's restoration requirements and/or coordinated with other City agencies throughout design:

- Improvements to existing curb ramps within the Project corridor, consistent with Americans with Disabilities Act (ADA) specifications
- Green Stormwater Infrastructure (such as bioretention facilities within existing planter strips in the ROW)
- Installation of flexible porous surface treatment within existing tree pits along the Project corridor
- Potential improvements to street lighting and pedestrian crossings

Project Construction

Project construction would be completed entirely within the ROW of Elliott Avenue through open trench construction. Work would occur in one-block increments to minimize traffic and community impacts; once installation of the proposed CSO control improvements is complete for a respective block, the pavement would be temporarily restored, and parking spaces/drive lanes would be restriped. Once construction of all CSO control improvements is complete, the impacted pavement would be restored per the Seattle Department of Transportation's street restoration requirements, which may include additional right-of-way improvements (ADA curb ramps, bioretention facilities, tree pit covers, and lighting/pedestrian crossing improvements, if applicable). Construction is anticipated to last approximately 12 to 16 months.

SPU or SPU's Contractor may lease space within proximity to the Project area to support construction staging and laydown. Properties that do not have a current active use or existing vertical structures are most likely to be used in this capacity. The lease would require that the site be restored to preconstruction conditions or better following completion of the Project.

Project Operation

Operations and maintenance (O&M) of the completed Project is anticipated to be consistent with SPU's existing gravity sewer infrastructure, which requires annual maintenance, and inspection every 10 years with a closed-circuit television (CCTV) to further evaluate conditions. No sewer solids handling is anticipated to be required, as solids would be conveyed to the West Point Wastewater Treatment Plant with the sewer flows. If solids do build-up, they would be removed using a Vactor Truck and disposed of at an approved location.

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 within the ROW of Elliott Avenue, from its intersection with Bay Street to its intersection with Vine Street. The Project corridor is located within the NE quarter of Section 36, Township 25N, Range 3E; and NW quarter of Section 31, Township 25N, Range 4E of the Willamette Meridian. There is no street address available for the Project corridor. The following attachments provide additional detail:

Attachment A – Vicinity Map
Attachment B – Site Plan

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site: *[Check the applicable boxes]*

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

The Project corridor is approximately 1,800 linear feet in length and is composed entirely of developed ROW. According to the SDCI GIS Mapping Application, topography within the Project corridor is generally flat, with little to no discernable slope.

Additional information on geology and soils is found in the Geology and Soils Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

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

The Project corridor is flat, with little to no discernable slope.

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.

Over the last century, urban development in the Project area has resulted in a predominance of disturbed native soils/sediments, cut slopes, and large placements of fill material. The entire Project area has been developed and disturbed in this way. Due to the developed conditions of the Project area, there are no existing soils suitable for agriculture and no agricultural lands. Additional information on geology and soils is found in the Geology and Soils Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

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

According to the SDCI GIS Mapping Application, a portion of the Project corridor is located within a liquefaction-prone area. Additional information on seismic issues and slope stability is found in the Geology and Soils Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

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

Construction of the proposed Project would require excavation of approximately 7,000 cubic yards of material as part of the proposed open trench construction. Excavated areas would be backfilled with stockpiled material once the new sewer pipe and other improvements have been installed. Approximately 2,500 cubic yards of pipe bedding, aggregate, and other fill material would also be imported to provide adequate base for this infrastructure.

Material that requires export would be disposed of at a City-approved upland location or used as fill material (if determined suitable) at sites approved for filling and grading. Imported fill material would be clean and obtained from an approved local supplier.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe:

Given the construction approach and the urban setting, no significant erosion is anticipated during or as a result of SPU's proposed work. To minimize the potential for erosion, the contractor will implement erosion and sediment control best management practices (BMPs) contained within a Project-specific Construction Stormwater and Erosion Control (CSEC) Plan and a Tree, Vegetation, and Soil Protection (TVSP) Plan.

The completed Project would not increase the potential for erosion because the type of surface and use of the Project area would not change. Once Project construction is complete, disturbed areas would be restored to preconstruction conditions or better.

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

The Project corridor is almost entirely covered with impervious asphalt or concrete surfaces (exception being the limited street tree pits and planter strips along Elliott Avenue). Surfaces disturbed by Project construction would be replaced with impervious asphalt or concrete surfaces. No discernable change in impervious surface area would occur as a result of the completed Project.

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

To reduce and control erosion during construction, the contractor will be required to implement BMPs identified within a Project-specific Stormwater Pollution Prevention Plan (SWPPP), CSEC Plan, and TVSP Plan. In addition, if the contractor elects to treat and discharge stormwater to Elliott Bay during construction, the contractor will be responsible for complying with Ecology's NPDES CSGP. No other earth impacts are anticipated to result from construction or operation of the proposed Project.

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.

Mobile and stationary equipment would be used for project construction, thus generating emissions due to the combustion of gasoline and diesel fuels (such as oxides of nitrogen, carbon monoxide, particulate matter and smoke, uncombusted hydrocarbons, hydrogen sulfide, carbon dioxide, and water vapor). Emissions during construction could also include dust from grading activities and exhaust (carbon monoxide, sulfur, and particulates) from construction equipment; these emissions are expected to be minimal, localized, and temporary.

The proposed project would produce greenhouse gases (GHGs) in three ways: embodied in the proposed gravel aggregate, paving and concrete work; through construction activity (as described above); and during regular operation, maintenance, and monitoring activities. Total GHG emissions for the proposed project are estimated to be approximately 5,084.06 metric tons of carbon dioxide emission ($MTCO_2e$); however, approximately 93.5 percent of this total would be generated by GHG's embodied in the proposed gravel aggregate, paving and concrete. GHG emissions embodied in the gravel aggregate, paving and concrete would be spread out over the 100-year design life of the constructed project. The GHG emission calculations are shown in Attachment C and described in the table below. One metric ton is equal to approximately 2,205 pounds. Also, the embodied energy in other materials (such as ductile iron pipe) used in this project has not been estimated for purposes of this SEPA environmental review due to the difficulty and inaccuracy of calculating those estimates.

The proposed project would also generate GHG emissions during operation, maintenance, and monitoring. The estimated emissions are based on the assumed emissions that would be generated annually. The estimated average GHG emissions generated from operations, maintenance, and monitoring over the 100-year design life of the constructed project is 157.51 $MTCO_2e$.

Summary of Greenhouse Gas Emissions

Activity/Emission Type	GHG Emissions (pounds of CO_2e)[1]	GHS Emissions (metric tons of CO_2e)[1]
Paving and Concrete	10,480,668	4,754
Construction Activities (Diesel)	310,423	140.81
Construction Activities (Gasoline)	69,984	31.74
Long-term Maintenance (Diesel)	N/A	N/A
Long-term Maintenance (Gasoline)	347,247	157.51
Total GHG Emissions	11,208,322	5,084.06

[1] Note: 1 metric ton = 2,204.62 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.

There are no known off-site sources of emissions or odors that could negatively affect the proposed Project.

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 standard federal, state, and local emission control criteria and City construction practices. These would include requiring the contractor to use the best available control technologies, proper vehicle maintenance, and minimizing vehicle and equipment idling. In addition, the contractor will implement dust control measures during earthwork, including but not limited to street sweeping, water application to exposed soil surfaces, and covering of soil stockpiles to minimize fugitive dust.

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 so, describe type and provide names. If appropriate, state what stream or river it flows into.

The Project area is paved. There are no surface waterbodies within the Project corridor. The nearest surface waterbody is Elliott Bay, located approximately 300 feet to the southwest of the Project corridor.

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

The proposed Project would not require work within 200 feet of Elliott Bay, which is the nearest surface waterbody to the Project corridor.

(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.

The proposed Project would not require filling or excavation of any surface water.

(4) Will the proposal require surface water withdrawals or diversions? If so, give general description, purpose, and approximate quantities if known.

The proposed Project would not require surface water withdrawals or diversions.

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

The Project corridor does not lie within a designated 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 proposed Project would not create a new discharge point of waste materials to surface waters. However, the Project purpose is to reduce the frequency of CSO events that currently occur from the Vine Basin. CSOs are a source of water pollution that can result in temporary increases in bacterial counts, odors, aesthetic degradation of shorelines, adverse effects on sediment quality, and increased public health concerns in areas where there is potential for public contact. The proposed Project would reduce the number and volume of those CSOs and thereby improve water quality of the nearby surface water.

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 general description, purpose, and approximate quantities if known.

During Project construction, groundwater is expected to be withdrawn from the open trenches given the anticipated excavation depths of up to 16 feet and the anticipated elevation of the groundwater table. Collected groundwater is expected to be treated and discharged to the King County sewer system, following receipt of a King County Industrial Wastewater Discharge Permit. Groundwater would be treated before discharge. The contractor may also elect to treat and discharge water to Elliott Bay, in accordance with a CSGP. The volumes, quality, and ultimate disposition of collected groundwater are not known at this time.

The completed Project would not require the use of groundwater.

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

The proposed Project would not require discharge of any waste material to groundwater.

c. Water Runoff (including storm water):

(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.

Stormwater runoff within the Vine Basin is generated from upstream streets, sidewalks, driveways, and impervious areas from privately and publicly owned improvements. Stormwater is collected by inlets and catch basins throughout Vine Basin. The Basin is divided into two separate sub-basins: the “lower basin” located west of Western Avenue and the “upper basin” located east of Western Avenue. Dry weather flows in the “upper basin” are collected in a combined sewer within Western Avenue that conveys flows north and discharges to the King County Denny Way Interceptor, which conveys flows to the King County Denny Regulator. The “lower basin” collects dry weather flows and conveys them through a 48-inch diameter sewer that crosses beneath the BNSF Railroad Tracks along Alaskan Way. Flows then pass through a CSO Control Structure to the combined sewer in Alaskan Way, which flows north and ultimately discharges to the King County Elliott Bay Interceptor. The King County Elliott Bay Interceptor also conveys flows to the King County Denny Regulator. The King County Denny Regulator pumps flows to the King County’s West Point Wastewater Treatment Plant (WWTP).

During wet weather events, the combined sewage levels in the pipes within Western Avenue rise. As the sewage levels rise, four high-flow paths along Western Avenue allow excess flow to pass from the “upper basin” into sewer infrastructure in the

"lower basin." The four high-flow paths are located at the intersections of Western Avenue and Bell Street, Vine Street, Cedar Street, and Broad Street. These high flows paths are elevated sewer connections or weirs. As the combined sewage level in the Alaskan Way sewer rises, the level within the CSO Control Structure also rises. If the level rises above the elevation of the CSO weir located in the CSO Control Structure, a CSO event is triggered and flows discharge to Elliott Bay via CSO Outfall 69.

The proposed Project would change how flows from the "upper basin" and portions of the "lower basin" are conveyed to the King County Elliott Bay Interceptor. Dry weather flows in the Vine Street sewer (flowing from the east to the west) would be directed into the proposed sewer line in Elliott Avenue. Additionally, sewer flows in Elliott Avenue to the south of Vine Street would also be directed into the proposed sewer line within Elliott Avenue. A diversion vault would be constructed at the intersection of Vine Street and Elliott Avenue and would redirect the two existing sewers into the proposed Elliott Avenue sewer line. During a wet weather event, a weir in the proposed diversion vault would allow high flows to continue down the Vine Street sewer into the CSO Control Structure and Alaskan Way sewer, matching the current flow path. The rest of Vine Basin would continue to operate as before. These improvements would reduce the frequency and volume of CSO discharges to Elliott Bay. Additional details are provided in the *Central Waterfront (Basin 69) CSO Control Project Draft Engineering Report* (June 2019).

Stormwater runoff may need to be managed during construction of the proposed Project to prevent sediment from entering and leaving the construction site. Any precipitation falling on the construction site would be contained on-site and either allowed to infiltrate or collected and then treated before being discharged to a combined sewer or surface water.

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

The potential for waste materials to enter ground or surface waters would be low, given that all construction work is expected to take place within the ROW. However, the contractor will be required to implement BMPs identified in a Project-specific SWPPP or CSEC Plan to avoid or minimize this risk. Additionally, groundwater and stormwater in the Project area would be collected and treated during Project construction, prior to discharge.

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

The proposed Project would be constructed within the ROW of Elliott Avenue. Existing concrete and pavement would be restored consistent with original conditions where construction has occurred. The Project would not increase the amount of impervious surfaces currently present within the Project corridor. Therefore, drainage patterns in the vicinity of the Project corridor would remain the same as the existing conditions.

The flow paths for stormwater in the combined sewer conveyance system within the Vine Basin would be altered by the completed Project, consistent with the description provided in Section B.3.c.1 above. The purpose of these modifications is to achieve the aforementioned CSO performance standard.

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

A fundamental goal of the proposed Project is to reduce the frequency and volume of CSOs from the Vine Basin. The proposed Project would reduce the frequency and volume of CSO events and improve water quality of the nearby surface water (Elliott Bay). Typical open trenching construction methods are anticipated, and no adverse impacts to surface waters or groundwater are expected. The contractor will be required to comply with BMPs identified in a Project-specific SWPPP or CSEC Plan and, if applicable, the Ecology NPDES CSGP.

4. Plants

a. Types of vegetation found on the site: *[check the applicable boxes]*

☒ Deciduous trees:	☐ Alder	☐ Maple	☐ Aspen	☐ Other: (identify)
☒ Evergreen trees:	☐ Fir	☒ Cedar	☐ Pine	☐ Other: (identify)
☒ Shrubs				
☒ Grass				
☐ Pasture				
☐ Crop or grain				
☐ Orchards, vineyards, or other permanent crops				
☐ Wet soil plants:	☐ Cattail	☐ Buttercup	☐ Bulrush	☐ Skunk cabbage
☐ Other: (identify)				
☐ Water plants**:**	☐ water lily	☐ eelgrass	☐ milfoil	☐ Other: (identify)
☐ Other types of vegetation: (identify*)*				

Vegetation found within and near the Project corridor is consistent with vegetation common of an urban setting. Vegetation is generally limited to landscaped trees, shrubs, and grasses located within planter strips or tree pits within the Elliott Avenue ROW.

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

There are no plans to remove existing vegetation within the Project corridor.

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

No federally listed endangered or threatened plant species or state-listed sensitive plant species are known to occur within the urban environment of downtown Seattle and the Project area.

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

Bioretention cells would be constructed within the Project corridor, in existing planter strips. Native plants would be used for these facilities. Existing vegetation within the Project corridor will be protected during construction by the contractor, through adherence to a TVSP Plan.

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

Construction would occur within the paved ROW, which is not suitable habitat for noxious weeds or invasive species. In addition, vegetated areas within the Project corridor are landscaped and maintained to eliminate/control the growth of noxious weeds or invasive species.

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: *[check the applicable boxes]*

Birds:	☒ Hawk	☐ Heron	☒ Eagle	☒ Songbirds
☒ Other: pigeon, crow, seagull				
Mammals:	☐ Deer	☐ Bear	☐ Elk	☐ Beaver
☒ Other: possum, rat				
Fish:	☐ Bass	☐ Salmon	☐ Trout	☐ Herring
☐ Shellfish	☐ Other:			

Fauna within the Project corridor are those adapted to urban environs.

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

The proposed Project is more than 300 feet east of Elliott Bay. There are several Endangered Species Act-listed species within the Elliott Bay. While these species occur within the general vicinity of the Project corridor, Project construction and operation would not occur within the regulatory buffer for Elliott Bay, and therefore, no adverse impacts are expected as a result of the proposed Project.

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

The Puget Sound region is known to be an important migratory route for many animal species. Portions of the Seattle downtown waterfront area may be part of migratory corridors for bald eagles and other bird species traveling to and from foraging areas in Puget Sound or Lake Washington. Bull trout; steelhead; and chinook, chum, pink, and coho salmon use the Puget Sound nearshore. The Puget Sound region is also within the Pacific Flyway—a flight corridor for migrating waterfowl, migratory songbirds, and other birds. The Pacific Flyway extends from Alaska to Mexico and South America.

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

The proposed Project would not result in adverse impacts to wildlife or their environs; therefore, measures to preserve or enhance wildlife are not included.

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

Many invasive animal species are found within the City. However, the Project corridor is entirely paved and does not support habitat for noxious or invasive animal species.

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 CSO control improvements would not require any supplementary energy to operate because they would rely on gravity-driven flow. However, SPU currently uses minor amounts of electricity to monitor flows in this part of its existing combined sewer system and would continue to do so for the completed Project. If it is determined through coordination with SDOT that pedestrian lighting/crossing improvements are warranted, the Project would require limited use of electricity to power these improvements. The improvements to pedestrian lighting/crossing throughout the Project area would be typical of an urban environment.

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

Most of the completed Project would be buried, with few components constructed above ground surface. Portions of the Project that would be constructed above ground surface (lighting/crossing improvements, bioswales, curb ramps, etc.) would not interfere with adjacent properties' usage of solar energy due to their low or narrow profiles.

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 proposed Project would not result in adverse energy or natural resource impacts; therefore, measures to reduce or control energy impacts are not included in the Project design.

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 as a result of this proposal? If so, describe:

During construction of SPU's proposed Project, small amounts of materials present may 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 as a result of either equipment failure or worker error. Also, contaminated soils, sediments, or groundwater could 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.

SPU's completed Project would convey combined sewage and stormwater flows as part of an existing conveyance system. The completed Project would not create any new exposure to environmental health hazards and would reduce the number and volume of CSO discharges.

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

Existing environmental data indicate that, in general, soil and groundwater contamination is present throughout the urban waterfront area of downtown Seattle. Historical and current land uses in the Project area include industrial, commercial, and residential activity. Previous industrial uses in this area include metal works, foundries and plating operations, machine shops, warehouses, and fueling facilities. In the downtown area, commonly encountered contaminants include metals, solvents, and petroleum products. A high-level review of geotechnical reports from other projects determined that more than 50 percent of the boreholes/monitoring wells along Elliott Avenue indicated the presence of hydrocarbons. However, contamination found in the area is generally less than levels of concern for soil and groundwater. Additional information on historical land uses and contaminated materials is found in the Contaminated Materials Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

(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.

Elliott Avenue contains natural gas lines, which would be a consideration during construction. Ground disturbance would occur in proximity to the natural gas utility corridor. Hazardous conditions could occur in the event that Project construction unexpectedly encounters these utilities.

No known hazardous chemicals/conditions could affect Project development and design.

(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.

Construction of the proposed Project would require use and storage of relatively small amounts of materials such as gasoline and diesel fuels, hydraulic fluids, oils, lubricants, solvents, paints, and other chemical products. No toxic or hazardous chemicals would be stored, used, or produced at any time during the operating life of the Project.

(4) Describe special emergency services that might be required.

Fire and medical response services may be required in the event of an emergency during construction or operation/maintenance of the proposed Project. However, the completed Project would not result in higher levels of special emergency services than already exist at the Project location.

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

A Phase 1 site assessment would be completed prior to construction to evaluate the presence and possible sources of contaminated soil or groundwater. If contaminated materials are encountered during construction, these materials would be segregated and removed from the site for proper disposal at a Subtitle D-permitted landfill. The

removal and disposal of contaminated material encountered during construction would result in beneficial effects related to soil and groundwater quality in the Project area.

The contractor will be required to comply with City-approved CSEC Plan and a Fugitive Dust Control Plan; potentially obtain coverage under and comply with the NPDES CSGP; develop and implement a City-approved Spill Prevention, Control, and Countermeasures Plan that addresses handling and disposal of known and unanticipated contamination of soil and groundwater; and develop and comply with a City-approved Hazardous Materials Spill Prevention and Management Plan during construction. Any soils contaminated by spills during construction would be excavated and disposed of in a manner consistent with the level and type of contamination, in accordance with federal, state, and local regulations.

As required by the Washington Department of Labor and Industries (WAC 296-843), the contractor will be required to prepare a City-approved Health and Safety Plan prior to work commencing. The plan would address proper employee training, use of protective equipment, contingency planning, and secondary containment of hazardous materials. In work areas with known contamination in soil, sediment, and groundwater, workers would be required to be Hazardous Waste Operation and Emergency Response-certified (40-hour HAZWOPER Certification [29 CFR and WAC 296-843]), which is required for individuals involved in cleanup of uncontrolled hazardous waste sites.

b. Noise

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

There are no existing sources of noise that would affect the proposed Project.

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

Project construction would result in a short-term increase of noise levels within the Project area. This temporary increase in noise levels would result from construction equipment and practices within the Project corridor. Short-term noise from construction equipment would largely be within the allowable maximum levels of the City's Noise Control Ordinance (SMC Chapter 25.08); noise monitoring would occur to ensure compliance with the maximum permissible noise levels. Within the allowable maximum levels, SMC 25.08 permits noise from construction equipment between the hours of 7 a.m. and 7 p.m. weekdays, and 9 a.m. and 7 p.m. weekends and legal holidays. Some construction activities, such as saw cutting, may temporarily exceed the maximum permissible noise levels. In these discrete cases, which may amount to 40 days over the course of construction, a noise variance would be acquired for the proposed work.

Long-term, the completed Project would not produce noise discernable over the existing background noise of the Project's urban setting.

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

Construction equipment would be muffled in accordance with the applicable laws. Noise monitoring would be implemented to ensure that Project construction remains in compliance with the maximum permissible noise limitations prescribed in SMC Chapter 25.08. A noise variance would be acquired in the discrete cases when prescriptive noise limitations are expected to be exceeded.

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 corridor is composed of the right of way of Elliott Avenue. Adjacent land uses include park, multi-family residential, office, retail/service, and other uses. More information on land uses of the adjacent properties is found in the Land Use, Shorelines, and Parks and Recreation Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS. The proposed Project would not affect current land uses on nearby or adjacent properties.

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

There are no working farms or forest lands on or near the Project corridor.

(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?

The proposed Project would not be affected by normal business operations of working farms or forest lands as there are no designated agricultural or forest lands in the City.

c. Describe any structures on the site.

The Project corridor is composed of Elliott Avenue right of way. Structures within the Project corridor are limited to traffic signals, wayfinding, below-grade maintenance holes, below-grade vaults and pedestrian amenities (lighting/crossing, etc.). Adjacent properties contain a wide array of structures consistent with the urban development of downtown Seattle.

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

The proposed Project would require pavement/concrete cutting to access the underlying utility corridor and to modify existing curb ramps within Elliott Avenue. Existing utilities are not expected to require relocation or removal. No other demolition/alteration of existing structures would occur.

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

Per SMC 23.30.020 zoning boundaries extend to the center line of public rights of way. Therefore, the Project corridor contains a mixture of downtown mixed-use zones such as downtown mixed commercial, residential, and harbor front.

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

The Project corridor is located within the downtown comprehensive plan designation, largely within the "downtown mixed residential/commercial." More information on current comprehensive plan designations is found in the Land Use, Shorelines, and Parks and Recreation Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

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

The Project corridor is located more than 200 feet from the nearest regulated water body and does not lie within City shoreline master program jurisdiction.

h. Has any part of the site been classified as an "environmentally critical" area? If so, specify.

A majority of the Project corridor would be located directly adjacent to a liquefaction prone delineated area, an environmentally critical area as identified and mapped by SDCI's GIS Mapping Application. However, approximately 650 feet of the westernmost portion of the Project corridor is mapped within the liquefaction prone area.

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

The proposed Project is a utility improvement project; no people would reside or work within the completed Project.

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

No people would be displaced by the proposed Project.

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

The proposed Project would not result in displacement impacts; therefore, no avoidance or reduction measures are proposed.

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

The proposed Project is a utility improvement project. No land use compatibility impacts would occur; therefore, no additional measures other than obtaining pertinent permit approval to conduct the proposed work would occur.

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

The Project would have no effect on agriculture or forest lands; therefore, no impact control or reduction measures are proposed.

9. Housing

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

The proposed Project does not include the construction of housing units.

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

The proposed Project would not eliminate existing housing units.

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

No housing impacts would occur; therefore, the proposed Project does not include housing impact reduction or control measures.

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 proposed CSO control improvements would occur within the subsurface of Elliott Avenue; however, the proposed Project includes lighting/pedestrian crossing improvements. Lighting/pedestrian crossing improvements would be mounted on metal poles along the Project corridor. Exact locations/configurations for these improvements have yet to be determined.

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

The viewshed within the Project corridor would be temporarily altered during Project construction. However, these impacts would be limited to the duration of construction. Long-term, the viewshed would be slightly improved through the installation of bioretention cells within existing planter strips.

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

Project construction would occur in one-block phases. This allows for temporary pavement/concrete restoration and restriping to occur before work progresses further along the Project corridor. Once all CSO control improvements are installed, the Project corridor would be permanently resurfaced and restriped. No other aesthetic reduction or control measures are proposed as only short-term construction impacts would occur.

11. Light and Glare

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

Most of the Project construction would occur during daylight hours. Work conducted in low light conditions would require artificial lighting to ensure worker safety. To minimize potential spillover from this lighting, the lights would be downcast and focused on the construction zone. Construction lighting may increase ambient light conditions within the immediate Project area but impacts to sensitive receivers are not anticipated.

Long-term light and glare impacts are not anticipated. Interagency coordination with SDOT may result in the addition of lighting/pedestrian crossing improvements throughout the Project corridor; however, these improvements would be consistent with typical conditions throughout the downtown urban environment and would not result in an adverse impact.

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

The proposed CSO control improvements would not result in the production of light or glare. If minor lighting/pedestrian crossing improvements are included in the scope of work, these improvements would not result in light or glare impacts; rather, these improvements would increase pedestrian safety along the Project corridor.

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

The proposed Project consists of subsurface utility improvements, curb ramp modifications, installation of bioretention cells, pedestrian lighting/crossing improvements, and the addition of flexible porous pavement within existing tree wells. These Project components would not be affected by existing sources of light or glare.

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

No adverse light or glare impacts would result from the completed Project; therefore, no reduction or control measures are proposed.

12. Recreation

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

The proposed Project would be constructed adjacent to the Olympic Sculpture Park and near the Belltown Cottage Park. The Project area is also located in the vicinity of the Elliott Bay Trail, multiple piers extending into Elliott Bay, and Puget Sound, all of which provide recreation opportunities. More information on those resources is found in the Land Use, Shorelines, and Parks and Recreation Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

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

The proposed Project would temporarily disrupt pedestrian use and access to bike lanes one block at a time. Additionally, SPU might reach an agreement with Seattle Parks and Recreation to temporarily utilize portions of the Olympic Sculpture Park as a construction staging/laydown area during Project construction, if other staging options are not considered viable. If SPU were to utilize this park land, temporary recreational impacts would occur, as a portion of the Olympic Sculpture Park would be inaccessible to park users.

Post-construction, recreational opportunities would be consistent with existing conditions as the Elliott Avenue right of way and Olympic Sculpture Park (if used for staging/laydown) would be restored to original conditions or better once Project construction is complete.

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

Construction of the proposed Project would require temporary lane closures and establishment of detours. Such closures and detours would comply with relevant policies administered by SDOT as part of its Street Use permitting process. There are numerous route alternatives for pedestrians, joggers, and bicyclists in the neighborhood. Portions of Elliott Avenue disturbed by Project construction, and if applicable, any staging areas established within park space, would also be restored to original conditions or better. Permanent displacement of existing recreational resources would not occur.

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.

According to the Washington State Department of Archaeology & Historic Preservation Washington Information System for Architectural and Archaeological Records Data (WISAARD), there is one resource within the immediate vicinity of the Project corridor that is determined eligible for listing (Ainsworth & Dunn Warehouse). Other resources that are in the general Project area, approximately 250 feet from the Project corridor, have yet to receive an eligibility determination. More information regarding historic and cultural resources in the Project area can be found in the Cultural Resources Assessment Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

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.

As stated above, the Ainsworth & Dunn Warehouse (determined eligible for listing) is located adjacent to the Project corridor. However, according to the Seattle Department of Neighborhoods Landmarks Map, there are no designated landmarks within the Project corridor. The nearest landmarks are the William Tell Hotel and Bell Building, located more than 1,000 feet from the Project corridor on Battery Street.

Based on the historical and cultural setting of the Project area, if excavation extended into native soils, pre-contact Native American and historical period artifacts or sites could be encountered. However, it is unlikely that native soils would be encountered during construction. According to the Cultural Resources Assessment Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS, the average fill depth in the Project area from Broad Street south to Vine Street is approximately 23.8 feet below ground surface; Project construction is not anticipated to extend below 16 feet below ground surface. More information can be found in the Cultural Resources Assessment Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

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 Archaeology and Historic Preservation, archaeological surveys, historic maps, GIS data, *etc.*

SDOT issued a SEPA FEIS on March 14, 2013 for the Elliott Bay Seawall Project. The FEIS was supported by a Cultural Resource Assessment prepared by SWCA Consultants and Mimi Sheridan. This document was previously incorporated by reference into this Environmental Checklist (see Section A.8).

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 proposed Project would not affect buildings or known cultural resources. Only soils beneath Elliott Avenue within the Project corridor would be affected by construction. There are no documented historic or cultural resources beneath this portion of Elliott Avenue.

The proposed Project is located on previously disturbed and filled upland areas of the City. The Project's location on previously disturbed and filled ground reduces the likelihood of encountering contextually significant archaeological resources. It is anticipated that excavations could reach depths of approximately 16 feet deep; at this depth, it is not anticipated that native soils would be encountered. However, the contractor will implement measures from a Project-specific Inadvertent Discovery Plan to protect unknown resources during construction. Should evidence of cultural artifacts or human remains, either historic or prehistoric, be encountered during excavation, work in that immediate area would be suspended and the find would be examined and documented by a professional archaeologist. Decisions regarding appropriate mitigation and further action 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 proposed Project is located within the public ROW of Elliott Avenue and its intersection with Bay, Broad, Clay, Cedar, and Vine Streets. To accommodate construction, one traffic lane on Elliott Avenue would be open at all times. Where construction work overlaps with the intersections mentioned above, detours would be provided to mitigate for temporary accessibility impacts.

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?

Downtown Seattle is served by numerous Metro public transit routes, although no route currently uses the portion of Elliott Avenue that comprises the Project corridor. The nearest transit stops are located near the intersection of Denny Way and 1st Avenue, approximately 600 feet to the north of the Project corridor.

c. How many additional parking spaces would the completed project or nonproject proposal have? How many would the project or proposal eliminate?

The completed Project would not create any new parking spaces; no existing parking spaces would be permanently displaced. Construction would temporarily eliminate on-street parking spaces; however, the one-block construction phasing would limit temporary on-street parking impacts to approximately 3 months per block. Specific timing and duration of parking and lane closures are not known at this time, but such closures would comply with relevant policies administered by SDOT as part of its Street Use permitting process.

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

The proposed Project includes restoration of the portion of Elliott Avenue impacted by construction, to pre-construction conditions or better. Minor improvements to the public right of way would also occur. These include ADA improvements to existing curb ramps, installation of bioretention facilities, placement of porous pavement within existing tree wells, and potentially minor lighting/pedestrian crossing improvements (to be determined through coordination with SDOT).

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

The proposed Project is located near the Seattle Waterfront at Elliott Bay, which is used by ferries, cruise ships, and commercial vessels. In addition, BNSF owns and operates a railway approximately 160 feet to the southwest of the Project corridor. The proposed Project would not require use of, or interfere with, these transportation resources.

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

The completed Project would produce minimal vehicle trips. Vehicle trips would be produced only during monitoring/maintenance of completed Project. This would result in approximately one annual roundtrip to the Project corridor (anticipated to be an existing SPU maintenance vehicle used for these purposes). Every 10 years, SPU crews would inspect the pipes with a closed-circuit television to evaluate conditions by way of video surveillance. This could require a total of two additional roundtrips for that year. These trips would likely occur during business hours (between 7 a.m. and 6 p.m.) on weekdays. Monitoring and maintenance would occur over the constructed Project's 100-year lifespan.

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

Neither the proposed Project nor its construction would interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets.

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

The construction-related transportation impacts of the proposed Project would be controlled through implementation of the following:

- The contractor will adhere to a City-approved, Project-specific Traffic Control Plan, prepared in accordance with SDOT's Traffic Control Manual.
- Project construction would occur in one-block phases. Pavement restoration/ restriping would occur after installation of the proposed CSO control improvements is complete per each one-block phase. This would ensure that conditions could be restored to the greatest extent practicable for blocks where construction is complete.
- The proposed right of way work would be reviewed and approved by SDOT prior to commencement of Project construction to ensure that impacts to the transportation network are within appropriate limits.
- Construction would be implemented in a way that avoids full closure of any block so through traffic could be maintained. Where work would occur within an intersection, a detour would be provided.

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 proposed Project is not expected to create an increased need for public services. Project construction would always be required to accommodate emergency access for buildings accessed via the Project corridor. Emergency access would comply with relevant policies administered by SDOT as part of its Street Use permitting process.

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

During construction, the Project would always be required to accommodate emergency access for structures accessed via the Project corridor. Otherwise, reduction or control measures are not included as no adverse impacts on public services would result from the proposed Project.

16. Utilities

a. Check utilities available at the site, if any: *[check the applicable boxes]*

☐ None
☒ Electricity ☒ Natural gas ☒ Water ☒ Refuse service
☒ Telephone ☒ Sanitary sewer ☐ Septic system
☐ Other:

An extensive network of utilities is located within the Project corridor. More information on public utilities is found in the Public Services and Utilities Discipline Report for the Elliott Bay Seawall Project FEIS and FSEIS.

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.

The proposed Project is a CSO control improvement project led by SPU that would reduce the frequency and volume of CSOs from the Vine Basin. The proposed CSO control improvements would consist of the following:

- Installation of approximately 1,800 linear feet of 24-inch-diameter gravity sewer pipe and other appurtenances, such as maintenance holes, within Elliott Avenue, from Vine Street to Bay Street
- Establishment of a new connection to King County's existing Elliott Bay Interceptor
- Construction of a new sewer diversion vault and weir at the crossing of the existing sewer at the intersection of Vine Street and Elliott Avenue

Construction of the proposed CSO control improvements would be completed through open trench construction. While relocation of existing utilities is not currently planned, if it is anticipated that vertical or horizontal spacing conflicts occur with existing utilities, relocation of these utilities may be required. This would be determined during detailed design of the proposed Project, and during construction, if necessary.

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.

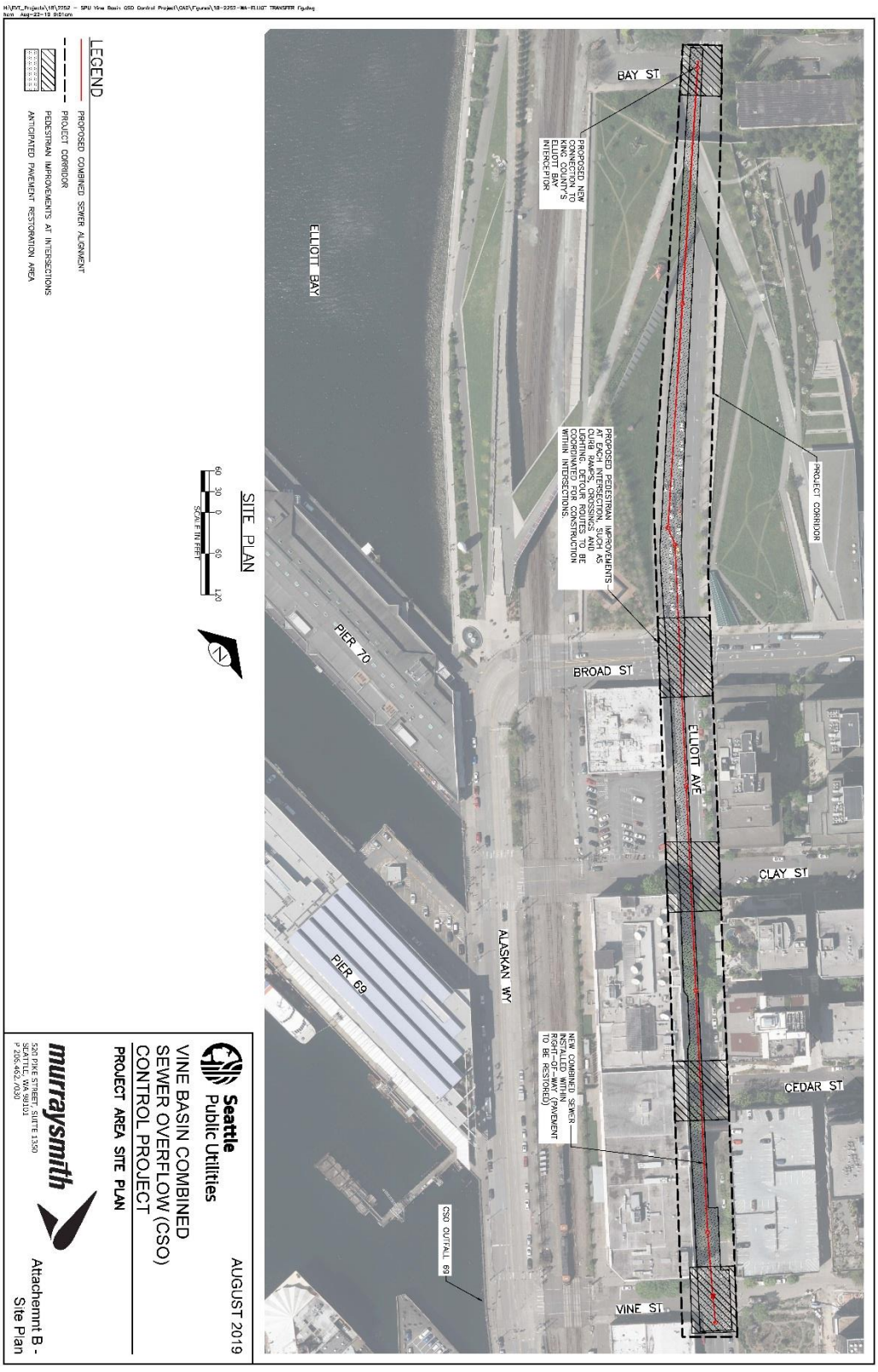
Signature: _____ Date: 9/5/19

Shailee Sztern, PE, Project Manager

Attachment A – Vicinity Map
Attachment B – Site Plan
Attachment C – Greenhouse Gas Emissions Worksheet

Attachment A – Vicinity Map

Attachment B – Site Plan



Attachment C – Greenhouse Gas Emissions Worksheet

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

Section II: Pavement

						Emissions ($MTCO_2e$)
Pavement (street, sidewalk, asphalt patch) or concrete pad, in thousands of square feet (50 $MTCO_2e$ per 1,000 square feet of pavement)		94,500				4,725
Gravel aggregate, in cubic yards (import volume of material is converted to tons and multiplied by an emissions conversion factor of 0.0034 MTCO2e per metric ton of material; see note 1)		6,111				**29.1**
					TOTAL Section II Pavement	**4,754.1**

Section III: Construction

	Emissions ($MTCO_2e$)
(See detailed calculations below)	
TOTAL Section III Construction	**172.55**

Section IV: Operations and Maintenance

	Emissions ($MTCO_2e$)
(See detailed calculations below)	
TOTAL Section IV Operations and Maintenance	**157.51**

TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT ($MTCO_2e$)	**5,084.16**

Attachment C – Greenhouse Gas Emissions Worksheet, continued

Section III Construction Details		
Construction: Diesel		
Equipment	**Diesel (gallons)**	**Assumptions**
Trackhoe	1,048	523.8 hours X 2 gallons per hour
Dump Truck	9,993	49,968 miles / 5 mpg
Concrete Truck	231	1,155 miles / 5 mpg
Road Roller	420	120 hours X 3.5 gallons per hour
Subtotal Diesel Gallons	11,692	
GHG Emissions in lbs CO_2e	310,423	26.55 lbs CO_2e per gallon of diesel
GHG Emissions in metric tons CO_2e	140.81	1,000 lbs = 0.45359237 metric tons

Construction: Gasoline		
Equipment	**Gasoline (gallons)**	**Assumptions**
Pick-up Trucks or Crew Vans	2,880	57,600 miles / 20 mpg (assumed Ford F-150)
Subtotal Gasoline Gallons	2,880	
GHG Emissions in lbs CO_2e	69,984	24.3 lbs CO_2e per gallon of gasoline
GHG Emissions in metric tons CO_2e	31.74	1,000 lbs = 0.45359237 metric tons

Construction Summary		
Activity	**CO_2e in pounds**	**CO_2e in metric tons**
Diesel	310,423	140.81
Gasoline	69,984	31.74
Total for Construction	380,407	**172.55**

Section IV Long-Term Operations and Maintenance Details		
Operations and Maintenance: Diesel		
Equipment	**Diesel (gallons)**	**Assumptions**
Operations and Maintenance	N/A	
Subtotal Diesel Gallons		
GHG Emissions in lbs CO_2e		26.55 lbs CO_2e per gallon of diesel
GHG Emissions in metric tons CO_2e		1,000 lbs = 0.45359237 metric tons

Operations and Maintenance: Gasoline		
Equipment	**Gasoline (gallons)**	**Assumptions**
O&M truck (CCTV)	40	2 days of O&M every 10 years, 30 miles/day, 15 mpg, 100 years
WetVac Truck	14,250	135 gallons/year to complete O&M (27 hours X 5 gallons per hour) + 7.5 gallons/year for trips to and from site (30 miles roundtrip/12 mpg X 3 trips), 100 years
Subtotal Gasoline Gallons	14,290	
GHG Emissions in lbs CO_2e	347,247	24.3 lbs CO_2e per gallon of gasoline
GHG Emissions in metric tons CO_2e	157.51	1,000 lbs = 0.45359237 metric tons

Operations and Maintenance Summary		
Activity	**CO_2e in pounds**	**CO_2e in metric tons**
Diesel	N/A	
Gasoline	347,247	157.51
Total Operations and Maintenance	347,247	**157.51**

1. For purposes of estimating greenhouse gas emissions, the volume of gravel aggregate was converted to tonnage with a conversion factor of 1.4 metric tons (MT) per cubic yard. The tonnage was multiplied by the USEPA's estimated emissions rate, 0.0034 MTCO2e per MT of gravel/sand/clay production, as presented in the EPA's Spreadsheets for Environmental Footprint Analysis. Emissions associated with construction equipment used to construct the access road are presented in Section III.