

**Routine Maintenance & Repair of Publicly Owned Drainage System Facilities
SEPA Environmental Checklist**

*Exhibit F – Greenhouse Gas Emissions Worksheet**

Section I: Buildings						
Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO ₂ e)			Lifespan Emissions (MTCO ₂ e)
			Embodied	Energy	Transportation	
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 ₂ e)
Pavement (sidewalk, asphalt patch)	0	0	0	0	0	0
Concrete Pad (50 MTCO ₂ e/1,000 sq. ft. of pavement at a depth of 6 inches)	0	0	0	0	0	0
TOTAL Section II Pavement						0

Section III: Construction						
						Emissions (MTCO ₂ e)
(See detailed calculations below)						
TOTAL Section III Construction						0

Section IV: Operations and Maintenance						
						Emissions (MTCO ₂ e)
(See detailed calculations below)						
TOTAL Section IV Operations and Maintenance						458.7

TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT (MTCO₂e)						458.7
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Exhibit F – Greenhouse Gas Emissions Worksheet*

Section III Construction Details		
Construction: Diesel		
Equipment	Diesel (gallons)	Assumptions
Excavator	0	
Dump Truck	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

Construction: Gasoline		
Equipment	Gasoline (gallons)	Assumptions
Pick-up Trucks or Crew Vans	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

Construction Summary		
Activity	CO ₂ e in pounds	CO ₂ e in metric tons
Diesel	0	0
Gasoline	0	0
Total for Construction	0	0

Section IV Long-Term Operations and Maintenance Details		
Operations and Maintenance: Diesel		
Equipment	Diesel (gallons)	Assumptions
Emergency Operation	0	Emergency operations are uncertain and were not estimated
Maintenance Operation	24,382.4	Maintenance operations include combinations of diesel powered equipment consumption and vehicle consumption
Fueling truck/repair truck	0	Already included above
Subtotal Diesel Gallons	24,382.4	
GHG Emissions in lbs CO₂e	647,353.1	26.55 lbs CO ₂ e per gallon of diesel
GHG Emissions in metric tons CO₂e	293.6	1,000 lbs = 0.45359237 metric tons

Operations and Maintenance: Gasoline		
Equipment	Gasoline (gallons)	Assumptions
Maintenance Operation	14,978.2	<i>Gasoline maintenance operations</i> include only equipment consumption. Vehicles are assumed to consume diesel not gasoline fuel
Subtotal Gasoline Gallons	14,978.2	
GHG Emissions in lbs CO₂e	363,971.9	24.3 lbs CO ₂ e per gallon of gasoline
GHG Emissions in metric tons CO₂e	165.1	1,000 lbs = 0.45359237 metric tons

Operations and Maintenance Summary		
Activity	CO ₂ e in pounds	CO ₂ e in metric tons
Diesel	647,353.1	266.6
Gasoline	363,971.9	144.7
Total Operations and Maintenance	1,011,325.0	411.3

*This worksheet was created by King County in conjunction with City of Seattle. A copy of the full GHG Emissions worksheet can be found on King County's website.

Table F-1: Open Channel Facilities

WDFW Site #	Site Reference Name	Methods	Limits of Work	Estimated Maintenance Activity Duration and Amount Typically Removed	Estimated Frequency of Maintenance	Crew/ day/ event	Duration (day/ event)	Frequency (event/yr)	Round Trip (mi.)	Diesel Consumption (gal.)	Gasoline Consumption (gal.)
SP1	31st Ave. SW @ SW 104th St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	1 day for sediment/debris removal 10 cubic yards (CY)	Every 3 years	1	1	0.3	1	19.2	3.2
TH34	NE 105th St. @ 17th Ave. NE	Vactor/Excavate/Hand Work	Restore habitat features by anchoring new and existing woody debris and rock. Sediment and debris removal is limited to what is necessary to rehabilitate the site	1 day for LWD anchoring, habitat rehab/sediment removal 10 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7
TH46	19th Ave. NE @ NE 130th St.	Vactor/Hand Work	Restore habitat features by anchoring new and existing woody debris and rock. Sediment and debris removal is limited to what is necessary to rehabilitate the site	1 day for LWD anchoring, habitat rehab/sediment removal 10 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7
TH32	Knickerbocker Reach Habitat Improvements	Vactor/Excavate/Hand Work	Restore habitat features by anchoring new and existing woody debris and rock. Sediment and debris removal is limited to what is necessary to rehabilitate the site	1 day for LWD anchoring, habitat rehab/sediment removal 10 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7
TH33	NE 103rd St. Sewer Main Crossing	Vactor/Excavate/Hand Work	Restore habitat features by anchoring new and existing woody debris and rock. Sediment and debris removal is limited to what is necessary to rehabilitate the site	1 day for LWD anchoring, habitat rehab/sediment removal 10 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7
LO2	SW Nevada St. @ Longfellow Creek	Vactor/Hand Work	Restore habitat features by anchoring new and existing woody debris and rock. Sediment and debris removal is limited to what is necessary to rehabilitate the site	1 day for LWD anchoring, habitat rehab/sediment removal 10 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7
TH25	Lake City Fish Ladder	Vactor/Hand Work	Restore habitat features by anchoring existing woody material and rock. Sediment and debris removal limited to what is required for site rehabilitation.	1 day for LWM anchoring, habitat rehab/sediment removal 10 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7
TH17	N & S Branch Thornton Creek Confluence	Vactor/Excavate/Hand Work	Restore habitat features by anchoring existing woody material and rock. Sediment and debris removal limited to what is required for site rehabilitation.	1 day for LWM anchoring, habitat rehab/sediment removal 10 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7
TH24	27th Ave. NE @ NE 105th St.	Vactor/Excavate/Hand Work	Restore habitat features by anchoring existing woody material and rock. Sediment and debris removal limited to what is required for site rehabilitation.	1 day for LWM anchoring, habitat rehab/sediment removal 5 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7
DU2	S. Norfolk St Treatment Swale	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	1 day for sediment/debris removal 10 CY	Demand Work as needed, assume quarterly	1	1	4	1	256.0	42.7

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WDFW Site #	Site Reference Name	Methods	Limits of Work	Estimated Maintenance Activity Duration and Amount Typically Removed	Estimated Frequency of Maintenance	Crew/ day/ event	Duration (day/ event)	Frequency (event/yr)	Round Trip	Diesel Consumption	Gasoline Consumption
TH38	1st Ave. NE @ NE 100th St. Ditch	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	1 day for sediment/debris removal 20 CY	Every 3 years	1	1	0.3	1	19.2	3.2
TH19	30th Ave. NE @ NE 107th St. Thornton Culvert	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	1 day for sediment/debris removal. 25 CY	Every year	1	1	1	1	64.0	10.7
TH23	NE 107th St. @ 30th Ave. NE Culvert	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	1/2 day for sediment/debris removal, 5 CY	Demand Work as needed, assume quarterly	1	0.5	4	1	128.0	26.7
TH37	1st Ave. NE @ NE 100th St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	1/2 day for sediment/debris removal, 5 CY	Demand Work as needed, assume quarterly	1	0.5	4	1	128.0	26.7
TH29	NE 95th St. @ Lake City Way	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	1/2 day for sediment/debris removal, 10 CY	Every 7 years	1	0.5	0.15	1	4.8	1.0
PS7	Marmount Dr. NW @ NW North Beach Dr.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.25	4	1	64.0	18.7
PS10	26th Ave. NW @ NW 96th St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.25	4	1	64.0	18.7
PS13	NW Golden Dr. @ 31st Ave. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.25	4	1	64.0	18.7
TH5	NE 93rd St. @ Sand Point Way	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Every year	1	0.25	1	1	16.0	4.7
PS9	NW 96th St. @ 26th Ave. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.25	4	1	64.0	18.7
PS11	NW 95th St. @ 26th Ave. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.25	4	1	64.0	18.7
PS12	NW 92nd St. @ 25th Ave. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.25	4	1	64.0	18.7
PS15	NW 95th St. @ 28th Ave. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.25	4	1	64.0	18.7

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PS16	View Dr. NW @ 32nd Ave. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.25	4	1	64.0	18.7
TH30	NE 98th St. @ Lake City Way NE	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	2 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.25	4	1	64.0	18.7
TH18	35th Ave. NE @ S. Fork Thornton Culvert	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH35	NE 108th @ 8th Ave. NE (Beaver Lodge Park)	Vactor/Hand Work	Remove or manipulate dams for flood control and fish passage	4 hours for sediment and small woody debris removal 5 CY	Monthly	1	0.5	12	1	384.0	80.0
MC1	S. Cloverdale @ Grattan Pl. S.	Vactor/Hand Work	Remove or manipulate dams for flood control and fish passage	4 hours for sediment and small woody debris removal 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
LO6	Beaver Ponds above SW Juneau	Vactor/Excavate/Hand Work	Remove or manipulate dams for flood control and fish passage	4 hours for sediment and small woody debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.5	4	1	128.0	26.7
LO7	SW Juneau St. @ Longfellow Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment and small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
LO8	24th Ave. SW Mid Block	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment and small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
LO9	24th Ave. SW @ 25th Ave. SW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment and small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
LO10	SW Willow St. @ Longfellow Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment and small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
LO12	SW Holden @ Longfellow Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment and small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH14	Meadowbrook Diversion Structure	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment and small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7

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TH1	NE 51st St. @ Matthews Beach	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 10 CY	Every 3 years	1	0.5	0.3	1	9.6	2.0
TH52	NE 123rd St. @ Littlebrook Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH51	NE 120th St. @ Littlebrook	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH50	NE 115th St. @ Littlebrook	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH43	North Fork Culvert @ Lake City Way	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 10 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
PS6	28th Ave. NW @ NW Espinad	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.5	4	1	128.0	26.7
PS8	Marmount Dr. NW @ NW North Beach Dr.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.5	4	1	128.0	26.7
TH44	25th Ave. NE @ Thornton Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 10 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH45	NE 125th @ Thornton Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 10 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH53	35th Ave. NE @ Littlebrook Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH11	NE 95th St @ Sand Point Way NE	Vactor/Excavate/Hand Work,	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH4	Thornton Creek @ Sand Point Way	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH10	Thornton Creek @ Burke Gilman Trail	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH3	Thornton Creek @ NE 93rd St.	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7

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PS5	NW 92nd St. @ 28th Ave. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Demand Work as needed, assume quarterly	1	0.5	4	1	128.0	26.7
PS14	NW 95th St. @ 26th Pl. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
LO1	SW Andover St. @ Longfellow Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
LO4	SW Brandon St. @ Longfellow Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
DU1	2nd Ave. SW @ W. Marginal Way	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH31	NE 98th St. @ Ravenna Ave. NE	Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH15	Meadowbrook Overflow Structure	Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH16	Meadowbrook Pedistrian Bridge Trash Rack	Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for small woody debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH21	30th Ave. NE @ NE 110th St.	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	Full day for sediment/debris removal. 20 CY	Every year	1	1	1	1	64.0	10.7
Annual Fuel Consumption (gal):										7,556.8	1,520.7
GHG Emissions in lbs CO2e:										200,633.0	36,953.8
GHG Emissions in metric tons CO2e:										91.0	16.8

Equipment	Diesel	Gasoline	Assumption
Excavator/Vactor Truck (gal/crew/day)	32	4 gal/hr	
Hand held mower (gal/crew/day)		8 1 gal/hr	
Generator (gal/crew/day)	32	4 gal/hr	
Dump Truck (gal/crew/trip)		2.7	Assumes 15 mpg; 40 miles round trip; 20 CY/trip; at least 1 trip even if debris <20CY

Emission Factors	Diesel	Gasoline
lbs CO2e per gallon	26.55	24.30
1,000 lbs = 0.45359237 metric tons		
	1000 lbs	
	0.45359237 metric tons	

Table F-2: Enclosed Facilities

WDFW Site #	Site Reference Name	Methods	Limits of Work	Estimated Maintenance Activity Duration and Amount Typically Removed	Estimated Frequency of Maintenance	Crew/ day/ event	Duration (day/ event)	Frequency (event/yr)	Round Trip (mi.)	Diesel Consumption (gal.)	Gasoline Consumption (gal.)
TH2	49th Ave. NE @ NE 51st St.	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	4 hours for sediment/debris removal, 5 cubic yards (CY)	Every 5 years	1	0.5	0.2	1	6.4	1.3
TH6	NE 92nd St. @ Sand Point Way	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	4 hours for sediment/debris removal, 5 CY	Every 5 years	1	0.5	0.2	1	6.4	1.3
TH7	Matthews Ave. NE @ Sand Point Way	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	4 hours for sediment/debris removal, 5 CY	Every 5 years	1	0.5	0.2	1	6.4	1.3
TH8	Matthews Ave. NE Mid Block	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	4 hours for sediment/debris removal, 2 cubic yards (CY)	Every 5 years	1	0.5	0.2	1	6.4	1.3
TH9	Matthew Ave. NE South Block	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	4 hours for sediment/debris removal, 5 CY	Every 5 years	1	0.5	0.2	1	6.4	1.3
TH12	NE 96th St. @ 39th Ave. NE	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal, 2 CY	Quarterly and before storms	1	0.25	4	1	64.0	18.7
TH20	30th Ave. NE @ NE 107th St. Kramer Culvert	Vactor/Excavate/Hand Work	Remove accumulated sediment at the outfall/inflow	1/2 day for sediment/debris removal, 5 CY	Every year	1	0.5	1	1	32.0	6.7
TH22	31st Ave. NE @ NE 110th St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal, 5 CY	Every 3 years	1	0.25	0.3	1	4.8	1.4
TH26 new	NE 100th St. @ Ravenna Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	1/2 day for sediment/debris removal, 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
TH27	NE 86th St. @ Ravenna Ave. NE	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	1/2 day for sediment/debris removal, 10 CY	Every 3 years	1	0.5	0.3	1	9.6	2.0
TH28	NE 89th St. @ Ravenna Ave.	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	1/2 day for sediment/debris removal, 10 CY	Every 3 years	1	0.5	0.3	1	9.6	2.0
TH36	Thornton Creek Water Quality Channel Diversion Structure	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	1 day for sediment removal and weir exercise/lubrication	Annual	1	1	1	1	64.0	10.7
TH41	35th Ave. NE @ NE 115th St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 10 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH42	33rd Ave. NE @ NE 117th St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 10 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7

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TH47	15th Ave. NE @ NE 130th Pl.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 10 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
TH48	10th Ave. NE @ Thornton Creek	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	4 hours for sediment/debris removal, 10 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH55	33rd Ave. NE @ NE 127th St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 10 CY	Every 2 years	1	0.5	0.5	1	16.0	3.3
TH56	NE Northgate Way @ Victory Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TH57	Ravenna Ave. NE @ Lake City Way NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
TH58	NE 97th St. @ 20th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal, 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH59	2407 NE 98th St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal, 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH60	NE 117th St. @ 12th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH61	NE 120th St. @ 12th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH62	NE 115th @ 12th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH 63	Pinehurst Way NE @ Victory Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH 64	NE 114th St. @ 12th Ave NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH 65	NE 113th St. @ 12th Ave NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 4 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH66	NE 95th St. @ 27th Ave NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH 67	NE 94th St. @ 27th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7

*Routine Maintenance & Repair of Publicly Owned Drainage System Facilities
SEPA Environmental Checklist*

WDFW Site #	Site Reference Name	Methods	Limits of Work	Estimated Maintenance Activity Duration and Amount Typically Removed	Estimated Frequency of Maintenance	Crew/ day/ event	Duration (day/ event)	Frequency (event/yr)	Round Trip	Diesel Consumption	Gasoline Consumption
TH 68	NE 96th St. @ 35th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
TH 69	NE 93rd St. @ 45th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal 2 CY	Demand Work as needed	1	0.25	4	1	64.0	18.7
LU2	Licton Springs @ Woodlawn Ave. N.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
PS2	NW Culbertson Dr. @ Sherwood Rd. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	2 hours for sediment/debris removal, 5 CY	Demand work as needed	1	0.25	4	1	64.0	18.7
PS3	7th Ave. NW @ Holman Rd. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
PS4	8th Ave. NW @ Holman Rd. NW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
LO3	SW Genesee St. @ Longfellow Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
LO5	26th Ave. SW @ Longfellow Creek	Vactor/Hand Work	Remove accumulated sediment from the culvert/ditch system	1 day for sediment/debris removal, 10 CY	Every 5 years	1	1	0.2	1	12.8	2.1
TA1	Rainier Ave. S. @ Taylor Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TA2	68th Ave. S. @ Taylor Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
TA3	SE Holyoke Way @ Taylor Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
FA1	Fauntleroy Way SW @ Fauntleroy Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
FA2	45th Ave. SW @ Fauntleroy Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
FA3	California Way SW @ Fauntleroy Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
SC1	SW Tieg Pl. @ Schmitz Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 10 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7

WDFW Site #	Site Reference Name	Methods	Limits of Work	Estimated Maintenance Activity Duration and Amount Typically Removed	Estimated Frequency of Maintenance	Crew/ day/ event	Duration (day/ event)	Frequency (event/yr)	Round Trip	Diesel Consumption	Gasoline Consumption
PC1	SW Puget Way @ Puget Creek	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal, 5 CY	Quarterly and before storms	1	0.5	4	1	128.0	26.7
PC2	SW Dawson St. @ 19th Ave. SW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 3 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
PC3	SW Brandon St. @ 19th Ave. SW	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 3 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
MC2	Sturtevant Ave. S @ S Roxbury St.	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
MC3	Sturtevant Ave. S @ Renton Ave. S	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
YC1	NE 65th St. @ 39th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
YC2	NE 62nd St. @ 40th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
YC3	NE 60th St. @ 40th Ave. NE	Vactor/Hand Work	Remove accumulated sediment at the outfall/inflow	4 hours for sediment/debris removal 5 CY	Demand Work as needed	1	0.5	4	1	128.0	26.7
Annual Fuel Consumption (gal):										4,404.8	989.5
GHG Emissions in lbs CO2e:										116,947.4	24,045.7
GHG Emissions in metric tons CO2e:										53.0	10.9

Equipment	Diesel	Gasoline	Assumption
Excavator/Vactor Truck (gal/crew/day)	32		4 gal/hr
Hand held mower (gal/crew/day)		8	1 gal/hr
Generator (gal/crew/day)	32		4 gal/hr
Dump Truck (gal/crew/trip)		2.7	Assumes 15 mpg; 40 miles round trip; 20 CY/trip; at least 1 trip even if debris <20CY

Emission Factors	Diesel	Gasoline
lbs CO2e per gallon	26.55	24.30
1,000 lbs = 0.45359237 metric tons		
	1000 lbs	
	0.45359237 metric tons	

Table F-3: Pond Facilities

Site Reference Name	Methods	Estimated Maintenance Activity Duration and Quantities Removed	Anticipated Frequency of Maintenance Event per Annum	Round-trip Vehicle Mileage Estimates ¹					Vehicle Usage Estimates ²			Diesel Consumption (gal.)		Equipment Usage Estimates ³						
				SPU Shop (mi.)	Qty. Round Trips	Decant facility (mi.)	Qty. Round Trips	Solid Waste Facility (mi.)	Qty. Round Trips	Work Trucks & Flatbeds	Vactor trucks	Dump trucks (10CY)	Diesel Consumption (gal.)	Total Diesel Consumption per Annum (gal.)	Gasoline Equipments Use Duration (hours)	Qty. of Gasoline Equipments Used	Diesel Equipments Use Duration (hours)	Qty. of Diesel Equipments Used	Total Gasoline Consumption per Annum (gal.)	
Norfolk Pond	Excavator/ Hand Work / Pumping	4 Weeks for sediment removal work. 700 CY.	0.25	16	20	0	0	40	70	3	0	1	891	223	80	4	160	1	320	
Jackson Park Pond - Cells	Excavator/ Hand Work / Pumping	6 weeks for sediment removal work. 3000 CY.	0.25	4	30	0	0	40	300	3	0	1	1784	446	120	4	240	1	480	
Jackson Park Ponds- Structures	Vactor & Hand Work	1 week. 50 CY.	4	4	5	20	5	0	0	1	1	0	168	672	20	2	40	1	640	
Thornton Creek Water Quality Channel- Cells	Excavator/Vactor/ Hand Work/Pumping	6 weeks for sediment removal work. 500 CY.	0.5	5	30	20	30	40	50	3	1	1	2123	1062	120	5	240	2	1,200	
Thornton Creek Water Quality Channel- Structures	Vactor & Hand Work	2 week. 30 CY.	4	5	10	20	5	0	3	1	1	0	330	1320	40	2	80	1	1,280	
Littles Creek Pond	Excavator/ Hand Work / Pumping	1 month. 500 CY.	0.25	4	20	0	0	40	50	3	0	1	789	197	80	4	160	1	320	
NSC Stormwater Structures & Outfalls	Vactor & Hand Work	1 week. 20 CY	4	5	5	20	1	0	2	1	1	0	163	652	20	2	40	1	640	
Webster Pond-Settling Basin	Excavator/ Hand Work	3 Day. 80 CY	1	16	3	0	0	40	8	3	0	1	127	127	12	4	24	1	192	
Webster Pond-Overflow Maintenance Hole	Vactor/ Hand Work	2 week. 100 CY.	4	16	10	20	1	0	10	1	1	0	332	1328	40	2	80	1	1,280	
Lake City Detention Pond	Excavator/Vactor/ Hand Work/Pumping	2 week. 1500 CY	0.25	5	10	20	10	40	150	3	1	1	1063	266	40	5	80	2	200	
Lake City Detention Pond-Structures	Vactor/ Hand Work	1 Day. 50 CY	4	5	1	20	1	0	5	1	1	0	34	135	4	2	8	1	128	
Genesee Pond: Inlet Culvert	Excavator/Vactor/ Hand Work	3 Day. 25 CY.	4	12	3	20	1	40	2.5	2	1	1	205	819	12	4	24	2	768	
Genesee Pond: Outlet Structure	Excavator/Vactor/ Hand Work	1 Week. 50 CY.	4	12	5	20	1	40	5	2	1	1	343	1371	20	4	40	2	1,280	
Olson Pond	Excavator/Vactor/ Hand Work/Pumping	1 Week. 100 CY	0.25	14	5	20	5	40	10	3	1	1	367	92	20	5	40	2	100	
Becker's Pond	Excavator/Vactor/ Hand Work	1 Day. 1 CY	0.25	5	1	20	2	40	1	1	1	0	35	9	4	2	8	1	8	
Bitter Lake Outfall	Excavator/Vactor/ Hand Work/Pumping	1 Week. 35 CY.	1	2	5	20	3.5	40	0	1	1	0	165	165	20	2	40	1	160	
Green Lake Outfall	Excavator/Vactor/ Hand Work/Pumping	2 Day. 10 CY.	1	9	2	20	1	40	0	1	1	0	67	67	8	2	16	1	64	
Haller Lake Outfall	Excavator/Vactor/ Hand Work/Pumping	2 Day. 35 CY.	1	1	2	20	3.5	40	0	1	1	0	69	69	8	2	16	1	64	
Ashworth Pond	Excavator/Vactor/ Hand Work/Pumping	1 Week. 25 CY.	1	1	5	20	2.5	40	0	1	1	0	164	164	20	2	40	1	160	
Blue Dog Pond	Excavator/Vactor/ Hand Work	2 Day. 25 CY.	1	2	2	20	2.5	40	0	1	1	0	68	68	8	2	16	1	64	
East John Pond	Excavator/Vactor/ Hand Work/Pumping	1 Week. 25 CY.	1	3	5	20	2.5	40	0	1	1	0	164	164	20	2	40	1	160	
East John Pond Underground Detention Pipe	Excavator/Vactor/ Hand Work/Pumping	1 Week. 25 CY.	1	3	5	20	2.5	40	0	1	1	0	164	164	20	2	40	1	160	
Harrison Street Tank	Excavator/Vactor/ Hand Work/Pumping	2 Day. 10 CY.	1	3	2	20	2	40	0	1	1	0	67	67	8	2	16	1	64	
Midvale Pond	Excavator/Vactor/ Hand Work/Pumping	1 Month. 1000 CY.	0.25	1	20	20	100	40	1	2	1	2	781	195	80	5	160	1	400	
Stone Pond	Excavator/Vactor/ Hand Work/Pumping	1 Week. 50 CY.	1	1	5	20	5	40	1	2	1	0	167	167	20	3	40	1	240	
Washington Park Tank	Excavator/Vactor/ Hand Work/Pumping	1 Week. 50 CY.	1	3	5	20	5	40	0	2	1	0	169	169	20	3	40	1	240	
Notes & Assumptions:													Total Estimated Annual Diesel Fuels Consumption (gal.):		10,176.6		Total Estimated Annual Gasoline Fuels Consumption (gal.):		10,612.0	
1) Mileage estimates include approximate round-trip distance from the Charles Street or Haller Lake shop to the job site, distance from the job site to the nearest decant facility (up to 20 miles), or distance to the nearest solid waste disposal facility (up to 40 miles). If job does not require travel to decant or disposal, value is zero.													Diesel Emissions in lbs. CO2e:		270,187.4		Gasoline Emissions in lbs. CO2e:		257,871.6	
2) Vehicle types: Vactor truck, dump truck (10 CY), flatbed truck, standard work truck													Diesel Emissions in metric tons CO2e:		122.6		Gasoline Emissions in metric tons CO2e:		117.0	
3) Equipment types: Hand held mowers, generators, weedeater, trailer pumps, other pumps, excavators & vactor trucks																				

Emissions Factors & Assumptions	
Diesel emissions (lbs. CO2 per gallon)	26.55
Gasoline emissions (lbs. CO2 per gallon)	24.3
1000 lbs to Metric Tons	0.45359237
Diesel vehicle efficiency (mpg)	15
Equipment consumption (gph)	4