SEATTLE PUBLIC UTILITIES
SEPA ENVIRONMENTAL CHECKLIST

This SEPA environmental review of Seattle Public Utilities' Meadowbrook Pond Facility Rehabilitation 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:

Meadowbrook Pond Facility Rehabilitation

2. Name of applicant:

Seattle Public Utilities (SPU)

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

Jonathan Brown, Project Manager
Seattle Public Utilities
Project Delivery and Engineering Branch
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018
206-386-4027
Jonathan.Brown@seattle.gov

4. Date checklist prepared:

January 9, 2018

5. Agency requesting checklist:

Seattle Public Utilities (SPU)

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

This SEPA checklist evaluates Meadowbrook Pond Facility rehabilitation that would remove up to 12,000 cubic yards (CY) of sediment from the Forebay and Cells 1, 2, and 3 as frequently as annually beginning in 2018 and ending in 2022.

The 2018 rehabilitation of the Meadowbrook Pond Facility is scheduled to begin and conclude during the third quarter of 2018. The 2018 rehabilitation work is anticipated to require 60 working days. However, if work is delayed due to funding, costs, permitting issues, or other reasons, SPU may consider dividing the 2018 rehabilitation into two phases. Phase I would likely involve sediment removal in the Facility's Forebay and Cell 1 in 2018. Phase 2 would involve sediment removal in the Facility's Cells 2 and 3, likely to be completed in 2019. Each of the subsequent annual rehabilitation events would also require up to 60 working days.

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

This SEPA environmental checklist analyzes recurring Meadowbrook Pond Facility rehabilitation (sediment removal) work that is projected to occur in the years 2018 through 2022 and that is needed to restore the Facility to its 2012 design on an ongoing basis. These recurring rehabilitation activities are expected to continue beyond this period. SPU's intent is to periodically review the rehabilitation work and use the appropriate SEPA process to comply with SEPA in future years. SPU currently has no plans for future additions or expansions to the Meadowbrook Pond Facility.

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

Northwest Archaeological Associates (NWAA). May 2011. Cultural resources assessment for the Thornton Creek Confluence Project, King County, Washington. [Note: This report assessed cultural resources for the Thornton Creek Confluence Project and the 2012 Meadowbrook Pond Detention Facility Dredging and Improvements Project. Information on archaeological and cultural resource sites is exempt from public disclosure.]

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 the proposed work may require some or all the following permits and approvals:

- Environmentally Critical Areas compliance—City of Seattle, SPU
- Right-of-way Construction Use Permit-- City of Seattle, Department of Transportation (SDOT)
- Street Use Permit—SDOT
- Hydraulic Project Approval (HPA)—Washington Department of Fish and Wildlife (WDFW)
- Clean Water Act (CWA) Section 404 Nationwide Permit—US Army Corps of Engineers (Corps)

  In 2007, the US Army Corps of Engineers (Corps) determined (valid for five years) that Cells 1, 2, and 3 of Meadowbrook Pond are not waters of the United States and excavation, dredging or other maintenance work in these areas would not require a Clean Water Act Section 404 permit authorization. However, the Corps determined the Forebay to Meadowbrook Pond is within the banks of Thornton Creek, which is a water of the United States, and that activities in the Forebay involving excavation, dredging, or alteration of the stream channel would require a Section 404 permit authorization. SPU assumes this will be the case for the currently proposed work (that is, only work in the Forebay and Thornton Creek will require Section 404 permit authorization).

- CWA Section 401 Water Quality Certification—Washington Department of Ecology (linked to CWA Section 404 Permit)
- National Historic and Preservation Act Section 106 compliance—Washington State Department of Archaeological and Historic Preservation (linked to CWA Section 404 Permit)
- Endangered Species Act (ESA) compliance—US Fish and Wildlife Service and/or National Marine Fisheries Service (linked to CWA Section 404 Permit)
- Magnuson-Stevens Fishery Conservation and Management Act compliance (Salmon Essential Fish Habitat)— National Marine Fisheries Service (linked to CWA Section 404 Permit)

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.

The Meadowbrook Pond Stormwater Detention and Flood Control Facility (Facility) is a constructed stormwater management facility in northeast Seattle, located immediately downstream of the confluence of the north and south branches of Thornton Creek. It contains the 2.0 to 2.7 acre (depending on water level) Meadowbrook Pond (Pond) that captures and detains some of the stormwater runoff from about 6,840 acres of the upstream watershed—nearly 90 percent of the total drainage area of Thornton Creek. The Facility was constructed during 1996-1997 on the site of the former Lake City Sewage Treatment Plant.

Although Thornton Creek flows through the Facility, the Pond itself is "off-line" from Thornton Creek except during high flows (i.e., during and immediately following storm events). During dry periods, the Creek flows onto the Facility parcel, through the Forebay trash rack and the Forebay, and over the Pond diversion dam before continuing downstream and off the Facility parcel (i.e., without flowing into the Pond). When it rains and the water level in the Forebay increases, a portion of the water flows from the Forebay into the Pond over a 100-foot long entrance dike. During periods of high flow, water from the Creek may also flow through a high flow bypass pipe inlet, located approximately 200 feet upstream of the Forebay trash rack, and into a 72-inch diameter high flow bypass pipe. The high flow bypass pipe transitions to a 90-inch diameter pipe approximately 1,900 feet east of the Pond. The 90-inch diameter pipe continues easterly for approximately 1,500 feet to a concrete structure on Riviera Pl NE. Flows then exit this structure through two pipes (42-inch and 48-inch diameters) into Lake Washington. Once water enters the Pond, it flows through Pond Cells 1, 2, and 3 before flowing through the Pond outlet weir and back into Thornton Creek. During high flows, a portion of the water flowing from Cell 2 to Cell 3 enters the high flow bypass pipe via an overflow standpipe in the Pond.

The Pond collects and detains stormwater to reduce downstream flooding, streambed scouring, and deposition of sediments in Lake Washington at the mouth of the Creek. To achieve these goals, the Pond includes both live storage and dead storage. *Live storage* is the volume of the Pond above the Pond outlet elevation that empties over time by gravity. In this case, live storage reduces peak flows in Thornton Creek and reduces downstream flooding. *Dead storage* is the volume of the Pond below the outlet elevation that does not empty by

gravity. The Pond's dead storage is generally 3 to 5 feet deep and allows sediments to settle, which improves water quality in Thornton Creek, reduces deposition of sediments at the mouth of the Creek, and creates habitat for fish in the Pond. The volume of water in the Pond ranges from about 350,000 cubic feet during dry summer months (when only a portion of the dead storage is in use) to about 650,000 cubic feet during the most extreme storm events (when both live storage and dead storage are in use).

Since it was originally constructed in 1997, the Facility was dredged in 2001 and then dredged again and enlarged in 2012. Dredging is necessary to remove accumulated sediment, restore storage volumes, and allow the Facility to function as intended. The proposed rehabilitation work would restore the Facility to the 2012 design by removing up to approximately 12,000 CY of accumulated sediment in all areas of the Facility as frequently as annually for five years. The rehabilitation work would not alter any flow control features affecting Thornton Creek or the Pond, including the high flow bypass pipe inlet, the Pond entrance dike, the Pond outlet weir, or the overflow pipe to the high flow bypass pipe. To accommodate sediment removal, up to four beaver dams and/or lodges may need to be physically removed from the Facility annually for up to five years. SPU may take these work opportunities to live trap and relocate beavers to another location in Western Washington.

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 rehabilitation work would occur on a single SPU-owned parcel (2726049129; 10.5 acres) in the densely developed, residential Meadowbrook neighborhood, City of Seattle, King County, Washington. That parcel has several addresses, including 3600 Northeast 105th Street, 10700 36th Avenue Northeast, and 10515 39th Avenue Northeast. The project parcel is in the southwest quarter of Section 27, Township 26 North, Range 4 East and within the Lake Washington Water Resource Inventory Area (WRIA 8). A vicinity map is included as Attachment A. Attachment B depicts the general layout and features of the Facility.

B. ENVIRONMENTAL ELEMENTS

-1. Earth

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

☒ Flat ☐ Rolling ☐ Hilly ☐ Steep Slopes ☐ Mountainous ☐ Other:

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

The site is flat, but the Facility has constructed berms located throughout, as well as a large, constructed depressional stormwater detention pond (Meadowbrook Pond). Portions of the west side of the site also have four to five-foot-tall mounded earth sculptures separated by pedestrian pathways.

The elevation ranges from a high point of 60 feet along the western portion of the site to a low of 54 feet in the southeast corner of the site (excluding submersed elevations in the Pond). The berms and the banks of the Pond have slopes no greater than 30 percent. Short sections of steep slopes (greater than 30 percent and less than 15 feet tall) are associated with Thornton Creek near the Forebay.

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.

Subsurface and surface soil materials on and near the site can be grouped into five units consisting of asphaltic-concrete pavement, concrete, and artificial fill (from the former Lake City Sewage Treatment Plant or other developments), and recessional glacial outwash and fine-grained recessional glacio-lacustrine (glacial lake) deposits. Portions of the site may also be underlain by organic soils from former wetland habitats that were filled to initially develop the site. Essentially the entire site has been impacted by cutting, filling, grading, and other construction activity over the past 90 years.

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

There are no surface indications that indicate past or possible presence of unstable soils.

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.

Each sediment removal event would remove up to approximately 12,000 CY of accumulated sediment from the Forebay and Cells 1, 2, and/or 3, which comprise approximately 2.7 acres. Total maximum volume of sediment removed during this five-year period (if removed annually) would be approximately 60,000 CY. Work in the Forebay would be below the ordinary high water mark of Thornton Creek.

In addition, the equipment used to remove sediment would annually disturb approximately 1 acre of upland area. Up to 100 CY of woodchips or mulch would be imported to stabilize the upland area disturbed during sediment removal events. This material would be provided by a State-licensed purveyor of landscape materials.

The 2018 rehabilitation work also would include the one-time removal of approximately 415 CY of dredge spoil that were placed in a 2,800 square feet area on the east side of 36th Avenue NE during the 2012 Meadowbrook Pond Dredging and Improvements Project.

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

No significant erosion is anticipated during or after the proposed work. A Construction Stormwater Pollution Prevention Plan (CSWPPP) would be implemented, with standard operating procedures (SOPs) and best management practices (BMPs) appropriate to the site, conditions, and activities. To facilitate the work, the water elevation in the Pond would be lowered and Thornton Creek would be pumped-and-bypassed around the work area. A seed mix and woodchips would also be used to restore or stabilize disturbed upland areas, where appropriate.

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

The 10.5-acre site includes approximately 1.25 acre of impervious surface. The proposed work would neither increase nor decrease the amount of impervious surface.

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

A temporary erosion and sedimentation control plan would be prepared and implemented each time rehabilitation work is performed at the site. BMPs as identified in the City of Seattle's Stormwater Code SMC 22.800 – 22.808, Director's Rule: 2009-004 SPU/16-2009 SDCI, and Volume 2 Construction Stormwater Control Technical Requirements Manual would be used to manage stormwater runoff, construction disturbance, and erosion while the work is being performed. Work would be monitored and adjusted as necessary to meet changing conditions. The water elevation in the Pond would be lowered during the work and Thornton Creek would be pumped-and-bypassed around the work area.

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 to perform the work, 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 would also include normal amounts of dust from ground-disturbing activities and exhaust (that is, carbon monoxide, sulfur, and particulates) from construction equipment and are expected to be minimal, localized, and temporary.

Facility rehabilitation work would generate greenhouse gas (GHG) emissions in two ways: usage of compost, nursery stock, and other materials (embodied) and sediment removal activity. Total GHG emissions for the proposed 2018-2022 rehabilitation work are estimated to be up to 914 metric tons of carbon dioxide emission (MTCO2e). The GHG emission calculations are shown in Attachment C and summarized in the table below. One metric ton is equal to 2,205 pounds.

The work would not demolish or damage concrete surfaces/structures. Thus, there would be no GHG emissions associated with use of concrete or asphalt. Embodied GHG emissions in other materials (such as woodchips) have not been estimated as part of this SEPA environmental review due to the difficulty and inaccuracy of calculating those estimates.

The 2018-2022 rehabilitation work would generate GHG emissions during the estimated work period for each sediment removal event, through the operation of diesel- and gasoline-powered equipment and to transport materials, equipment, and workers to and from the site. The estimates provided here are based on daily vehicle operation times for the estimated maximum project duration (60 working days); actual times may be less.

Summary of Greenhouse Gas (GHG) Emissions

Activity/Emission Type	GHG Emissions (pounds of CO_2e)[1]	GHS Emissions (metric tons of CO_2e)[1]
Buildings	0	0
Paving	0	0
Construction Activities (Diesel)	1,729,467	784
Construction Activities (Gasoline)	285,525	130
Long-term Maintenance (Diesel)	0	0
Long-term Maintenance (Gasoline)	0	0
Total GHG Emissions	2,014,992	914

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

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

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:

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.

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.

Thornton Creek is a tributary to Lake Washington. The Facility is located about one stream-mile upstream from the confluence of Thornton Creek with Lake Washington. The South Fork of Thornton Creek confluences with the North Fork 130 feet west (upstream) of the Facility, forming the mainstem Thornton Creek. The mainstem then enters the Facility from the west and consists primarily of an open creek channel approximately five feet wide, flowing from west to east. The Creek meets the Pond Forebay at the south side of the Pond (Attachment B).

Narrow bands of wetland habitat are associated with the ordinary high water marks of Thornton Creek. There is one small wetland located on the site, southwest of the Pond, and another small wetland on private property west of the Facility. Meadowbrook Pond is a constructed stormwater detention facility and, generally, is not regulated as a wetland under federal, state, or City wetland regulations. The wetlands mentioned above, Meadowbrook Pond, and Thornton Creek are considered Environmentally Critical Areas (Wetlands), as mapped by the City of Seattle Department of Construction and Inspections (SDCI).

(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.

This proposed work would require work over, below, or adjacent to the ordinary high water marks of Thornton Creek and Meadowbrook Pond. Sediment removal in the Forebay and Pond would be conducted using some combination of hand excavation, vactor trucks, excavators or cranes with environmental dredging buckets, and/or pontoon vacuum dredge. Generally, turbidity generated by the work would be prevented from entering Thornton Creek by methods that isolate the work activity from the Creek's channel and flows. Water elevation in the Pond would be lowered during the work and Thornton Creek would be pumped-and-bypassed around the work area. In addition, a temporary erosion and sedimentation control plan would be prepared and implemented as part of the CSWPPP.

The pontoon vacuum dredge requires about 30 inches of water depth to operate and is designed to remove sediment via high-pressure pumps. The dredge would draw sediment slurry into an 8 to 12-inch diameter pipe that conveys the slurry to a dewatering area on the Facility site east of the Pond. Sediment discharged from the pipe would be dewatered. Once dewatered, the sediment would be loaded into dump trucks and transported to an approved upland disposal location. Dewatering decant water would either be settled in tanks and discharged back into the Pond once it clears of most sediment or discharged directly back to the Pond without settling. Decant water would not be discharged directly into Thornton Creek.

Excavators or cranes would be required in areas where the pontoon vacuum dredge could not operate or access. Areas requiring excavation would be either completely dewatered or isolated from Thornton Creek to prevent turbidity in Thornton Creek.

Vactor trucks would be required in isolated areas where other equipment could not operate. Process water associated with the vactor truck is transported to existing vactor decant facilities where the vactor waste is dewatered and then transported to an approved facility for disposal.

(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.

During each sediment removal event, up to approximately 12,000 CY of sediment would be removed from the Forebay and Cells 1, 2, 3 and/or 4, dewatered, and exported from the project location. The removed sediment would be landfilled in a licensed landfill and not used for other purposes. The total maximum volume of sediment removed during this period (if removed annually) would be approximately 60,000 CY. The removed sediment would be landfilled in a licensed landfill and not used for other purposes.

For all sediment removal events, a temporary dam would be placed in the channel of Thornton Creek to enable installation and operation of a pump and bypass system upstream of the work area. The dam might be made from plastic sheeting and sandbags or might be an inflatable plastic dam.

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

A pump and bypass system would be used to bypass all flows in Thornton Creek around the Meadowbrook Pond Facility when sediment is being removed from the Forebay and Pond. Base flows in the mainstem of Thornton Creek would not be altered above or below the Forebay during the bypass. There may also be several smaller pumps deployed to remove groundwater during sediment removal. The quantities of water to be diverted are unknown. The proposal would not require surface water withdrawals.

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

Approximately 7.5 acres (71 percent) of the 10.5-acre site lie within the 100-year floodplain of Thornton Creek. The site is identified as being in a flood-prone area, an Environmentally Critical Area as identified and mapped by SDCI (see http://web1.seattle.gov/dpd/maps/dpdgis.aspx).

(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 work would not produce or discharge waste materials to surface waters. Turbidity generated by sediment removal would be contained on the project site or directed to Meadowbrook Pond.

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 is known to occur across the site between elevations 49 to 53, or roughly 5 feet below the existing ground surface. Groundwater levels are expected to fluctuate seasonally with variations in precipitation, changes in site and near-site usage, and water levels in Thornton Creek. Thus, some groundwater may be encountered and dewatering may be required to accommodate the work. Volumes of groundwater to be removed during dewatering are unknown.

(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 work would not discharge any waste material into the ground. Turbidity generated by sediment removal would be contained onsite or directed to Meadowbrook Pond. To manage spill prevention of hazardous and waste materials during construction, a CSWPPP would be implemented, with SOPs and BMPs appropriate to the site, conditions, and activities. Work would be monitored and adjusted as necessary to meet changing conditions.

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.

Currently, stormwater on the site either infiltrates or surface-flows to Thornton Creek or the existing rip-rapped shorelines of Meadowbrook Pond and Forebay. By design, stormwater generated from upstream areas of the Thornton Creek watershed either continues past the Facility in Thornton Creek, enters the Facility at the entrance dike, or enters the high flow bypass pipe. The proposed rehabilitation would not increase the amount of stormwater runoff beyond existing conditions and is intended to restore stormwater detention (dead storage) capacity in Meadowbrook Pond.

Stormwater runoff may need to be managed during the proposed work to prevent sediment from leaving the site or entering Thornton Creek. To minimize the erosion potential of stormwater runoff during the proposed work, temporary erosion control measures, such as a silt fences or straw wattles, would be deployed as needed and according to the project's CSWPPP. Once the work is complete, the temporary erosion control measures would be removed.

Because the proposed work would not increase the Facility's existing live storage, there would be no increase in the peak flow or surcharge levels of the bypass line from the Pond to Lake Washington and no increase in peak flow to Thornton Creek.

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

The proposed work would not generate waste materials that could enter groundwater or surface waters. Turbidity generated during sediment removal would be contained on the site or directed to Meadowbrook Pond.

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

The proposed work would not alter or otherwise affect drainage patterns and would not create a need to manage additional stormwater runoff beyond currently existing conditions. Stormwater would follow existing pathways. The current volume, timing, and duration of these stormwater flows are not known.

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 22.800 – 22.808, Director's Rule: 2009-004 SPU/16-2009 SDCI, and Volume 2 Construction Stormwater Control Technical Requirements Manual, would be used as needed to control erosion and sediment transport from and to the site during the work. The work would be monitored and adjusted as necessary to meet changing conditions.

4. Plants

a. Types of vegetation found on the site:

☒ Deciduous trees:	☒ alder	☒ maple	☐ aspen	☒ Other: cottonwood
☒ Evergreen trees:	☒ fir	☒ redcedar	☐ pine	☐ Other:
☒ Shrubs				
☒ Grass				
☐ Pasture				
☐ Crop or grain				
☐ Orchards, vineyards, or other permanent crops				
☒ Wet soil plants:	☒ cattail	☒ buttercup	☐ bulrush	☐ skunk-cabbage
☐ Other:				
☐ Water plants:	☐ water lily	☐ eelgrass	☒ milfoil	☐ Other:
☐ Other types of vegetation:				

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

The proposed work would temporarily but repeatedly affect less than one acre of upland ground, including areas of grass and native shrubs. A previously constructed depressional area in the northwest corner of the Pond may be used to decant and temporarily store dredge spoils. This area is vegetated primarily with rushes (*Juncus* spp.) non-native grasses, and sapling willow (*Salix* sp.) and would be replanted with grass seed mix once any temporarily stored dredge spoils are removed (i.e., following each sediment removal event). A seed mix or woodchips would be used to restore or stabilize other disturbed upland areas after each sediment removal event.

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 7, 2017" (accessed at www.dnr.wa.gov), there are no documented occurrences of sensitive, threatened, or endangered plant species at or near the 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 site has been intensively disturbed by development and redevelopment over the last 90 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 proposed work would limit plant removal, pruning, and other disturbance to that required to complete the propose work. The proposed work would not remove any trees, but would damage or destroy managed turf and areas with grasses and native shrubs. All temporarily disturbed areas would be restored or stabilized with a seed mix or woodchips following each sediment removal event. Work limits would be clearly and physically delineated by protective construction fencing to prevent unauthorized trespass and collateral damage to nearby vegetation.

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

The Facility is known to have common invasive plant species such as Scot broom (*Cytisus scoparius*), Himalayan blackberry (*Rubus armeniacus*), and evergreen blackberry (*R. laciniatus*), which are classified by the Washington State Noxious Weed Board (WSNWB) as Non-regulated Class B and C Weeds in King County. In addition, the Facility has been known to have infestations of giant hogweed (*Heracleum mantegazzianum*) and garlic mustard (*Alliaria petiolata*), both of which are classified by WSNWB as Class A weeds in King County. The Pond is known to be infested with Eurasian milfoil (*Myriophyllum spicatum*), which is classified by the WSNWB as a Non-regulated Class B weed in King County.

5. Animals

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

Birds:	☒ Hawk	☒ Heron	☒ Eagle	☒ Songbirds
☒ Other: crow, pigeon, gull, ducks and other waterfowl				
Mammals:	☐ Deer	☐ Bear	☐ Elk	☒ Beaver
☒ Other: possum, raccoon, squirrel, muskrat, otter				
Fish:	☒ Bass	☒ Salmon	☒ Trout	☐ Herring
☐ Shellfish	☒ Other: perch, peamouth, whitefish, carp (goldfish), stickleback			

The site is more than 3,000 feet west of Lake Washington, which drains to Puget Sound. ESA-listed species for Puget Sound (PS) and Lake Washington are Chinook salmon (*Oncorhynchus tshawytscha*, Threatened PS), steelhead (*O. mykiss*, Threatened PS), and bull trout (*Salvelinus confluentus*, Threatened, PS). Chinook salmon are known to use and breed in Thornton Creek near the Facility and in upstream and downstream locations. Coho salmon (*O. kisutch*) is a Candidate species for listing as Threatened and is known to use Thornton Creek near the Facility. In addition to the fish species described above, Thornton Creek is known to be used by coast-resident cutthroat trout (*O. clarki*) and sockeye salmon (*O. nerka*). The Pond is not suitable habitat for salmonid fishes, which tend to avoid the Pond. Fish in the Pond tend to be perch (*Perca* species), peamouth (*Mylocheilus caurinus*), carp (*Carassius* species), and sticklebacks (Gasterosteidae).

Numerous songbird, waterfowl, and other bird species have been observed at the Facility. A checklist of these species is available from SPU upon request. In addition, beavers use the Pond and routinely build lodges and dams there.

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

Based on a check of the Washington Department of Fish and Wildlife's "Priority Habitat Species on the Web" database on November 9, 2017, no portion of the site is mapped as being within a known occurrence of any animal having priority status in Washington. However, the site is known to be (but not mapped as being) within the habitat of bald eagle (*Haliaeetus leucocephalus*) 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. Also, Puget Sound and Lake Washington are important water migration routes for many animal species.

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

SPU would limit plant removal, pruning, and other disturbance to that required to complete the sediment removal work. Completion of the proposed work would not remove any trees, but would temporarily damage or destroy areas with turf, grasses, and native shrubs. Work limits would be clearly and physically delineated by protective construction fencing to prevent unauthorized trespass and collateral damage to nearby vegetation. All temporarily disturbed areas would be restored or stabilized with seed mix or woodchips after each sediment removal event.

Because the proposal involves in-water work, there could be temporary impacts to fish and other aquatic life. To avoid or minimize these impacts, approved SOPs, BMPs, and conservation measures would be used to determine and direct work in fish-bearing waters. For example, all equipment used to complete the work would be cleaned and inspected before it arrives at the site, to avoid and minimize the potential for fuel or lubricant leaks. As possible, equipment would use vegetable-based oils and lubricants.

Fish and other aquatic life could be injured or killed by the proposed sediment removal activity. Such injury or death of fish may be caused by crushing, stranding, turbidity, and/or elevated water temperatures. To avoid and minimize these impacts, fish would be removed from the work areas and relocated to safe areas. The method for doing so is briefly described below.

All in-channel and Pond work would occur during the agency-approved in-water construction window (fish window), generally between July 1 and August 31. Work areas with fish would first be isolated with fish exclusion nets to prevent fish from entering those areas. After the nets are installed, fish would be carefully captured by qualified biologists using WDFW protocols for using capture nets and electro-fishing equipment or other WDFW-approved methods. Those fish would be carefully removed from the work area and relocated to safe areas outside of the work area.

Sediment removal in the Forebay using heavy equipment would occur once fish have been removed from that work area and relocated to elsewhere in the Pond (non-salmonids) or downstream areas of Thornton Creek (salmonids). The fish would first be removed using the methods described above. Once the fish were relocated, the work area would be isolated by installing temporary dams upstream and downstream of the work area and using mechanical pumps to fully “pump and bypass” flows in the mainstem Thornton Creek around the work area. Those flows would be discharged back to the stream channel downstream of the work area through an energy dissipater to minimize turbidity as that water re-enters the streambed.

Sump pumps would be used to continuously dewater the work area as needed during construction. That discharge water tends to be small in volume, but turbid. Thus, the discharge water would be directed to an upland location where it can soak into the soil without causing turbidity problems.

During sediment removal in the Forebay, soft soils would be protected with wooden pads, steel plates, or other measures to isolate the construction equipment from direct contact with those soils. After sediment removal in the Forebay is complete, the upstream temporary dam would be breached to allow a small amount of water to re-enter the work area and suspend loose sediment. This initial water would then be pumped and discharged to a designated upland area. Once the discharge water cleared, both temporary dams would be removed to allow unimpeded flows in the mainstem of Thornton Creek.

The project would attempt to minimize impacts to fish by scheduling the work during agency-approved in-water construction windows and using WDFW-approved methods for fish isolation and relocation. However, it is likely the work will result in some level of fish mortality. SPU anticipates WDFW will address this situation with provisions in the HPA issued for this project. Those provisions have not yet been identified.
Due to the known presence of New Zealand mud snail (*Potamopyrgus antipodarum*) in the Thornton Creek watershed (see Section B5e), precautions are needed to guard against inadvertent dispersal of the snail to other parts of the Thornton Creek watershed or to other watersheds. Such precautions would also function to protect against the introduction of other new invasive alien species to the Thornton Creek watershed. Therefore, during completion of this work, SPU proposes to implement Level 1 and Level 2 decontamination procedures of the most current WDFW Invasive Species Management Protocols (version 2; July 2012; https://wdfw.wa.gov/publications/01490/wdfw01490.pdf). Because New Zealand mud snails are known to survive out of water (in moist media) for many days, the estimated 60,000 CY of removed sediment anticipated to be exported from the site over the five-year period would be landfilled in a licensed landfill and not used for other purposes.

During any sediment removal event, up to four beaver dams and/or lodges may need to be physically removed from the facility. In addition, SPU may take these work opportunities to live trap and relocate beavers to another location in Western Washington. Beaver trapping and relocation would be conducted in consultation with WDFW and in compliance with the HPA for the proposed work.

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).

In 2011, the New Zealand mud snail was identified in the lower reaches of Thornton Creek. This invasive, non-native snail has a history of causing ecological and economic damage in streams and lakes in many parts of the world.

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.*

Completion of the work will not generate any new energy needs.

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

The proposed work does not involve building structures or planting vegetation that would block access to the sun for adjacent properties.

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

There are no conservation features or proposed measures to reduce or control energy impacts because there would be no such impacts.

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:

Materials likely to be present during completion of the work 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 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.

King County's existing 42-inch wastewater mainline that runs under the Pond could be accidentally damaged and cause raw sewage to enter Thornton Creek. To prevent such spills, SPU would station a vactor truck upstream of the job site to capture any incoming sewage and ensure the sewer line is empty while excavating or dredging near the sewer line. SPU sewer maintenance workers would inspect the job daily to detect evidence of spills. Emergency procedures and contact numbers would be contained in the CSWPPP.

The completed project would not result in greater environmental health hazards than already exist related to the operation, maintenance, and use of the Facility.

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

The site is not known to have had industrial or commercial land uses that may have resulted in contamination of soil materials. Sediments currently found in the Facility are known to contain very low levels of pollutant contamination in dissolved, sorbed, precipitated, and chelated forms. Pollutants may include heavy metals (such as copper, lead, chromium, and zinc) and hydrocarbons (such as diesel, gasoline, and

oils). Because levels of these contaminants are very low, the dredged sediment is neither regulated nor considered a hazard to workers, the public, or the environment.

(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.

Completion of the proposed work would involve the use of chemicals that could potentially enter Thornton Creek and local drainage conveyance systems, including:

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

No toxic or hazardous chemicals would be stored, used, or produced at any time between the proposed Pond rehabilitation events.

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

No special emergency services would be required during or following completion of the proposed work. Possible fire or medic services could be required during sediment removal, as well as during normal Facility operations. However, the completed work 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:

SPU or SPU's contractor would be required to develop and implement a CSWPPP to control and manage spills during each sediment removal event. Workers would use standard operating procedures and BMPs identified in the City of Seattle's Stormwater Code and Manual (Title 22, Subtitle VIII of the SMC and Directors' Rules SDCI 21-2015/SPU DWW 200) to reduce or control any possible environmental health hazards. Soils contaminated by previous land uses or by spills during completion of the proposed work 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.

As required by the Washington Department of Labor and Industries (WAC 296-843), a Health and Safety Plan would be prepared by SPU or SPU's contractor prior to work commencing. The plan would address proper employee training, use of protective equipment, contingency planning, and secondary containment of hazardous materials.

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 proposed work.

(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 the Facility would temporarily increase during completion of the work. 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. SPU expects that it would take no more than 60 working days to complete the proposed 2018 work. Subsequent sediment removal events in the Forebay and Cell 1 of the Facility would require up to 15 working days per event.

(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 while the work is being completed and during operations, except for emergencies.

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 Facility is a constructed stormwater management facility that also serves as public open space, a community passive recreational area, and outdoor education space. The site is surrounded by single-family residential properties to the north and west. Residential streets (39th Avenue Northeast and Northeast 105th Street) border the site to the east and south. Pedestrians access the site from all directions. However, there is no on-site vehicle parking.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses 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?

Historical photographs and accounts indicate the site was used for agricultural purposes between about 1900 and 1945, with much of that period being used to grow grass for dairy cows. The site was subsequently developed into a golf course and wastewater treatment facility and has not been used for agricultural purposes since that time.

(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 work would neither be affected by nor affect surrounding working farm or forest land normal business operations because there are no such operations at or near the site.

c. Describe any structures on the site.

The Facility is adjacent to a SPU buried wastewater pump station (parcel 2726049065) and an information kiosk for pedestrians and visitors. There are also three concrete weirs that meter flow into and through the Pond, three pedestrian bridges for pedestrian and service access around the Facility, a 72-inch diameter overflow pipe (and diversion structure) that discharges to Lake Washington, a Pond Forebay diversion structure that diverts high flows in Thornton Creek to the Pond, an overflow structure (maintenance hole) in the Pond, several art pieces (including mounded earth sculptures), and a King County 42-inch diameter wastewater mainline under the Facility. A site plan showing most of these structures is included as Attachment B.

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

No aboveground structures would be demolished.

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

The site is currently zoned Single Family (7,200 square feet).

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

The site is currently designated Single family residential.

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

The site is not in a Shoreline Management district.

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

The site or a portion of it is within a Wetland Area, a Riparian Corridor, Liquefaction-prone Area, a Flood-prone area, and Steep Slope Area—Environmentally Critical Areas, as mapped by SDCI. Wetlands and riparian characteristics are described in Sections B.3.a and B.4.

The site is situated in a former organic-soil based wetland and, more generally, within a seismically active area. Consequently, this location is prone to seismic hazards such as liquefaction, lateral spreading, and amplified seismic response. The site lies approximately 7 miles north of the Seattle fault zone, a shallow crustal tectonic structure that is considered active (meaning it has the potential to cause earthquakes in the future) and is capable of producing earthquakes of magnitude 7.3 or greater. The recurrence interval of earthquakes on this fault zone is believed to be on the order of 1,000 years or more. The most recent large earthquake on this fault occurred about 1,100 years ago. There are also several other shallow crustal faults in the region (such as the Southern Whidbey Island fault zone) capable of producing strong ground shaking.

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?

No people would be displaced.

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 proposed work is 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.

No housing units would be provided.

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

No housing units would be eliminated.

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

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

10. Aesthetics

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

No new structures are proposed.

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

No views would be altered or obstructed.

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

Seed mix and woodchips would be used to restore and stabilize disturbed areas after each sediment removal event.

11. Light and Glare

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

The proposed work would not produce light or glare. No new street lights are proposed or required. During completion of the work, if an emergency requires after-dark work, portable lights may be deployed 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 work 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 Facility is used by the Meadowbrook community for passive recreational uses such as walking, jogging, non-motorized biking, photography, and wildlife-watching. The Meadowbrook Community Center and Nathan Hale High School and its athletic fields are more than 400 feet west of the Facility, on the west side of 35th Avenue Northeast.

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

The proposed work would not permanently displace any existing recreational uses. However, during completion of the work, some pedestrian and biking access to and through the Facility would be temporarily restricted or closed.

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

The proposed work would not permanently displace any existing recreational uses. During completion of the work, some pedestrian and biking access to and through the Facility would be temporarily restricted or closed. SPU would attempt to make those closures and detours as brief as possible. Notifications through website updates, emails, and mailings would provide affected nearby residents and other interested parties with limited advance notice regarding temporary 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.

There are no places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or near the site. To determine if National Register or State of Washington Heritage properties are in or near the site, the location was checked against the following registers on December 14, 2017.

- City of Seattle Landmarks http://www.cityofseattle.net/neighborhoods/preservation/landmarks_listing.htm
- Washington Heritage Register and National Register of Historic Places and WISAARD database http://www.dahp.wa.gov/learn-and-research/find-a-historic-place

While the WISAARD database indicates numerous historic property reports have been submitted for various structures near the Facility, none of these registers recorded any places or objects formally listed on, or proposed for, national, state, or local preservation registers on or near the Facility. No architectural inventory is required for the proposed work because no structures would be demolished or altered. In addition, the cultural resources assessment for the Thornton Creek Confluence Project (NWAA 2011), conducted for both the Thornton Creek Confluence Project and the Meadowbrook Pond Detention Facility Dredging and Improvements Project (2012), identified no such resources.

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

The cultural resources assessment for the Thornton Creek Confluence Project (NWAA 2011), conducted for both the Thornton Creek Confluence Project and the Meadowbrook Pond Detention Facility Dredging and Improvements Project (2012), identified no such resources. Much of the site consists of previously disturbed land associated with the former Lake City Sewage Treatment Plant, improved street rights-of-way, and other disturbances. The site's location on fill materials and its disturbance history combine to significantly reduce the likelihood of encountering undisturbed archaeological materials.

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 near the project site, the location was checked against the following registers on December 14, 2017:

Washington Heritage Register and National Register of Historic Places: http://www.dahp.wa.gov/historic-register

WISAARD database: https://fortress.wa.gov/dahp/wisaardp3/

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 work would not affect buildings or known cultural resources. Due to the site's location on fill material and its disturbance history, the cultural resources assessment for the Thornton Creek Confluence Project (NWAA 2011), conducted for both the Thornton Creek Confluence Project and the Meadowbrook Pond Detention Facility Dredging and Improvements Project, did not recommend monitoring for archaeological resources during construction. However, 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.

Pedestrian access to the site is available from Northeast 105th Street and 35th, 36th, and 39th Avenues Northeast. Private vehicles are not allowed within the Facility; visitors typically park their vehicles on nearby public streets, including very informal parking at the street-end of 36th Avenue Northeast. Equipment required to complete the proposed work would access the site by means of three Facility service roads: one accessed from the street-end at 36th Avenue Northeast; a second accessed from Northeast 105th Street; and a third accessed from 39th Avenue Northeast.

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 site is currently served by nearby public transportation. Metro Transit routes 64 and 65 travel on 35th Avenue Northeast. The nearest transit stop is located on 35th Avenue Northeast at Northeast 105th Street, approximately 500 feet west of the Facility's south entrance.

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

Parking associated with street rights-of-way is currently on-street, free parking managed by the City of Seattle and most nearby residences have their own off-street parking. There is no public parking available on the Facility itself. There is ample street parking on Northeast 105th Street and 39th Avenue Northeast, immediately adjoining the site. SPU anticipates staging construction vehicles and equipment on the site and not in street rights-of-way. However, brief, temporary street and parking closures on 39th Avenue Northeast would be required to mobilize/demobilize the dredge barge and on 36th Avenue Northeast to allow the removal of 2012 dredge spoil. The specific timing and duration of parking and lane closures are not known, but such closures would comply with relevant policies administered by SDOT as part of its street use permitting process. The completed work would neither create nor eliminate any parking spaces.

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).

No new permanent roads or streets would be constructed as part of the proposed work.

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 work would not occur in the immediate vicinity of water, rail, or air transportation. Removed sediment may be trucked to a railyard for transfer to railcars for transport to a landfill site.

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?

Completion of each sediment removal event work would generate an estimated 1,510 vehicle round-trips due to workers and materials being transported to and from the site during the estimated total 60 working day work period. Over a period of five years, this ongoing sediment removal activity would generate an estimated total of 7,550 round trips. Most of those trips would occur during business hours (between 7 am and 6 pm) on weekdays (Mondays through Fridays) but trips may occur at other times including weekend days.

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.

There are no proposed measures to reduce or control transportation impacts because the proposed work would have only small-scale temporary impacts and no permanent impacts. Temporary closure of sidewalks, parking spaces, and traffic lanes would be controlled by the Street Use Permit issued by SDOT.

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 conduct public outreach before and during each rehabilitation event to notify residents, local agencies, 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 work 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 completion of the work, the project would be required at all times to accommodate emergency access. Otherwise, no mitigation is being proposed because the proposed work 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.

No new utilities are being proposed. No interruptions of other utilities or services are anticipated during project construction.

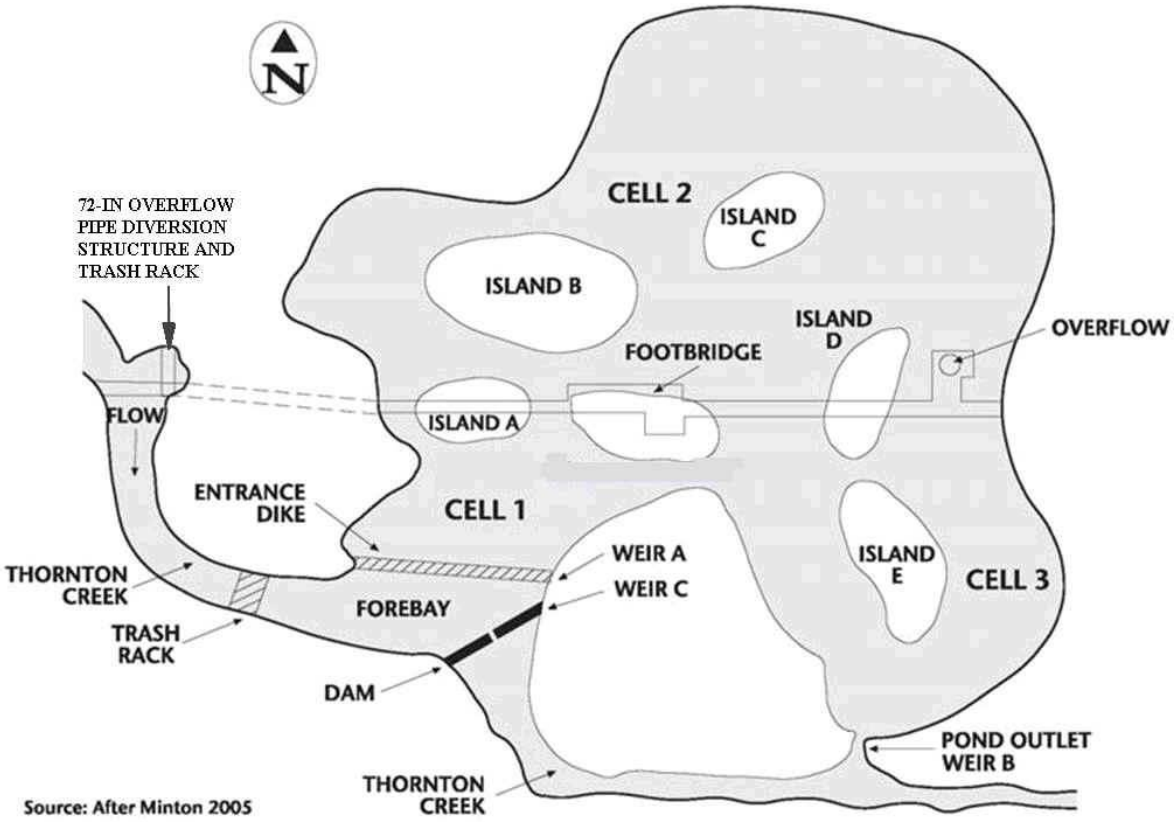
C. SIGNATURE

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

Signature: Jonathan Brown Date: 1/9/2018
Jonathan Brown, Project Manager

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

Attachment A – Vicinity Map



Meadowbrook Pond General Layout

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)		(0 sq ft 6 inches thick)				**0**
					TOTAL Section II Pavement	

Section III: Construction	
	Emissions ($MTCO_2e$)
(See detailed calculations below)	
TOTAL Section III Construction	**914**

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 ($MTCO_2e$)	**914**

Attachment C – Greenhouse Gas Emissions Worksheet, continued

Section III Construction Details		
Construction: Diesel		
Equipment	**Diesel (gallons)**	**Assumptions**
Excavator (1)	14,400	5 events x 40 days x 8 hours/day x 9 gallons/hour
Backhoe (1)	9,600	5 events x 60 days x 8 hours/day x 4 gallons/hour
Dump truck with pup (2) (avg. 21 CY)	9,000	5 events x 60 days x 2 trucks x 5 round-trips/day x 15-mile round-trip ÷ 5 mpg
Flatbed truck (1)	140	5 events x 7 days x 1 round/trip/day x 20-mile round trip ÷ 5 mpg
Dredge (IMS 5012 LP Versi-Dredge)	32,000	5 events x 50 days x 8 hours/day x 16 gallons/hour
Subtotal Diesel Gallons	65,140	
GHG Emissions in lbs CO_2e	1,729,467	26.55 lbs CO_2e per gallon of diesel
GHG Emissions in metric tons CO_2e	784	1,000 lbs = 0.45359237 metric tons

Construction: Gasoline		
Equipment	**Gasoline (gallons)**	**Assumptions**
Pick-up truck or crew vans (3)	6,750	5 events x 60 days x 3 trucks x 5 round-trips/day x 15-mile round-trip ÷ 10 mpg
6 inch pump (for creek bypass)	5,000	5 events x 50 days (24 hours/day) x 20 gallons/day
Subtotal Gasoline Gallons	11,750	
GHG Emissions in lbs CO_2e	285,525	24.3 lbs CO_2e per gallon of gasoline
GHG Emissions in metric tons CO_2e	130	1,000 lbs = 0.45359237 metric tons

Construction Summary		
Activity	**CO_2e in pounds**	**CO_2e in metric tons**
Diesel	1,729,467	784
Gasoline	285,525	130
Total for Construction	2,014,992	**914**

Section IV Long-Term Operations and Maintenance Details		
Operations and Maintenance: Diesel		
Equipment	**Diesel (gallons)**	**Assumptions**
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**
Subtotal Gasoline Gallons		
GHG Emissions in lbs CO_2e		24.3 lbs CO_2e per gallon of gasoline
GHG Emissions in metric tons CO_2e		1,000 lbs = 0.45359237 metric tons

Operations and Maintenance Summary		
Activity	**CO_2e in pounds**	**CO_2e in metric tons**
Diesel		
Gasoline		
Total Operations and Maintenance		