

**SEATTLE PUBLIC UTILITIES
SEPA ENVIRONMENTAL CHECKLIST**

This SEPA environmental review of Seattle Public Utilities' Pump Station 22 Retrofit and Force Main Replacement 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:

Pump Station 22 Retrofit and Force Main Replacement Project

2. Name of applicant:

Seattle Public Utilities (SPU)

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

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4. Date checklist prepared:

May 24, 2018

5. Agency requesting checklist:

Seattle Public Utilities (SPU)

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

Project construction is scheduled to begin during the first quarter of 2019 and conclude by the end of fourth quarter of 2019. The project is anticipated to require approximately 180 working days to complete based on normal Northwest weather conditions.

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

SPU currently has no plans for future additions or expansions related to the proposed project.

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

Aspect Consulting. 2013 (December 4). Madison Park, Montlake, Magnolia, and Duwamish CSO Areas: Summary of Geotechnical Conditions, SPU CSO Retrofit Project.

CDM Smith. 2018 (February 14). Draft Drainage Report for the Pump Station No. 22 (PS 22) Retrofit and Force Main Replacement Project (draft based on 60% design).

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.

SPU is not aware of pending government approvals of other proposals that directly affect the property covered by this proposal.

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 the following permits and approvals:

- Utility Major Permit (type 51, major projects), City of Seattle, Department of Transportation (SDOT) (includes traffic control plans)
- Right of Way Use Permit(s), SDOT
- Shoreline Street End Permit (aka Public Space Permit), SDOT
- Electrical Service Application, Seattle City Light (SCL)
- Shoreline Substantial Development Permit Exemption, City of Seattle Department of Construction and Inspections (SDCI)
- Construction Wastewater Discharge Permit (for dewatering), King County Wastewater Treatment Division (King County)
- Memorandum of Agreement to be developed between SPU City of Seattle Finance & Administrative Services (FAS) Department, to lease a temporary staging area of up to 5,000 square feet on the Fort Lawton Reserve Center property.
- Memorandum of Agreement to be developed between SPU and Puget Sound Energy, for relocation of natural gas utility services
- Temporary construction easements (on privately owned tax parcels 0904000005 and 1025039108). This is pending private residence negotiation and approval.

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.

In some areas of the City of Seattle, sewage and stormwater runoff are collected in the same pipes, known as combined sewers. During storm events, sometimes the flow in these pipes exceeds the sewer system capacity. When this occurs, the system overflows at an outfall structure designed for this purpose. There are currently 85 outfalls in the City of Seattle where combined sewer overflows (CSOs) can occur.

To comply with State and Federal requirements, SPU must limit the number of CSOs at each of these outfalls to an average of no more than one per year based on a 20-year moving average. Combined sewer Basin 60 in the Magnolia area currently exceeds this performance standard, averaging 2.5 CSOs per year.

Basin 60 is 26.9 acres in size. Combined sewage in this basin flows to Pump Station 22 (PS 22), which is below ground in the street right-of-way at the east end of West Cramer Street. A project vicinity map, area map, and CSO basin map are provided as Attachments A, B, and C, respectively.

Under normal conditions, PS 22 pumps Basin 60 flows through an 8-inch diameter pressurized pipe (force main) that runs west from PS 22 in the West Cramer Street right-of-way. The force main then turns south and travels in the 40th Avenue West right-of-way before connecting to King County's 144-inch diameter Fort Lawton Tunnel Interceptor in the intersection of 40th Avenue West and West Commodore Way. Combined sewage from PS 22 flows via these pipes to King County's West Point Treatment Plant for treatment and eventual discharge to Puget Sound.

During storm events, sometimes flows exceed the capacity of PS 22. When this happens, the excess volume overflows into the 20-inch diameter Outfall 60, resulting in a CSO into Salmon Bay.

The PS 22 Retrofit and Force Main Replacement Project is intended to control CSOs from Basin 60 to meet the State and Federal CSO performance standard. The City's wastewater Consent Decree requires that construction be completed no later than December 31, 2020.

This project would increase the maximum firm capacity of PS 22 from 0.86 to 4.0 million gallons per day (approximately 2,800 gallons per minute) without requiring expansion of the existing pump station's footprint. This would be accomplished by replacing the pump station's two existing pumps with new, higher capacity pumps. To handle the increased flows, the project would also install a new approximately 750-foot, 12-inch diameter ductile iron force main in a similar alignment as the existing force main.

To connect the new force main to the Fort Lawton Tunnel Interceptor, the project would install a new maintenance hole at the intersection of 40th Avenue West and West Commodore Way and approximately 525 feet of 10- to 12-inch diameter gravity sewer in West Commodore Way. The new gravity sewer would discharge to the Fort Lawton Tunnel Interceptor approximately 500 feet east of the intersection of 40th Avenue West and West Commodore Way.

Open-trench construction of the new force main and gravity sewer and installation of associated maintenance hole structures and other appurtenances would be limited to one half of the street to maintain emergency access and limit required pavement repairs. Daytime construction would limit neighborhood access to a single street travel lane with flagger control; during off-work hours, the work areas would be covered with steel plates and streets would be restored for two-way travel overnight. Connection to the Fort Lawton Tunnel Interceptor would require a short period of one-lane closure with a one-way detour for night-time traffic. SPU would coordinate temporary construction traffic management with the Seattle Parks and Recreation Department, which may include rerouting traffic through Discovery Park to expedite construction of the project improvements within West Commodore Way. The existing force main would be abandoned-in-place and plugged with concrete conforming to the City of Seattle Standard Specifications (Section 2-02).

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The project would bring the PS 22 electrical system into compliance with the National Electric Code, bring the ventilation system into compliance with National Fire Protection Association codes, include provisions for a future odor control system if needed, replace the instrumentation and Supervisory Control and Data Acquisition (SCADA) infrastructure used to operate and monitor PS 22, and improve the operational reliability of PS 22 by replacing the existing 60 Kilowatt (KW) diesel emergency standby generator with a new 125 KW diesel emergency standby generator. The project would:

- Replace all piping, fittings and valves with pipes, fittings and valves appropriately sized for the proposed increased pumping capacity;
- Install two access hatches on the roof to allow access to the new pumps, valves, other equipment and provide easier maintenance;
- Install a force main flow meter in a new vault structure immediately upstream of the pump station;
- Repair spalled concrete on dry and wet wells;
- Abate and remove existing lead paint and install new paint/coatings in the dry well;
- Install new or refurbishing handrails and grated flooring;
- Replace a 36-inch diameter maintenance opening above the wet well with a new 36-inch x 36-inch opening;
- Seal the existing circular ventilation hole and the door between the wet well and the dry well to provide airtight separation between the wet well and the dry well;
- Replace the existing 16-inch wide sluice gate and its motor operator;
- Install a new emergency bypass connection upstream of the pump station;
- Install a new force main cleaning and inspection access upstream of the pump station;
- Install minor landscaping improvements such as hydroseeding, small trees, shrubs, and grass pavers;
- Improve maintenance accessibility surrounding the pump station;
- Establish a street end open space available to the public, which would include a bench or sitting area, a path for the public to use to walk from the end of the improved West Cramer St right of way to the bulkhead at the Salmon Bay shoreline, and signage identifying the site as a public shoreline viewing area; and
- Add decorative railing atop the bulkhead at the Salmon Bay shoreline.

This work would require bypassing flows around PS 22 during construction.

All demolished and damaged landscaping, rockery walls, and paved surfaces in the right-of-way would be restored in kind and as directed by SDOT. Residences who have installed surface features that are encroaching in the right-of-way and will interfere with construction would be requested by the City to remove the encroachments. The project would install four new America Disabilities Act compliant curb ramps to the maximum extent feasible: two at the intersection of West Cramer Street and 40th Avenue West and two at the intersection of

40th Avenue West and West Commodore Way. All work would occur in the travelled portions of the street right-of-way except for (a) two small temporary construction easement areas adjacent to PS 22 and (b) a temporary staging area of up to 5,000 square feet proposed to be located on the City of Seattle-owned Fort Lawton Reserve Center property during project construction.

- 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 generally in the right-of-way for West Cramer Street, 40th Avenue West, and West Commodore Way in the City of Seattle's Magnolia neighborhood (zip code 98199) (see Attachments A and B). The approximate street address for this project is 5400 39th Avenue West. The project is in the south half of Section 10, Township 25N, Range 03E and within the Cedar Sammamish Water Resource Inventory Area (WRIA) 8.

In addition, SPU proposes to establish a temporary project material storage and staging area of up to 5,000 square feet in an existing paved portion of the Fort Lawton Reserve Center property located at 4570 Texas Way W (Assessors tax parcel 1025039334). Formerly a U.S. Army base, the federal military base at Fort Lawton was closed in 2011 and control of the property was transferred to the City of Seattle. The property is managed by the Seattle Department of Finance and Administrative Services (FAS).

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site:

Flat Rolling Hilly Steep Slopes Mountainous Other:

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

The new force main will be installed within the paved street right of way, which is generally flat to slightly sloping. The existing sewer system within West Commodore Way and the Pump Station Street end have a slope of between 15 and 30 percent.

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 these soils.

Soils are anticipated to consist of Lawton clay near PS 22 and Vashon till along the force main alignment. These units may be overlain by loose to medium dense fill. Urban development in this part of the City over the last 100 years has resulted in a predominance of disturbed native soils/sediments, cut slopes, and placements of fill material throughout the project site and immediately surrounding area.

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

The site of pump station and force main improvements is generally flat to slightly sloping. Portions of the project site are designated as Steep Slope and Potential Landslide Area, geologic hazard areas identified and mapped as Environmentally Critical Areas by Seattle Department of Construction and Inspections (SDCI). Steep slopes upslope (immediately west) of 40th Avenue West have a history of frequent slumping and other landslide activities.

Portions of the Fort Lawton Reserve Center property are mapped by SDCI as Potential Slide Area and Wildlife Habitat.

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 is anticipated to disturb a total of approximately 40,000 square feet of ground. All excavation would be within the boundaries of existing street right-of-way that has been previously disturbed. Construction would excavate approximately 1,400 cubic yards of soil and backfill with approximately 1,400 cubic yards of excavated and/or imported soil, imported aggregate, and other fill material. Imported material would be obtained from purveyors of such materials licensed to conduct business in Washington. About 1,300 cubic yards of spoil are expected to be exported from the project area. All exported excavated material would be legally disposed at an approved upland location or used as fill material (if suitable) at sites approved for filling and grading.

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

No significant erosion is anticipated during the proposed work. A Construction Stormwater and Erosion Control Plan (CSECP) would be prepared and implemented. Disturbed areas would be restored to their near-original conditions (primarily concrete). The project would comply with applicable provisions of the City of Seattle's Stormwater Code SMC Title 22, Subtitle VIII, City of Seattle Director's Rule SDCI 17-2017/SPU DWW-200, and Volume 2 Construction Stormwater Control Manual.

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

The project would add and replace a total of approximately 26,500 square feet of impervious area. Of this, approximately 21,000 square feet would be replaced pollution-generating impervious surface associated with replacing existing roadway surfaces in West Cramer Street, 40th Avenue West, and West Commodore Way. About 5,500 square feet of this total would be new and replaced non-pollution-generating impervious surfaces at PS 22 and the sidewalk on the south side of West Commodore Way.

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

A Construction Stormwater and Erosion Control Plan (CSECP) would be prepared and implemented. Best Management Practices (BMP) as identified in the City of Seattle's Stormwater Code SMC Title 22, Subtitle VIII, City of Seattle Director's Rule SDCI 17-2017/SPU DWW-200, and Volume 2 Construction Stormwater Control Manual would be used to manage stormwater runoff, construction disturbance, and erosion during construction.

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.

Air Quality and Odors

Project improvements include upgrading the ventilation system for the pump station's dry well and wet well spaces. For the dry well, an existing 0.25 horsepower (HP) exhaust fan located in the dry well will be removed and replaced with two new fans: a 0.25 HP dry well supply fan and a 0.25 HP dry well exhaust fan. Both new fans will be located in the dry well. For the wet well, an existing passive ventilation opening will be plugged, and a new 0.5 HP wet well exhaust fan will be installed. The fan will be mounted in a weatherproof enclosure, on a new concrete pad external to the pump station structure.

During project construction, emissions would occur from vehicles and mobile and stationary equipment at the site, such as crew vehicles, trucks, and construction equipment 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 would also include dust from ground-disturbing activities. Upon the completion of project construction activities, emissions related to construction would cease.

During normal pump station operation, wastewater in the dry well portion of the pump station is fully contained within piping, valves, and pumps and is not exposed to the air inside the dry well, thereby minimizing or eliminating the potential for the generation of airborne odor producing molecules. Therefore, no increased perception of odors would be expected as a result of the dry well ventilation improvements.

Wastewater in the wet well does have some exposure to the atmosphere inside the wet well. The wet well ventilation improvements would increase the rate and volume of air exhausted from the wet well, which could potentially result in an increase in the emission of odors from the pump station. However, the generation and transmission of odor producing molecules in outdoor air is determined by many factors, including environmental and atmospheric conditions, physical landscape, and in the case of wastewater pump stations, the chemical composition of the wastewater and the piping configuration and velocity of the wastewater through the pump station. Additionally, the higher rate of air flow that would result from the ventilation improvements also has the potential to result in a dilution effect associated with reducing the concentration of odor causing molecules in the air exhausted from the wet well. To the extent that the concentration of odor causing molecules is reduced as a result of the increased air flow resulting from the project, the project improvements could also result in no increase of emitted odors.

Greenhouse Gas Emissions

Greenhouse gas emissions can be characterized as “direct” - emissions from sources owned or controlled by the reporting entity - and “indirect” - emissions from sources that are a consequence of the reporting entity, but occur at sources owned or controlled at another entity (e.g., electricity purchased to operate facilities and equipment and embodied emissions associated with the manufacture of purchased materials). This checklist provides information regarding the potential for new or increased direct greenhouse gas emissions to result from construction and operation of the project, and indirect construction-related (embodied) emissions associated with the replacement of demolished and damaged concrete surfaces/structures. Embodied greenhouse gas emissions in other materials (such as aggregate, pre-cast structures, and so forth) used in this project have not been estimated as part of this SEPA environmental review due to the difficulty of accurately calculating estimates for those materials.

Construction

Estimates of direct greenhouse gas emissions related to construction of the project are presented as total metric tons of carbon dioxide (MTCO_{2e}) in Table 1. Total greenhouse gas emissions for the project are estimated to be about 2,608 metric tons of carbon dioxide emission (MTCO_{2e}), where one metric ton is equal to 2,205 pounds.

Construction of the project would include the replacement of demolished and damaged concrete surfaces/structures. The estimated volume of replacement concrete is 815 cubic yards (26,500 square feet at an average of ten inches or 0.83 feet thick), which is estimated to embody 2,208 MTCO_{2e}. Construction of the project would also generate greenhouse gas emissions during the estimated 180 total working-day construction period through the operation of diesel- and gasoline-powered equipment and to transport materials, equipment, and workers to and from the site. Because project construction methods were not completely known at the time this checklist was prepared, the estimates provided here are based on daily vehicle operation times for the estimated project duration (180 working days); actual times may be less. Construction activities would generate an estimated 400 MTCO_{2e}. Please refer to Attachment D for more detailed calculations.

Operation

Operation of the project improvements would result in greater volumes of air being vented to the atmosphere from the pump station’s dry well and wet well. The amount of greenhouse gases in the air exhausted from the pump station’s dry well is expected to be negligible. Depending on the concentration of greenhouse gases such as carbon dioxide or methane in the air exhausted from the wet well, there is a potential for the incremental increase of greenhouse gas released directly to the atmosphere as a result of the increased wet well ventilation air flow resulting from the project. However, the amount of any greenhouse gas currently being released directly to the atmosphere during operation of the pump station is not known, and at present there is no widely-accepted general model or methodology for estimating the effect of ventilation, or changes in ventilation, on greenhouse gas emissions associated with direct releases to the atmosphere from wastewater collection and conveyance facilities. Therefore, the magnitude of potential changes in direct greenhouse gas emissions associated with operation of the project has not been estimated.

Maintenance

Long-term maintenance of the project improvements would not result in increases in greenhouse gas emissions above current levels. The project would be constructed at an existing, operational wastewater pump station, and would not result in increases to the frequency or duration of pump station maintenance visits/activities.

Summary of Greenhouse Gas (GHG) Emissions

Activity/Emission Type	GHG Emissions (pounds of CO ₂ e) ¹	GHS Emissions (metric tons of CO ₂ e) ¹
Buildings	0	0
Paving	4,856,959	2,208
Construction Activities (Diesel)	855,707	388
Construction Activities (Gasoline)	26,244	12
Long-term Maintenance (Diesel)	0	0
Long-term Maintenance (Gasoline)	0	0
Total GHG Emissions	5,738,910	2,608

¹Note: 1 metric ton = 2,204.6 pounds of CO₂e. 1,000 pounds = 0.45 metric tons of CO₂e

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 that may affect this proposal.

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 of Seattle construction practices. These would include requiring contractors to use best available control technologies, proper vehicle maintenance, and minimizing vehicle and equipment idling.

The project includes sealing electrical conduits, access openings, and other penetrations to create a gas-tight seal between the pump station wet well and the dry well, which would prevent wet well air and any associated odors from directly entering the dry well and then being exhausted from the dry well to the outside air during pump station operation.

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 pump station project site is on the southern shoreline of Salmon Bay (a marine embayment of Puget Sound) and is protected by an existing bulkhead.

- (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.**

There would be no work over or in any waterbodies. All work is proposed upland of the existing shoreline bulkhead. Work located within 200 feet of Salmon Bay will occur as described in Checklist Item A.11 and other sections of this Checklist.

- (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 material would be placed in or removed from surface water or wetlands.

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

Stormwater runoff from the project area is collected via existing stormwater catch basins and directed into the combined sewer system. The completed project would not change the volume or timing of stormwater runoff that is directed to the combined sewer system.

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

No portion of the project lies within a 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 produce or discharge waste materials to surface waters. The completed project would reduce the volume and frequency of combined sewage overflows to Salmon Bay.

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.**

Groundwater conditions in the project area are bounded by Salmon Bay to the north and east and by topographic ridges to the west and south. Near Salmon Bay, groundwater levels are typically approximately 10 feet below the ground surface and in hydraulic continuity with the water level of the Bay. In areas further from the Bay, perched groundwater conditions can occur in more permeable sandy layers underlain by relatively impermeable geologic units such as Vashon subglacial till and Lawton clay.

Excavations may require dewatering during construction. If so, SPU would require its contractor to prepare a Temporary Construction Dewatering Plan (TDP), and collected water would be managed according to the Plan. Quantities of water that could potentially be collected during temporary construction dewatering and the discharge location(s) of that water are unknown. The project would not otherwise withdraw, discharge, or surcharge 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.**

No waste material would be discharged to groundwater for this project.

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.**

Project area stormwater runoff from paved surfaces within the street right of way, and from roof and yard drains from adjacent private properties, is collected via existing stormwater catch basins and directed into SPU's combined sewer system. The existing peak wastewater conveyance capacity of PS 22 is 1.22 million gallons per day. Under normal conditions, PS 22 conveys flow to the King County Fort Lawton Tunnel Interceptor and ultimately to the West Point Treatment Plant for treatment. When wastewater volumes exceed the capacity of PS 22, the pump station wet well level increases until a combined sewer overflow (CSO) event occurs. During a CSO event, untreated wastewater flows are discharged to Salmon Bay through a 20-inch diameter outfall pipe.

The purpose of the project is to increase the conveyance capacity of PS 22 to decrease the volume and frequency of future CSOs. The proposed project improvements would increase the peak capacity of PS 22 to 4.0 million gallons per day. SPU estimates that the pump station would only run at peak capacity for about 2-3 hours per year. Over the course of long-term operation of the completed project, this would result in a decrease in the volume and frequency of CSO discharges to Salmon Bay and a commensurate increase in flow volumes to the King County regional wastewater system. SPU has coordinated with the King County Wastewater Treatment Division (WTD) in developing and designing the project, and WTD has provided their concurrence that operation of the proposed project improvements is not anticipated to impact the operation of, or require modifications to, the West Point Treatment Plant.

During project construction, stormwater runoff may need to be managed to prevent sediment from entering and leaving the construction site. Precipitation that lands on the construction site would be directed to the existing stormwater collection and distribution system or contained on-site and allowed to infiltrate. Barriers such as sand bags and catch basin inserts would be used to prevent sediments from entering and leaving the construction area. Once construction is complete, temporary erosion control measures would be removed.

The project would add and replace a total of approximately 26,500 square feet of impervious area. Of this, approximately 21,000 square feet would be replaced pollution-generating impervious surface associated with replacing existing roadway

surfaces in West Cramer Street, 40th Avenue West, and West Commodore Way. About 5,500 square feet would be new and replaced non-pollution-generating impervious surfaces at PS 22 and the sidewalk on the south side of West Commodore Way. Generally, the completed project would be re-covered with concrete, but would not create a need to manage additional stormwater runoff beyond currently existing conditions. Stormwater runoff on and adjacent to the project site would follow pre-construction drainage pathways.

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

No part of the proposed work involves any discharges of waste materials to surface or ground waters. However, several construction activities such as sawcutting, concrete pouring and handling, etc., would generate pollutants that could potentially enter local drainage conveyance systems. Non-sediment pollutants that may be present during construction include:

- Petroleum products including fuel, lubricants, hydraulic fluids, and form oils
- Paints, glues, solvents, and adhesives
- Concrete and concrete washwater
- Chemicals associated with portable toilets.

Procedures to prevent and control pollutants, including hazardous materials such as hydrocarbons and pH-modifying substances, would be described in a spill prevention, control, and countermeasures plan that would be prepared for the project and approved by the City of Seattle prior to the start of project construction activities.

The completed project would reduce the volume and frequency of combined sewage overflows to Salmon Bay.

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

The completed project would restore disturbed areas to near-original condition (primarily concrete) and would not create a need to manage additional stormwater runoff beyond currently existing conditions. Stormwater would follow pre-construction drainage pathways. See Checklist Item B.3.c.1 for additional discussion regarding how the project would affect the drainage path for stormwater after it has been collected and directed to the combined sewer system.

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

No adverse impacts to surface, ground, or runoff water are anticipated. BMPs, as identified in the City of Seattle's Stormwater Code SMC Title 22, Subtitle VIII, City of Seattle Director's Rule SDCI 17-2017/SPU DWW-200, and Volume 2 Construction Stormwater Control Manual, would be used as needed to control erosion and sediment transport from and to the project site during construction.

4. Plants

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

<input checked="" type="checkbox"/> Deciduous trees:	<input type="checkbox"/> Alder	<input type="checkbox"/> Maple	<input type="checkbox"/> Aspen	<input checked="" type="checkbox"/> Other: dogwood
<input checked="" type="checkbox"/> Evergreen trees:	<input type="checkbox"/> Fir	<input type="checkbox"/> Cedar	<input type="checkbox"/> Pine	<input checked="" type="checkbox"/> Other: juniper
<input checked="" type="checkbox"/> Shrubs				
<input checked="" type="checkbox"/> Grass				
<input type="checkbox"/> Pasture				
<input type="checkbox"/> Crop or grain				
<input type="checkbox"/> Orchards, vineyards, or other permanent crops				
<input type="checkbox"/> Wet soil plants:	<input type="checkbox"/> Cattail	<input type="checkbox"/> Buttercup	<input type="checkbox"/> Bulrush	<input type="checkbox"/> Skunk cabbage
<input type="checkbox"/> Other:				
<input type="checkbox"/> Water plants:	<input type="checkbox"/> water lily	<input type="checkbox"/> eelgrass	<input type="checkbox"/> milfoil	<input type="checkbox"/> Other:
<input type="checkbox"/> Other types of vegetation:				

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

Proposed work in the street right-of-way would affect impervious surfaces, including concrete travel lanes. Proposed work in the street right-of-way would affect paved surfaces outside of street tree canopy drip-lines. Vegetated areas in the affected public right-of-way are vegetated with lawns, short shrubs, and weeds. Adjacent private parcels consist mostly of impervious surfaces (i.e., roofs, driveways, and patios) and pervious areas vegetated with lawn, landscaping, and trees. The project proposes to remove one flowering dogwood [*Cornus florida*, 4 inches diameter at breast height (DBH)], two Rocky Mountain junipers (*Juniperus scopulorum*, 5 and 6 inches DBH), and one large Hollywood juniper shrub (*J. chinensis* 'Torulosa', DBH not applicable). Except for the flowering dogwood and Hollywood juniper, these plants are in the street right-of-way at the pump station. The flowering dogwood and Hollywood juniper are on private property and are proposed to be removed to allow construction access. None of these plants meets City of Seattle criteria for designation as "exceptional trees" as defined in SDCI's Director's Rule (DR) 16-2008.

c. List threatened or 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 document called "Sections that Contain Natural Heritage Features, Current as of February 6, 2017" (accessed at www.dnr.wa.gov), there are no documented occurrences of sensitive, threatened, or endangered plant species at or near the project site. No federally-listed endangered or threatened plant species or State-listed sensitive plant species are known to occur within Seattle's municipal limits. The project site has been intensively disturbed by development and redevelopment over the last 100 years and has 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:

The project proposes to remove three small trees and one large shrub. All other street trees would be protected during construction. Four 4-foot tall Hinoki false-cypress (*Chamaecyparis obtusa* 'Gracilis') trees are proposed to be planted on private property to replace the large Hollywood juniper shrub and flowering dogwood proposed to be removed from that property. One 6 to 8-foot tall flowering dogwood would be planted east on the south side of West Commodore Way east of 40th Avenue West. All disturbed landscaped buffers in the street right-of-way would be amended with suitable soil-improving materials (e.g. compost) and revegetated as directed by SDOT.

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

A review of information maintained by the King County Noxious Weed Program (available at King County iMap interactive online mapping program, <http://gismaps.kingcounty.gov/iMap/>) did not identify documented occurrence of any noxious weeds within 200 feet of the project 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: [check the applicable boxes]

Birds:	<input checked="" type="checkbox"/> Hawk	<input checked="" type="checkbox"/> Heron	<input checked="" type="checkbox"/> Eagle	<input checked="" type="checkbox"/> Songbirds
	<input checked="" type="checkbox"/> Other: crow, pigeon, gull			
Mammals:	<input type="checkbox"/> Deer	<input type="checkbox"/> Bear	<input type="checkbox"/> Elk	<input type="checkbox"/> Beaver
	<input checked="" type="checkbox"/> Other: possum, raccoon, squirrel, marine mammals			
Fish:	<input type="checkbox"/> Bass	<input checked="" type="checkbox"/> Salmon	<input checked="" type="checkbox"/> Trout	<input checked="" type="checkbox"/> Herring
	<input checked="" type="checkbox"/> Shellfish	<input type="checkbox"/> Other:		

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

The project is located adjacent to the shoreline of Salmon Bay. Endangered Species Act listed species known to use Salmon Bay, Lake Washington, and the Lake Washington Ship Canal are Chinook salmon (*Oncorhynchus tshawytscha*, Threatened Puget Sound), steelhead trout (*O. mykiss*, Threatened Puget Sound), and bull trout (*Salvelinus confluentus*, Threatened Puget Sound). A check of the Washington Department of Fish and Wildlife's "Priority Habitat Species on the Web" database on February 14, 2018 revealed no additional information. However, Salmon Bay is known to provide habitat for coho salmon (*O. kisutch*), sockeye salmon (*O. nerka*), coastal cutthroat trout (*O. clarki*), and many other species of fish, copepods, shellfish, and other marine life. Coastal cutthroat trout and coho salmon are State priority species. The project site is also known to be (but not mapped as being) within the habitat of bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), purple martin (*Progne subis*), and great blue heron (*Ardea herodias*)—priority species in Washington.

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

Seattle is located within 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, South America. Also, Puget Sound, Lake Washington, the Lake Washington Ship Canal, and the Duwamish Waterway are important water migration routes for many animal species.

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

The proposed work involves no in-water or over-water work in Salmon Bay or other waterbodies. The proposed work would limit plant pruning and other vegetation disturbance to that required for project construction. The project proposes to remove one flowering dogwood, two Rocky Mountain junipers, and one large Hollywood juniper shrub. Except for the Hollywood juniper, these plants are in the street right-of-way at the pump station adjacent to the shoreline. The Hollywood juniper is on private property at the property line and is proposed to be removed to allow construction access. Four Hinoki false-cypress trees are proposed to be planted on private property to replace the large Hollywood juniper to be removed there. One 6 to 8-foot tall flowering dogwood would be planted east on the south side of West Commodore Way east of 40th Avenue West. All disturbed landscaped buffers in the street right-of-way would be amended with suitable soil-improving materials (e.g. compost) and revegetated as directed by SDOT.

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

King County lists the European starling, house sparrow, Eastern gray squirrel, and fox squirrel as terrestrial invasive species for this area (<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 project would improve an existing wastewater pump station that currently utilizes electrical energy during normal operation and an on-site diesel motor driven generator to provide electrical energy for emergency operation in the event of a power outage affecting the local electrical grid. The new equipment installed by the project will also be electrically powered, except for the new standby emergency generator, which will also be driven by a diesel motor to provide electricity for pump station operation during power outages affecting the local electrical grid.

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

The tallest elements of the project would be the four Hinoki false-cypress trees, which reach a height of up to 10-12 feet at maturity, and three 4-inch diameter vertical vent pipes on the diesel fuel tank for the emergency generator, which would extend to a

height of approximately 12 feet above grade. Adjacent properties could experience brief periods of shading associated with the presence of these project elements, however the potential occurrence of any shading would be dependent upon multiple factors, including the sun's solar position, the enclosure's distance and direction from the adjacent property, and other existing structures or features in the vicinity of the project. Any shading effects to adjacent properties resulting from the completed project are expected to be minimal.

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 project will meet the applicable requirements of the Washington State and City of Seattle Energy Codes. No additional energy conservation measures are proposed.

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:

Small amounts of materials likely to be 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 equipment failure or worker error. Though unlikely, 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 substances present in combined sewage could pose a potential environmental health hazard during construction and operation of the project improvements. Combined sewage typically consists of a mixture of substances such as human waste, food scraps, oils, soaps, and chemicals. The decomposition of organic household or industrial wastes present in wastewater can produce gases including hydrogen sulfide, ammonia, methane, carbon monoxide, sulfur dioxide, and nitrogen oxides. Many of these gases are heavier than air and tend to settle in low areas. The chemicals potentially present in the wastewater, and the gases they produce, are toxic to humans, and could pose a health risk to workers if exposed during project construction or during routine pump station operation and maintenance activities after construction has been completed. In high enough concentrations, the presence of gases produced by the substances in wastewater can also be flammable, creating a risk of fire or explosion if ignited.

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

The project site is not known to have had industrial or commercial land uses that may have resulted in contamination of soil materials. However, it is possible that contamination of soil or groundwater associated with past uses or activities on or near the site may be present.

(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 or conditions that might 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 activities such as sawcutting, concrete pouring and handling, etc., would generate pollutants that could potentially enter local drainage conveyance systems. Non-sediment pollutants that may be present during construction include:

- Petroleum products, including fuel, lubricants, hydraulic fluids, and form oils
- Paints, glues, solvents, and adhesives
- Concrete and concrete washwater
- Chemicals associated with portable toilets.

During normal operation of the project improvements, no toxic or hazardous chemicals would be stored at any time at the project site, however SPU workers may use small quantities of the above items as part of routine operation and maintenance activities.

During project construction, wastewater flows will be temporarily bypassed around the pump station as required to accomplish project work. The completed project would not affect the composition of combined sewage passing through the pump station. The potential for hazardous chemicals to be produced by or associated with substances present in, or chemical processes occurring in, the combined sewage being conveyed through the pump station, would be the same as prior to construction.

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

No special emergency services would be required during construction or operation of the project. Possible fire or medic services could be required during project construction, as well as possibly during operation of the completed project. However, the completed project would not demand 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:

The construction contractor would be required to develop and implement a Spill Plan to control and manage spills during construction. During construction, the contractor would use standard operating procedures and BMPs identified in the City of Seattle's Stormwater Code SMC Title 22, Subtitle VIII, City of Seattle Director's Rule SDCI 17-2017/SPU DWW-200, and Volume 2 Construction Stormwater Control Manual to reduce or control any possible environmental health hazards. In addition, a spill response kit will be maintained at each site during construction work at that site, and all project site workers will be trained in spill prevention and containment consistent with the City of Seattle's Standard Specifications for Road, Bridge, and Municipal Construction.

Any soil discovered to be contaminated by previous land uses or 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, by qualified contractor(s) and/or City staff.

In recognition of the potential fire and explosion hazards associated with wastewater facility environments, the National Fire Protection Association (NFPA) has published NFPA 820, a standard for Fire Protection in Wastewater Treatment and Collection Facilities. In part, the purpose of the proposed project is to improve pump station ventilation systems to ensure a safe working environment for SPU personnel, and to achieve ventilation system performance that is consistent with NFPA 820. The following is a partial list of project activities to accomplish this:

- Upgrade dry well ventilation to achieve at least eight air changes per hour;
- Upgrade wet well ventilation from passive ventilation to active (mechanical) ventilation to achieve a higher ventilation rate of up to 12 air changes per hour;
- Install combustible and toxic gas detectors; and
- Seal electrical conduits and other penetrations between the pump station wet well and the dry well to create a gas-tight seal.

To ensure workers are not exposed to harmful substances that can be present in wastewater or unsafe concentrations of wastewater gases or vapors during project construction, wastewater flows will be bypassed around the pump station as needed to facilitate project work in, on, and around the pump station structure. Additionally, workers will be required to follow the Washington State safety standards for entry and work in confined spaces (Chapter 296-809 of the Washington Administrative Code), which includes requirements for atmospheric testing in a confined space structure prior to entry and work within the structure. Following the completion of construction, SPU workers performing routine pump station operation and maintenance activities will be required to follow the requirements of SPU's Confined Space Safety Program, which implements the requirements of WAC 296-809.

b. Noise

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

Noise that exists 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 near project construction would temporarily increase during construction. Short-term noise from construction equipment would be limited to the allowable maximum levels of applicable laws, including the City of Seattle's Noise Control Ordinance [SMC Chapter 25.08.425—Construction and Equipment Operations]. 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. It is expected that construction would approximately take 180 working days to complete based on normal Northwest weather conditions.

Operation and maintenance of the completed project would generate noise. PS 22's existing mechanical ventilation system serves the dry well only and includes a single exhaust fan and a supply duct. Existing ducting is a single 6-inch diameter PVC duct from the fan on the upper floor to lower floor of the dry well. Ventilation of the wet well is passive through a static vent connected to the CSO control structure. The project would upgrade the pump station's HVAC system to satisfy NFPA code by installing two continuously operating fans in the dry well: a replacement supply fan and a new exhaust fan along with new supply and exhaust vents. Both fans would be in-line (enclosed within the ducting) to minimize sound escaping the pump station. The project would also add a new continuously operating exhaust fan outside of the pump station structure to ventilate the pump station wet well, along with new supply and exhaust vents. The wet well fan would be housed in an enclosure with silencer to minimize sound escaping the pump station. All new fans and associated noise attention measures would be designed to achieve a maximum noise level of 50 dB at 5 feet.

The project would replace the pump station's existing 60-kilowatt (KW) emergency stand-by generator with a higher capacity, 125 KW generator. As with the existing generator, the new generator would be maintained by running the generator for 30 minutes every 7 days at 100 percent load during weekday business hours only (between 9:00 AM and 5:00 PM). The generator requires such periodic "exercising" to avoid fuel degradation, prevent carbon accumulation, lubricate generator parts, and eliminate moisture within the generator. Otherwise, the generator would start automatically if there is an actual power outage. The replacement generator would be housed in a sound-attenuated, weather-proof enclosure. For purposes of describing these noise levels, the project estimates that the generator would be exercised for 26 hours annually, operate under power outage conditions for 10 hours annually, and that the lifespan of this generator is 15 years. When operating at 100 percent load, the installed generator with enclosure creates sound pressure levels of 68 to 70 decibels [(dB(A)] at 23 feet of distance. For comparison, a passing bus or truck at 10 feet of distance generates sound pressure levels of about 90 dB(A).

(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 (which prescribes limits to noise and construction activities) would be enforced while the project is being constructed and during operations, except for emergencies. The upgraded HVAC system would use fans that are enclosed in ducting and located within the pump station structure (dry well fans), or a noise attenuating enclosure (wet well fan), and would be limited to a maximum rated noise level of 50 dB leaving the pump station. The replacement generator would be housed in a Level 3, sound-attenuating enclosure. Operation of the project improvements would comply with applicable City of Seattle Noise Ordinance (SMC 25.08) and Washington State Maximum Environmental Noise Levels (Chapter 173-60 WAC).

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 site of proposed pump station and force main improvements is in improved public rights-of-way used for vehicle and pedestrian travel, and parking. Adjacent property uses are residential and park/open space. (Discovery Park is adjacent to and west of the site of the project's pump station and force main improvements.)

The current use of the Fort Lawton Reserve Center site is office building. Discovery Park is immediately adjacent (to the west and south) of this property.

- 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 is no documented history of the site having ever been used for agricultural purposes.

- (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 are no working farm or forest land business operations at or near the project site.

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

The proposed work is associated with an existing wastewater facility located in improved public right-of-way used for vehicle and pedestrian travel and parking. Adjacent property uses are residential (some of which may include space for home-based occupations) and park/open space. Utilities are in street rights-of-way.

There are multiple buildings and structures on the Fort Lawton Reserve Center property that are associated with government services and office uses.

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

The project would demolish and replace or relocate two existing above-ground electrical cabinets.

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

Single Family Residential (5,000 and 7,200 square foot lots).

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

The site of proposed improvements to PS 22 and its associated force main is designated as Single Family Residential; the Fort Lawton Reserve Center site is designated as Multifamily Residential.

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

The project site is in the Urban Residential zone of the City of Seattle Shoreline Management district. This proposal was issued a Shoreline Exemption (a written exemption from the requirement to obtain a Shoreline Substantial Development Permit) by the Seattle Department of Construction and Inspections on March 7, 2018 (as per SMC 23.60A.020.C.1.b; SDCI Project Number 6645867).

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

The site of proposed improvements to PS 22 and its associated force main is located in or adjacent to Steep Slope, Potential Slide, Wildlife Habitat, and Flood Prone areas— Environmentally Critical Areas as identified and mapped by the Seattle Department of Construction and Inspections (SDCI). The Fort Lawton Reserve Center site has been mapped by SDCI as Potential Slide and Wildlife Habitat.

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

No people would reside or work in the completed project.

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

The project would not displace any people.

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

There would be no displacement impacts.

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 proposed 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 proposed 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?

The project proposes to install or modify buried elements and would replace two existing above-ground electrical cabinets with new cabinets less than 6 feet tall. Due to fire code requirements, three 4-inch diameter vent pipes for the diesel fuel tank need to extend vertically to a height of 12 feet above the fuel tank. The tank itself is approximately four feet tall and sits on a concrete pad located approximately four feet below grade, so the effective height of the diesel tank vent pipes is approximately 12 feet above grade. The project will create a public open space on top of the buried pump station as well as 4-foot tall decorative railing associated with the bulkhead and the pump station stairwell. Vehicular traffic deterrent barricades would be installed at the end of travel lanes at the West Cramer Street street-end.

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

The vertical ventilation system for the diesel fuel tank may alter or obstruct views from the adjacent properties. The constructed project also would alter views from neighboring private properties and from the West Cramer Street shoreline street end. Generally, this project would open those views due to the removal of trees and shrubs currently located in the street right-of-way and on the property boundary.

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

The project proposes to plant four Hinoki false-cypress trees on the adjoining private property to compensate for the proposed removal of a flowering dogwood and Hollywood Juniper on that property. No additional measures are proposed.

11. Light and Glare

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

The constructed project would not produce light or glare. No new street lights are proposed or required. During construction, if an emergency situation calls for after-dark work, the construction contractor may deploy portable lights that temporarily produce light and glare.

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

The completed project would not create light or glare.

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

There are no existing off-site sources of light and glare that would affect the proposal.

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

No measures are needed to reduce or control light and glare impacts because no impacts would occur. If an emergency requires after-dark work during construction, portable lighting would be adjusted as feasible to minimize glare.

12. Recreation

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

The proposed project is located in improved street right-of-way used for informal recreational activities such as dog-walking, walking, jogging, and bicycling. Because adjoining private property owners have constructed improvements that encroach into the right-of-way for West Cramer Street at the pump station, public access to the shoreline of Salmon Bay is currently discouraged. The City of Seattle's largest park, Discovery Park, abuts the project west of 40th Avenue West.

West Cramer Street is also a designated shoreline street end, which are City-designated portions of public rights-of-way that serve as community assets providing citizens and visitors with opportunities to experience and enjoy Seattle's shorelines as defined in Seattle Municipal Code 23.60A.578. SDOT manages the City's Shoreline Street Ends Program to improve public access, protect unique views, enhance habitat, support maritime industry, and foster stewardship to create long-lasting community assets.

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

The proposed work would not permanently displace any existing recreational uses. Project construction activities could result in short-term, temporary impacts to access and use of nearby parks, formal and informal trails and open space areas, and street end shoreline access locations. Project construction activities would result in short-term temporary lane closure and detour impacts to the use of the affected streets, and potentially the adjacent sidewalks, by walkers, runners, and bicyclists.

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

Temporary closures or detours affecting vehicle and pedestrian routes/access may be required. The project would attempt to make those closures and detours as brief as possible. Project notifications through website updates, emails, and mailings would provide affected residents with advance notice regarding temporary closures and detours. The project would enhance passive recreational opportunities by removing fences, plantings, and other privately constructed encroachments in the right-of-way street end for West Cramer Street. The completed project would maintain a more open, welcoming, and safe environment for street end visitors and provide a short walking path to the existing bulkhead at the shoreline as well as a viewing bench, or other landscape features for visitors to sit and rest such as sitting rocks.

In addition, SPU will take the following measures to avoid or reduce projects impacts on recreation facilities and activities:

- Coordinate all project work affecting public parks and trails in advance with the City of Seattle Parks and Recreation Department;
- Coordinate all project work affecting streets and sidewalks, including the designated Street End Shoreline location, in advance with the Seattle Department of Transportation (SDOT);
- Comply with required SDOT Street Use Permits issued for the project;

- Ensure that safe pedestrian and bicycle routes are maintained at all times consistent with approved street use permits, and traffic control plans; and
- Place temporary project signs along affected streets and sidewalks prior to project construction to provide local residents with advance notice regarding temporary street and sidewalk closures and detours.

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.**

The project proposes to construct improvements at PS 22, which was constructed in 1952. In addition, the project proposes to establish a temporary material staging area at the Fort Lawton Reserve Center property. There are numerous residential and commercial buildings over 45 years old located in the vicinity of both sites, most of which have not been evaluated for cultural/historic significance. However, aside from the project pump station improvements, no buildings or structures would be disturbed by the project.

The project was checked against the registers listed in Item B.13.c below. None of these registers recorded any places or objects listed on, or proposed for, national, state, or local preservation registers located on or adjacent to the site of the proposed pump station and force main improvements. For the Fort Lawton Reserve Center property, the Fort Lawton Cemetery, WISAARD ID No. 537582, is located adjacent and immediately west of the property at 3701 W Government Way. The WISAARD data indicates that this site is not currently listed on the National or Washington State Register of Historic Place, but that it has been determined to be eligible for listing by the Washington Department of Archaeology and Historic Preservation (DAHP) on 10/15/2012.

- 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.**

According to the information sources listed in Item B.13.c below, there are no such cultural resources at or near the project site. All ground disturbance and excavation would occur in existing street right-of-way and developed areas that have been disturbed previously by installation of underground utility infrastructure, roads, and residential structures.

- 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.**

To determine if National Register or Washington Heritage properties are in or adjacent to the project site, the project location was checked against the following registers on February 12, 2018:

Washington Information System for Architectural & Archaeological Research Data (WISAARD), maintained by the Washington State Department of Archaeology & Historic Preservation (found at <https://fortress.wa.gov/dahp/wisaardp3/>)

Landmark List, and Map of Designated Landmarks, maintained by the City of Seattle, Department of Neighborhoods (found at <http://www.seattle.gov/neighborhoods/programs-and-services/historic-preservation/landmarks>)

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.

For the site of proposed pump station and force main improvements, the proposed work would not affect buildings or known cultural resources. Only portions of SPU's municipal wastewater system would be affected. None of those objects are considered historically or culturally important. Also, the proposed work is located on previously disturbed and filled upland areas. The work's location on previously disturbed and filled ground significantly reduces the chance of encountering contextually significant archaeological materials. Work crews would be trained to recognize archaeological materials should they be discovered. 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.

For the Fort Lawton Reserve Center site, the proposed storage and staging of materials and equipment for project construction would occur in existing paved areas of the property located to the north of the adjacent cemetery. Truck traffic entering and leaving the staging area would be routed north to the project construction site via Texas Way, and would not pass by, physically disturb, or otherwise adversely affect the adjacent Fort Lawton Cemetery.

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 in existing, improved street rights-of-way for West Cramer Street, 40th Avenue West, and West Commodore Way and require traffic control. Construction of the proposed project would use the Texas Way, West Commodore Way, 40th Avenue West, and West Cramer Street to access the work site from the staging area within the Fort Lawton Reserve Center property.

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

The proposed project is not expected to impact public transit service. The site of improvements to the pump station and associated force main is not directly served by public transit; the nearest bus stop and route is King County Metro Route 33, which terminates at a bus stop in Discovery Park at the intersection of Texas Way and Illinois Avenue, located approximately 900 feet from the work site via 40th Ave W and Texas Way.

The proposed temporary staging and storage site on the Fort Lawton Reserve Center property would be located at one of the property's existing paved parking areas. The route between any of these areas and the site of project construction activities would be via Texas Way/Texas Way W and 40th Avenue W. This segment of Texas W/Texas Way W is also utilized by King County Metro Bus Route 33, and there is an additional Texas Way bus stop along this route located approximately 1,900 feet southeast of the stop at Illinois Avenue. Truck trips between the temporary staging area and the project construction site are not expected to result in traffic stoppage, detours, lane closures, or delays on these streets, therefore no impacts to transit service are expected.

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

Because the proposed work involves demolishing panels and other work in the street right-of-way, construction would require temporary closures of parking as well as travel lanes. Parking associated with street right-of-way is currently on-street, free parking managed by the City of Seattle. During construction, there may be no or restricted parking on one or both sides of the affected streets. Project construction would temporarily eliminate up to approximately 30 on-street public parking spaces (on a rolling basis) adjacent to the construction zone to accommodate contractor vehicles, mobilization, construction, and local and through access. Generally, however, there is ample on-street parking available elsewhere at the project site and most adjacent and nearby residences have their own off-street parking. The 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. The completed project would neither create nor eliminate parking spaces.

For the temporary staging and storage site at the Fort Lawton Reserve Center property, a total area of approximately 5,000 square feet is proposed, and would be located in one of the existing, paved parking areas on the property. Depending on which area is selected and the configuration used for project staging and storage, up to 26 parking stalls could temporarily be rendered inaccessible for parking during the duration of the staging and storage activities, which are planned to occur for a period of up to nine months. This is a small percentage (less than five percent) of the total number of parking stalls available on the former military base, most of which are currently not used on a regular basis. Use of any existing parking areas for temporary project staging and storage would only occur upon coordination with, and concurrence of, the Seattle Finance and Administrative Services Department, which manages the property on behalf of the City of Seattle.

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 project would restore all demolished and damaged street panels, curbs, sidewalks, and traffic aprons to pre-construction conditions or better, as required by SDOT. No new permanent roads or streets would be constructed as part of the project.

- 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 would not use water, rail, or air transportation.

- 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?**

Project construction would generate about 50 daily vehicle trips due to workers and materials being transported to and from the site during the estimated total 180-working-day construction period based on normal Northwest weather conditions. Most of those trips would occur during business hours (between 7 a.m. and 6 p.m.) on weekdays (Mondays through Fridays) but trips may occur at other times including weekend days. The completed project would not generate any additional vehicle trips beyond that which would normally occur for the on-going and routine operation, maintenance, and monitoring of the municipal combined sewer system in this area.

- 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.**

The proposal would not interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area.

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

The following measures would be used to reduce or control transportation impacts:

- SPU would require the construction contractor to submit a traffic control plan for approval and enforcement by SPU and SDOT.
- SPU would conduct public outreach before and during project construction to notify residents, local agencies, Seattle School District, Metro, and other stakeholders of work progress and expected disruptions or changes in traffic flow.
- Access for emergency-response vehicles would be maintained at all times.
- Through access and vehicle access to private properties may not be available at all times during construction, but temporary closures would be minimized, and detour routes would be properly and clearly signed.
- Alternative routes for pedestrians, bicyclists, and those with disabilities would be identified and clearly signed, as needed.

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. The project would be required at all times to accommodate emergency access for buildings accessed via the affected streets. Emergency access would comply with relevant policies administered by SDOT as part of the Street Use permitting process.

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

During construction, the project would be required at all times to accommodate emergency access for structures accessed via Southwest Andover Street and 26th Avenue Southwest. The project would avoid impacting known buried and overhead utilities, which include overhead electrical and communications utilities and buried gas, water and sewers. No mitigation is being proposed because the project would have no adverse impacts on public services.

16. Utilities

a. Check utilities available at the site, if any:

- None
 Electricity Natural gas Water Refuse service
 Telephone Sanitary sewer Septic system
 Other: cable, fiber optics

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.

Upon completion of the project, PS 22 would continue to be operated by SPU and powered with electricity provided by Seattle City Light. As part of the project, a new gravity sewer system would be installed in Commodore Way and would be operated and maintained by SPU. Also as part of the project, Puget Sound Energy (PSE) would need to relocate an underground, 2-inch diameter natural gas line located in the rights-of-way of W Cramer St, 40th Ave W, and W Commodore Way. The relocation is expected to result in a short-term, temporary interruption in natural gas service to some residences on W Cramer St and 40th Ave W. Natural gas service disruption and notification to affected residences would occur in coordination with PSE and would be consistent with applicable PSE customer notification protocols.

C. SIGNATURE

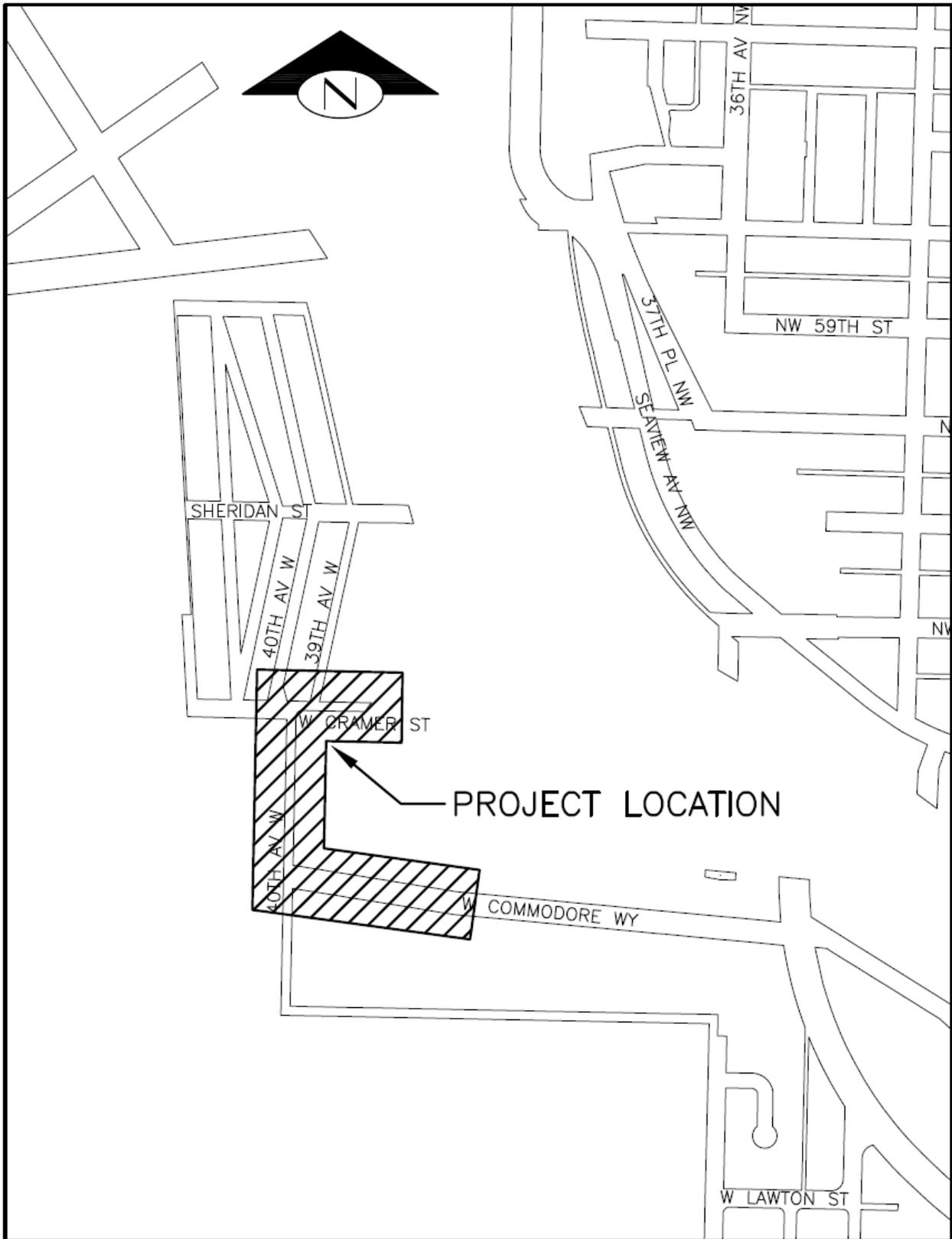
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Jerry A. Waldron
Jerry Waldron
Project Manager

Date: 5-24-18

- Attachment A – Vicinity Map
- Attachment B – Location Map
- Attachment C – Magnolia Combined Sewer Basin 60
- Attachment D – Greenhouse Gas Emissions Worksheet

Pump Station 22 Retrofit and Force Main Replacement
SEPA Environmental Checklist
Attachment B – Location Map





**Pump Station 22 Retrofit and Force Main Replacement
SEPA Environmental Checklist**

Attachment D – Greenhouse Gas Emissions Worksheet

54.8 Section I: Buildings						
			Emissions Per Unit or Per Thousand Square Feet (MTCO_{2e})			
Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	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 (sidewalk, asphalt patch)						
Concrete Pad (50 MTCO _{2e} /1,000 sq ft of pavement at a depth of 6 inches or 18.5 CY)		(26,500 sq ft 0.83 feet thick)				2,208
TOTAL Section II Pavement						

Section III: Construction						
						Emissions (MTCO _{2e})
(See detailed calculations below)						
TOTAL Section III Construction						400

Section IV: Operations and Maintenance						
						Emissions (MTCO _{2e})
(See detailed calculations below)						
TOTAL Section IV Operations and Maintenance						0

TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT (MTCO_{2e})						2,608
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**Pump Station 22 Retrofit and Force Main Replacement
SEPA Environmental Checklist**

Attachment D – Greenhouse Gas Emissions Worksheet, continued

Section III Construction Details		
Construction: Diesel		
Equipment	Diesel (gallons)	Assumptions
Front-end Loaders/Excavators (2)	31,500	2,250 hours x 7 gallons/hour x 2 (345 hp engine)
Dump Truck (17 CY capacity)	200	100 round trips x 10 miles/round trip ÷ 5 mpg
Flat-bed Truck	120	30 round trips x 20 miles/round trip ÷ 5 mpg
Drum Compactor	50	100 hours x 0.5 gallons per hour
Concrete Truck (10 CY capacity)	360	90 round trips x 20 miles/round trip ÷ 5 mpg
Subtotal Diesel Gallons	32,230	
GHG Emissions in lbs CO₂e	855,707	26.55 lbs CO ₂ e per gallon of diesel
GHG Emissions in metric tons CO₂e	388	1,000 lbs = 0.45359237 metric tons

Construction: Gasoline		
Equipment	Gasoline (gallons)	Assumptions
Pick-up Trucks or Crew Vans	1,080	180 working days x 3 trucks x 2 round-trip/day x 20 miles/ round trip ÷ 20 mpg
Subtotal Gasoline Gallons	1,080	
GHG Emissions in lbs CO₂e	26,244	24.3 lbs CO ₂ e per gallon of gasoline
GHG Emissions in metric tons CO₂e	11.9	1,000 lbs = 0.45359237 metric tons

Construction Summary		
Activity	CO₂e in pounds	CO₂e in metric tons
Diesel	855,707	388
Gasoline	26,244	12
Total for Construction	881,951	400

Section IV Long-Term Operations and Maintenance Details		
Operations and Maintenance: Diesel		
Equipment	Diesel (gallons)	Assumptions
	0	
Subtotal Diesel Gallons	0	
GHG Emissions in lbs CO₂e	0	26.55 lbs CO ₂ e per gallon of diesel
GHG Emissions in metric tons CO₂e	0	1,000 lbs = 0.45359237 metric tons

Operations and Maintenance: Gasoline		
Equipment	Gasoline (gallons)	Assumptions
	0	
Subtotal Gasoline Gallons	0	
GHG Emissions in lbs CO₂e	0	24.3 lbs CO ₂ e per gallon of gasoline
GHG Emissions in metric tons CO₂e	0	1,000 lbs = 0.45359237 metric tons

Operations and Maintenance Summary		
Activity	CO₂e in pounds	CO₂e in metric tons
Diesel	0	0
Gasoline	0	0
Total Operations and Maintenance	0	0