Operations & Maintenance Practices and Polices Manual (OMPPM)

December 31, 2022

Prepared by:
City of Kenmore
Environmental Services

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FOREWORD

This document is the City of Kenmore's (City) Operations & Maintenance Policies and Procedures Manual (OMPPM) and was developed to document compliance with the National Pollutant Discharge Elimination System (NPDES) Western Washington Phase II Municipal Stormwater Permit (Permit) Section S5.C.7. The Permit was issued July 1, 2019 by the Washington State Department of Ecology (Ecology), became effective August 1, 2019 and expires on July 31, 2024. The Permit complies with the provisions of the State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of Washington (RCW) and the Federal Water Pollution Control Act (The Clean Water Act or CWA) Title 33 United States Code, Section 1251 et seq. The Permit is available on Ecology's website at: https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Western-Washington-Phase-II-Municipal-Stormwater.

The intent of the practices, policies and procedures outlined in the OMPPM is to reduce stormwater impacts and pollutants in discharges from operations and maintenance (O&M) activities. The OMPPM provides a general overview of Best Management Practices (BMPs), policies, procedures, practices, standards and/or plans used by Kenmore staff, contractors and/or partners when conducting specific O&M activities.

ACKNOWLEDGEMENTS

Richard Sawyer, Environmental Services Director
Arthur Simpson, Senior Environmental Services Technician

MAJOR UPDATES

2022 OMPPM – December 31, 2022

2015 OMPPM – February 5, 2015

2010 OMPPM – February 4, 2010

OVERVIEW

The City of Kenmore (City) is responsible for the operation and maintenance (O&M) of public right-of-way, city easements, parks and city owned properties. This includes infrastructure and assets located within these areas, such as street surfaces, sidewalks, trails, transportation/traffic, stormwater, facilities, and parks. The City does not operate water, sewer, power, telecommunications, or waste management. These services and associated assets are managed by other utility districts and service providers.

O&M activities have the potential to adversely impact the environment. Ecology has included specific measures in the Permit that regulate O&M activities to reduce or eliminate adverse impacts to stormwater runoff. The Permit requires that standards, policies, and procedures be developed for a list of specific O&M activities as part of Kenmore's Stormwater Management Program (SWMP). The structure of this document will be modeled after these requirements. This document, the Operations and Maintenance Policies and Procedures Manual (OMPPM), is intended to compliment the Stormwater Management Program (SWMP) Plan, the City's Surface Water Master Plan and future surface water management plans and documents.

DOCUMENT STRUCTURE

This document is organized into the following six sections.

Section 1 describes compliance with S5.C.7.a of the Permit, which requires the implementation of maintenance standards that are as protective, or more protective, of facility function than those specified in Chapter 4 of Volume V of the Stormwater Management Manual for Western Washington.

Section 2 describes compliance with S5.C.7.b of the Permit, which requires inspection and maintenance of stormwater facilities regulated by the City. Facilities regulated by the City include stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted by the City pursuant to 2007-2019 Ecology municipal stormwater permits.

Section 3 describes compliance with S5.C.7.c of the Permit, which requires inspection and maintenance of stormwater facilities owned or operated by the City. Facilities include stormwater treatment and flow control BMPs/facilities, catch basins, and inlets.

Section 4 describes compliance with S5.C.7.d of the Permit, which requires the implementation of practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by Kenmore, and road maintenance activities under the functional control of Kenmore.

Section 5 describes compliance with S5.C.7.e of the Permit, which requires an ongoing training program for employees of the City whose construction, operations or maintenance job functions may impact stormwater quality.

Section 6 describes compliance with S5.C.7.f of the Permit, which requires implementation of a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by Kenmore.

ACRONYMS AND DEFINITIONS

BMP means Best Management Practice.

Best Management Practice means a schedule of activities, prohibitions of practices, physical structures, maintenance procedures and other management practices undertaken to reduce or prevent increases in runoff quantity and pollution.

CESCL means Certified Erosion and Sediment Control Lead.

Certified Erosion and Sediment Control Lead means an individual who has satisfied the requirements set forth in Ecology's Stormwater Management Manual for Western Washington (Volume II, Chapter 4, BMP C160) for the designation of certified erosion and sediment control lead.

Ecology means the Washington State Department of Ecology.

ESC means Erosion and Sediment Control.

Facility means drainage facilities, typically referring to a stormwater treatment or flow control BMP/facility, but may also include conveyance facilities such as catch basins, inlets, pipes, and ditches.

Flow control BMP means a small scale drainage facility or feature that is part of a development site strategy to use processes such as infiltration, dispersion, storage, evaporation, transpiration, forest retention, and reduced impervious surface footprint to mimic pre-developed hydrology and minimize stormwater runoff. Also generally referred to as Low Impact Development (LID) BMPs by the community.

Flow Control Facility means a drainage facility designed to mitigate the impacts of increased surface and storm water runoff generated by site development in accordance with the drainage requirements in KMC Chapter 13.35. Flow control facilities are designed either, to hold water for a considerable length of time and then release it by evaporation, plant transpiration, or infiltration into the ground, or to hold runoff for a short period of time and then release it to the conveyance system.

Maintenance (also Operations and Maintenance) means those usual activities taken to prevent a decline, lapse, or cessation in the use of currently serviceable structures, facilities, equipment, or systems if there is no expansion of the structure, facilities, equipment, or system and there are no significant hydrologic impacts. Maintenance includes the repair or replacement of non-functional facilities and the replacement of existing structures with different types of structures, if the repair or replacement is required to meet current engineering standards or is required by one or more environmental permits and the functioning characteristics of the original facility or structure are not changed.

NPDES means National Pollutant Discharge Elimination System.

National Pollutant Discharge Elimination System means the part of the federal Clean Water Act which requires point source discharges to obtain permits. These permits, referred to as NPDES permits, are administered by the Washington State Department of Ecology.

OMPPM means Operations and Maintenance Policies and Procedures Manual.

O&M means Operations and Maintenance. See Maintenance.

RRMPG means Regional Road Maintenance Endangered Species Act Program Guidelines.

Regional Road Maintenance Endangered Species Act Program Guidelines means the manual developed by the Regional Road Maintenance Technical Working Group that provides a consistent, Regional Program that can be used by any agency wishing to limit, reduce or eliminate the prohibition on take of threatened species under the 4(d) Rule (NMFS), special 4(d) rule and/or Section 7 take exemption (USFWS).

SPPM means the Stormwater Pollution Prevention Manual.

Stormwater Pollution Prevention Manual means the 2021 King County Stormwater Pollution Prevention Manual.

Stormwater Treatment Facility means a Water Quality Facility.

SWDM means 2021 King County Surface Water Design Manual.

SMMWW means the 2019 Ecology Stormwater Management Manual for Western Washington.

Water Quality Facility means a drainage facility designed to mitigate the impacts of increased pollutants in stormwater runoff generated by site development. A water quality facility uses processes that include but are not limited to settling, filtration, adsorption, and absorption to decrease pollutant concentrations and loadings in stormwater runoff.

WQ means water quality.

SECTION 1 – MAINTENANCE STANDARDS

This section of the OMPPM describes the City's compliance with S5.C.7.a of the Permit which requires that the City implement maintenance standards that are as protective, or more protective, of facility function than those specified in Ecology's 2012 Stormwater Management Manual for Western Washington or a Phase I program approved by Ecology.

Ordinance 22-0551, effective June 20, 2022, adopted the 2021 King County Surface Water Design Manual (SWDM). Appendix A of the SWDM contains maintenance standards for flow control, conveyance and water quality facilities in the City. King County has an approved Phase I program equivalent to Ecology's 2019 Stormwater Management Manual for Western Washington.

The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.

Unless there are circumstances beyond the City's control, when as inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:

- Within 1 year for typical maintenance of facilities, except catch basins
- Within 6 months for catch basins
- Within 2 years for maintenance that requires capital construction of less than $25,000

Circumstances beyond the City's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the City shall document the circumstances and how they were beyond their control.

A copy of the SWDM maintenance standards is provided in Appendix A of this document.

SECTION 2 – FACILITIES REGULATED BY THE CITY

PRIVATE FACILITIES

This section of the OMPPM describes the City's compliance with S5.C.7.b of the Permit which requires that the City verifies adequate long-term O&M of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S5.C.6.c.

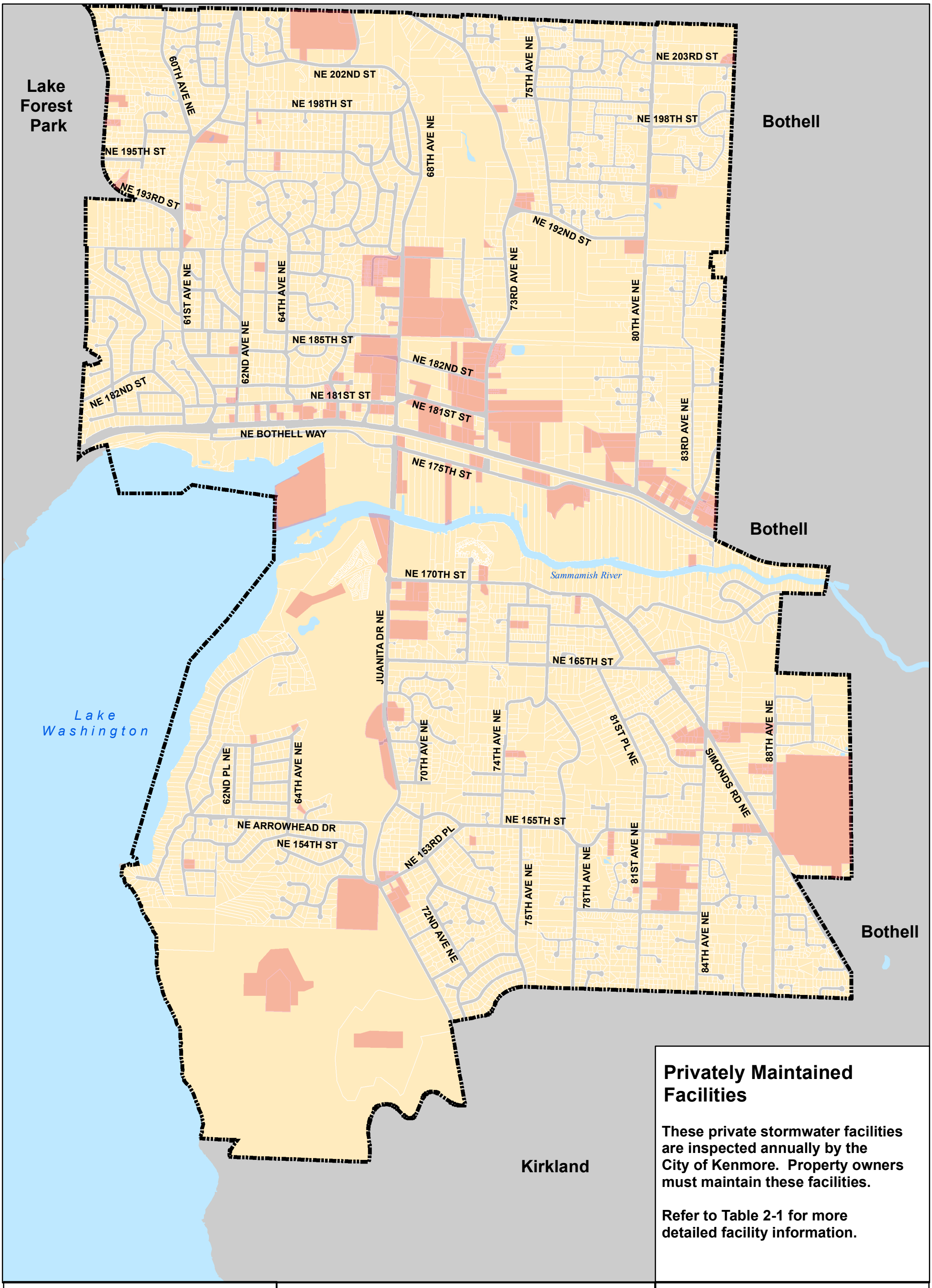
Stormwater facilities regulated by the City are referred to as "private facilities" in the City's O&M program. Private facilities are typically associated with multi-family, commercial or industrial developments, but they can also include facilities associated with residential subdivisions or individual lots if the facility is not accepted for maintenance by the City. If a facility is outside the public right-of-way or not contained within a dedicated easement or tract then the facility is private.

Designation of maintenance responsibility is determined during the development process per Kenmore Municipal Code (KMC) 13.35 and the SWDM. KMC 13.40.040.P establishes policy regarding when a facility is a private facility and may be applied if the facility was developed prior to the City's incorporation or was developed outside of the City's knowledge.

Private facilities containing stormwater treatment and flow control BMPs/facilities that discharge into the MS4 are inspected annually by City staff. After a private facility's first inspection each year, the City provides a letter containing a "maintenance correction list", or MCL, to the owner and/or manager of the private facility. The MCL outlines maintenance needed, if any, to comply with the City's maintenance standards. The private facility owner/manager notifies the City when maintenance is complete. Depending on the maintenance issues identified, a follow up inspection may be needed. If the facility owner does not conduct required maintenance, then appropriate enforcement action is taken.

Figure 2-1 and Table 2-1 show the City's inventory of private facilities.

FIGURE 2-1: MAP OF STORMWATER FACILITIES REGULATED BY THE CITY



Privately Maintained Facilities

These private stormwater facilities are inspected annually by the City of Kenmore. Property owners must maintain these facilities.

Refer to Table 2-1 for more detailed facility information.

0 0.25 0.5 Miles

0 3,000 Feet

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CITY OF KENMORE

OMPPM

MAP 2-1

UPDATED: 12 DECEMBER 2022
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TABLE 2-1: LIST OF STORMWATER FACILITIES REGULATED BY THE CITY

TABLE 2-1: LIST OF STORMWATER FACILITIES REGULATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
1	R1983-01	Bank of America	7110 NE Bothell Way	Detention Parking Lot Pond
2	R1983-02	The Timbers at Kenmore	18930 68TH AVE NE	Detention Tank, Detention Pond
3	R1983-03	Kenmore Inn	8202 NE Bothell Way	Detention Tank
4	R1983-04	Chase Bank	6701 NE 181ST ST	Detention Vault
5	R1983-05	US Bank	6460 NE Bothell Way	Infiltration Trench
6	R1983-06	Kenmore Lanes	7638 NE Bothell Way	Detention Tank
7	R1983-07	Brookside Apartments	19020 61ST AVE NE	Infiltration Trench(2)
8	R1983-08	Casa 61 Apartments	6106 NE 192ND PL	Drywell (4)
9	R1983-09	Grease Monkey	7204 NE Bothell Way	Detention Tank w/ pump
10	R1983-10	Columbia Crest Montessori	18030 73RD AVE NE	Detention Pond, Detention Parking Lot Pond
11	R1983-11	McDonald's	7234 NE Bothell Way	Detention Parking Lot Pond
12	R1983-12	Mr. T's Trophies	7900 NE Bothell Way	Detention Parking Lot Pond
13	R1983-13	Fourplex Apartments	17612-17624 80TH CT NE	Detention Parking Lot Pond
14	R1983-14	T&D Machine	8030 NE Bothell Way	Detention Parking Lot Pond
15	R1983-15	Emerald Villa Apartments	8044 NE Bothell Way	Infiltration Trench w/ FROP-T
16	R1983-16	Taco Time	18029 68TH AVE NE	Sediment Tank
17	R1984-01	Riverpark Apartments	6116 NE 192ND PL	Detention Parking Lot Pond
18	R1984-02	Jet City Printing	6134 NE Bothell Way	Roof Pond
19	R1984-03	Safeway	6850 NE Bothell Way	Detention Tank, Wet Vault, Coalescing Plate Vault
20	R1984-06	Church of Iguantao	6717 NE 181ST ST	Detention Tank
21	R1984-07	Cairn Brewing	7204 NE 175TH ST	Detention Tank
22	R1984-08	Bothell Way Retail Center	7016 NE Bothell Way	Infiltration Trench
23	R1984-09	Bothell Ski & Bike	8020 NE Bothell Way	Detention Tank
24	R1984-10	Mary's Place	18118 73RD AVE NE	Drywell
25	R1984-11	Fernwood Trails Apartments	17515, 17519, 17527 83RD PL NE	Detention Tank
26	R1984-13	Kenmore Community Church	7504 NE Bothell Way	Parking Lot Pond
27	R1984-14	Northlake View Condos	6303 NE 181ST ST	Detention Tank
28	R1985-01	Winsome Trading Company	19314 55TH AVE NE	Detention Parking Lot Pond, Infiltration Trench
29	R1985-02	Rocky's Corner Food Store	15012 Juanita DR NE	Detention Tank
30	R1985-03	Northshore Utility District Inglemoor	8204 NE 150TH ST	Detention Tank, Detention Pond
31	R1985-04	CFN Properties	7524 NE 175TH ST	Infiltration Trench, Parking Lot Pond
32	R1985-06	Inglewood Village #3	6800 Inglewood RD NE	Dispersion Trench
33	R1986-01	Evergreen Manor Townhomes	8001 NE 177TH CT	Detention Tank
34	R1986-02	The Guest House	6810 NE 153RD PL	Detention Tank
35	R1987-01	The Lodge @ 73RD Apartments	18235 73RD AVE NE	Infiltration Trench (2)

TABLE 2-1: LIST OF STORMWATER FACILITIES REGULATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
36	**R1987-04**	Kenmore Village Apartments	17620 80TH AVE NE	Detention Tank (2)
37	**R1987-06**	Vermont Apartments	16724 Juanita DR NE	Detention Pond
38	**R1987-07**	Grove SP	7330 NE 192ND ST	Detention Tank
39	**R1987-08**	Inglewood Square	16928 Juanita DR NE	Type 2 CB w/ FROP-T
40	**R1988-01**	Suds City Car Wash	17606 80TH CT NE	Detention Tank
41	**R1988-02**	Heron View Apartments	18249 73RD AVE NE	Infiltration Trench, Infiltration Chamber
42	**R1988-04**	Inglewood Forest Apartments	16636 Juanita DR NE	Detention Tank (3)
43	**R1989-01**	Sherwin-Williams Paints	6410 NE Bothell Way	Detention Tank
44	**R1989-02**	Springtime Daycare	16114 Juanita DR NE	Detention Pond
45	**R1992-01**	Sunridge Apartments	18241 73RD AVE NE	Infiltration Trench
46	**R1992-02**	SC Warehouse	7023 NE 175TH ST	Infiltration Trench
47	**R1992-04**	Coventry Place Condos	6700 NE 182ND ST	Detention Tank
48	**R1992-05**	Cedar Lane Townhomes	6923-6945 NE 170TH ST	Detention Tank
49	**R1992-06**	Frontier Building	7215 NE 170TH ST	Interceptor Trench, Detention Tank
50	**R1992-07**	Forest Park Estates	19616 61ST PL NE	Pond (2)
51	**R1992-08**	Kenmore Self Storage	18716 68TH AVE NE	Detention Tank (2)
52	**R1992-10**	Northpointe Highlands Apartments	17512 83RD PL NE	Detention Tank, Bioswale
53	**R1994-01**	Parkside Condos	18210 73RD AVE NE	Dispersion Trench
54	**R1994-02**	Northlake Condos	18523 68TH AVE NE	Detention Tank
55	**R1995-01**	Park Place Apartments	18223 73RD AVE NE	Bioswale, Infiltration Tank
56	**R1995-02**	Cedar Park Northshore Church	18737 68TH AVE NE	Detention Tank
57	**R1995-03**	Pacific Topsoils	7500 NE 175TH ST	Infiltration Trench
58	**R1995-04**	Pierre's Polaris	7514 NE 175TH ST	Infiltration Trench
59	**R1995-05**	Lakewood Condos	7223 NE 175TH ST	Detention Tank
60	**R1995-06**	Hanson SP	8333 NE 161ST PL	Detention Tank
61	**R1996-02**	Canterbury At Inglewood	16000 67TH LN NE	Detention Tank, Bioswale
62	**R1996-03**	Trailwalk Condos	7711 NE 175TH ST	Biofiltration Pond (2), Bioswale(3), Dispersal Trench(2)
63	**R1997-01**	Kenmore Family Medical Center	18208 66TH AVE NE	Detention Tank
64	**R1998-01**	Arrowhead Park Vista Condos	15000 Juanita Drive	Detention Vault, Detention Tank
65	**R1998-03**	Arrowhead Elementary School	6725 NE Arrowhead DR	Detention Tank
66	**R1999-01**	Emily Lane	19010 68TH AVE NE	Detention Vault
67	**R1999-02**	Trailside Townhomes	7121 NE 175th Street	Infiltration Tank, Dispersal Trench
68	**R1999-03**	Heron Run Apartments	7023 NE 182ND ST	Bioswale, Infiltration Tank
69	**R1999-04**	Peoples Storage	6908 NE 181ST ST	Detention Tank
70	**R1999-05**	Inglewood Heights Condos	6835 NE 153RD PL	Detention Tank

TABLE 2-1: LIST OF STORMWATER FACILITIES REGULATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
71	**R1999-06**	Kenmore Senior Living	7221 NE 182ND ST	Bioswale, Infiltration Tank
72	**R1999-07**	Northlake Grove Apartments	18725 68TH AVE NE	Bioswale, Detention Vault (2)
73	**R2000-01**	Stonehaven Townhomes	7224 NE 182ND ST	Wet Vault, Infiltration Tank
74	**R2000-02**	Hughes Townhomes	8308 NE 176TH CT	Detention Tank, Bioswale
75	**R2000-03**	Heron Landing Apartments	7025 NE 182ND ST	Bioswale, Infiltration Tank
76	**R2001-01**	Creekside Townhomes	17811 80TH AVE NE	Detention Vault
77	**R2001-02**	Blue Heron Village	17915 80TH AVE NE	Detention Vault, Dispersal Trench
78	**R2001-03**	Troon Terrace Townhomes	6816 NE 153RD PL	Contech Filter CB, Infiltration Tank
79	**R2001-04**	Griffith Rush Drake Insurance Group	6312 NE Bothell Way	Wet Vault
80	**R2001-05**	Romanian Pentacostal Church	8315 NE 155TH ST	Detention Vault, Bioswale
81	**R2001-06**	Ostroms Drug and Gift	6414 NE Bothell Way	Detention Tank
82	**R2001-07**	Moorlands Elementary School	15115 84TH AVE NE	Detention Tank
83	**R2001-08**	Hamper SP	7711 NE 170TH ST	Detention Tank
84	**R2001-09**	Narasimhan SFR	18737 63RD AVE NE	Detention Tank w/ pump
85	**R2002-01**	Kenmore Park and Ride	7340 NE Bothell Way	Detention Tank, Type 2 CB w/ FROP-T, Wet Vault, Sandfilter Vault, Coalescing Plate Vault
86	**R2002-02**	Inglemoor High School	15252 Simonds RD NE	Detention Tank (3), Bioswale (3)
87	**R2002-07**	Pendleton Condos	17827 80TH AVE NE	Bioswale, Dispersion Trench
88	**R2002-08**	Northshore Utility District Headquarters	6830 NE 185TH ST	Wet Vault, Detention Pond
89	**R2002-09**	Kataliya Thai House	7850 NE Bothell Way	Wet Vault, Infiltration Tank
90	**R2003-01**	Chelsea Court Apartments	7206 NE 182nd Street	Contech Filter MH (2), Infiltration Tank
91	**R2003-02**	Pagliacci	6504 NE Bothell Way	Contech Filter CB (2)
92	**R2003-04**	Waterford Square Condos	6831 NE 170TH ST	Wet Vault
93	**R2003-05**	City on a Hill Church	7915 NE 192ND ST	Detention Tank, Bioswale
94	**R2003-06**	The Sequoias	7111 NE 181ST ST	Contech Filter CB (2), Infiltration Tank (2)
95	**R2003-07**	Rhodes SP	15519 Simonds RD NE	Detention Tank
96	**R2004-01**	Inglewood Golf Course Clubhouse	6505 Inglewood RD NE	Contech Filter Vault, StormTech Infiltration Chamber
97	**R2004-02**	Northshore Townhomes	7000 NE 186TH PL	Detention Vault, Contech Filter Vault
98	**R2005-01**	Copper Lantern Apartments	7026 NE 182nd Street	Contech Filter MH, Infiltration Tank
99	**R2005-02**	GB Systems	7202 NE 175th Street	Contech Filter CB
100	**R2005-03**	Hoover SFR	6110 NE 152ND ST	Detention Tank
101	**R2007-01**	Kenmore Middle School	20323 66th Ave NE	Bioswale, CDS Manhole, Contech Filter Vault, Contech Filter Vault, Raingarden (3)
102	**R2008-01**	Bastyr University Student Housing	14500 Juanita Drive NE	Bioswale (2), Contech Filter MH, Detention Vault, Green Roof (4)
103	**R2008-03**	Northshore Fire Department Headquarters	7220 NE 181ST ST	Detention Vault, Contech Filter Vault
104	**R2008-04**	St Edward State Park	14445 Juanita Drive NE	Detention Pond, Infiltration Vault, Detention Vault, Biopod, Dispersion Trench (2)
105	**R2010-01**	Lakeside Shell House	6805 NE 175TH ST	Pervious Asphalt

TABLE 2-1: LIST OF STORMWATER FACILITIES REGULATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
106	**R2011-01**	KGM Site	6525 NE 175TH ST	Infiltration Pond (3)
107	**R2011-02**	Kenmore Library	6531 NE 181ST ST	Rain Garden, Pump
108	**R2012-01**	Northshore Terrace SP	15830 74TH AVE NE	Contech Filter CB, Drywells
109	**R2012-02**	Wiest SFR	6410 NE 159TH ST	Raingarden
110	**R2013-01**	Super Supplements	6806 NE 175TH ST	Infiltration Trench, Bioswale
111	**R2013-02**	Kenmore Boat Launch	17150 68TH AVE NE	Wet Swale, Filter Strip
112	**R2013-03**	Brightwater	19420 80TH AVE NE	Detention Pond
113	**R2013-04**	Gelatt SFR	7208 NE 190TH CT	Raingarden, Pervious Asphalt
114	**R2014-01**	Spencer 68	6741 NE 182ND ST	Aqua-Swirl MH, Infiltration Vault w/ FROP-T
115	**R2014-02**	Uplake Modern	6219 NE 181ST ST	Contech Filter CB
116	**R2014-03**	Refino 6	18101 62ND AVE NE	R-Tank Dentention Vault
117	**R2014-04**	McNeely SFR	7209 NE 155TH ST	Raingarden, Pervious Asphalt
118	**R2014-05**	Vannoy SFR	18401 62ND AVE NE	Dispersion Trench
119	**R2015-01**	74TH AVE SP	16636 74TH AVE NE	Perk Filter Vault
120	**R2015-02**	Simonds Court	NE 160TH LN & Simonds RD NE	R-Tank Dentention System, Bayfilter MH
121	**R2015-03**	Giesy SP	16516 Simonds RD NE	Detention Vault
122	**R2015-04**	Spencer Square	18151 68TH AVE NE	Aqua Swirl MH
123	**R2015-05**	Knutson SP	7907 NE 155TH ST	Tank
124	**R2015-06**	Hidden Creek SP	8300 NE 203RD ST	Pervious Pavers w/ Underdrain
125	**R2015-07**	Glenmoor SP	15829 88TH AVE NE	Detention Vault, Contech Filter MH
126	**R2016-01**	Basalt Townhomes	18234 73rd Ave NE	Pervious Asphalt
127	**R2016-02**	Seatown SP	15919 84TH AVE	R-Tank Detention System, Contech Filter CB
128	**R2016-03**	Boysenberry SP	19624 55TH AVE NE	Pervious Concrete
129	**R2016-04**	Huckleberry SP	19614 55TH AVE NE	Pervious Concrete
130	**R2016-07**	Thesmann SFR	15109 81ST AVE NE	Raingarden
131	**R2017-01**	Marbett SFR	6213 NE 198TH ST	Raingarden
132	**R2017-02**	Wiggins SP	16105 88TH AVE NE	Detention Tank
133	**R2017-03**	71ST Avenue Townhomes	71ST AVE NE & NE 185TH ST	Contech Filter CB, Infiltration Trench
134	**R2017-04**	Cost SFR	16711 72ND PL NE	Raingarden
135	**R2018-01**	VanBuecken SFR	19906 73RD AVE NE	Raingarden
136	**R2018-02**	Reed SFR	15507 65TH PL NE	Raingarden
137	**R2018-03**	Vista Lago Townhomes	6454 NE 181ST ST	Perk Filter MH, Perk Filter CB, Detention Vault (2 in line)
138	**R2018-04**	Kiddie Academy	7760 NE Bothell Way	Detention Vault, Contech Filter MH
139	**R2019-01**	Northlake Townhomes	17516 83RD PL NE	Presettling Vault (2), Infiltration Bed (2)
140	**R2019-02**	Preserve at Basalt Townhomes	18524 73RD AVE NE	PerkFilter CB, Infiltration Trench (2)

TABLE 2-1: LIST OF STORMWATER FACILITIES REGULATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
141	**R2019-03**	Solaire Townhomes	6909 NE 170TH ST	R-Tank (2 in line) Pervious Pavement (Asphalt, Concrete, Pavers, Grassed Modular Grid)
142	**R2019-04**	Rottger Valley SP	6249 NE 196TH ST	Bayfilter CB
143	**R2019-05**	Kenmore Medical/Dental	6821 NE 181ST ST	Contech Stormfilter CB, StormTech Infiltration Chamber
144	**R2019-06**	Brackett SFR	17402 83RD CT NE	Bioswale
145	**R2020-01**	Smith SP	7212 NE 170TH ST	Bioswale, Infiltration Trench
146	**R2020-02**	Dwell80 Townhomes	17720 80TH AVE NE	Detention Vault
147	**R2020-03**	Lumen 8 Townhomes	18138 73RD AVE NE	Pervious Pavements, Pre-Settling Tank, Infiltration Trench, Pond
148	**R2021-01**	Kang Townhomes	6625 NE 182ND ST	Infiltration Trench (2)
149	**R2021-02**	Allen Townhomes	17520 83RD PL NE	Detention Vault, Modular Wetland
150	**R2021-03**	The Lodge at St. Edward Park	14477 Juantia DR NE	Bioretention Cell (4), Stormtech Infiltration Chamber
151	**R2021-04**	Hebner SFR	6300 NE 159TH ST	Type 2 CB w/ Pump, Dispersion Trench
152	**R2022-01**	Hiatt Park Townhomes	7721 NE 175TH ST	Detention Vault, Biopod, Type 2 CB w/ Pump
153	**R2022-02**	Hope Romanian Church	19814 55TH AVE NE	Perkfilter MH, Detention Pond, Dispersion Trench
154	**R2022-03**	Balbirnie Park Townhomes	18737 68TH AVE NE	Detention Vault, Biopod

SECTION 3 – FACILITIES OWNED OR OPERATED BY THE CITY

PUBLIC FACILITIES

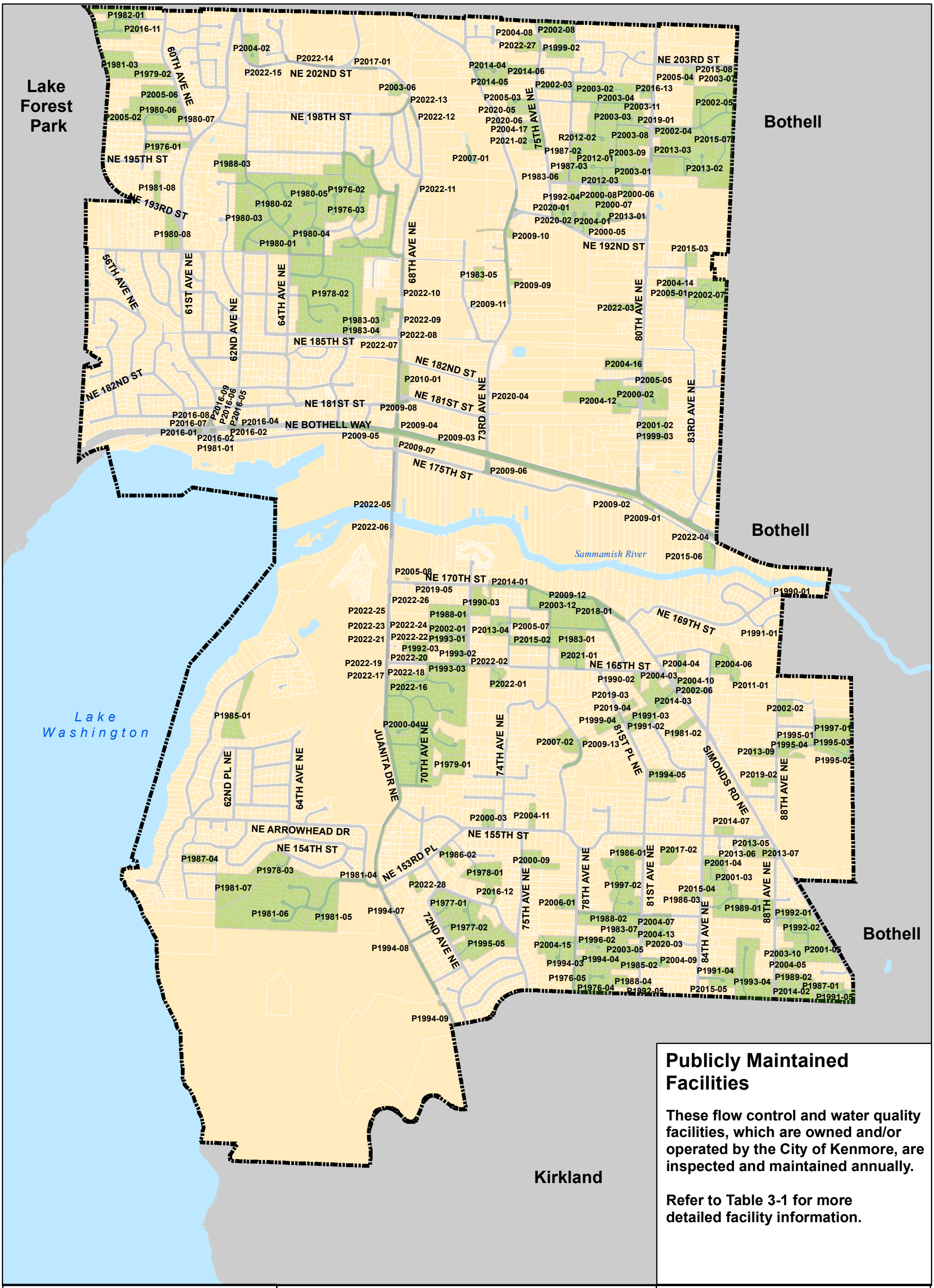
Stormwater facilities owned or operated by the City are referred to as "public facilities" in the City's O&M program. Public facilities are developed as part of a residential subdivision containing two or more lots or similar developments where at least two-thirds of the developed contributing area is from single family or townhouse residential structures on individual lots. Public facilities are also developed for right-of-way improvements, City owned facilities, and public parks. Public facilities must be located within a tract, easement or right-of-way dedicated to the City.

Designation of maintenance responsibility is determined during the development process per Kenmore Municipal Code (KMC) 13.35 and the SWDM. KMC 13.40.040.P establishes policy regarding when a facility may be maintained by the City and may be applied if the facility was developed prior to the City's incorporation or was developed outside of the City's knowledge.

Public facilities are inspected by City staff annually. Maintenance may be conducted by City staff or by contractors depending on the type and scale of work performed.

Figure 3-1 and Table 3-1 show the City's inventory of public facilities.

FIGURE 3-1: MAP OF STORMWATER FACILITIES OWNED OR OPERATED BY THE CITY



Publicly Maintained Facilities

These flow control and water quality facilities, which are owned and/or operated by the City of Kenmore, are inspected and maintained annually.

Refer to Table 3-1 for more detailed facility information.

0 0.25 0.5 Miles

0 3,000 Feet

N

CITY OF KENMORE

OMPPM

MAP 3-1

UPDATED: 12 DECEMBER 2022
\\Surface Water\MANUALS\2022_CoK_OMPPM

TABLE 3-1: LIST OF STORMWATER FACILITIES OWNED OR OPERATED BY THE CITY

TABLE 3-1: LIST OF STORMWATER FACILITIES OWNED OR OPERATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
1	P1976-01	Kenmore Lane	19603 61ST PL NE	Infiltration Tank w/ FROP-T
2	P1976-02	Uplake Vista North	19410 65TH PL NE	Detention Tank
3	P1976-03	Uplake Vista South	19226 65TH PL NE	Detention Tank
4	P1976-04	Carla Hills East	7846 NE 145TH ST	Detention Tank
5	P1976-05	Carla Hills West	14520 78TH AVE NE	Detention Tank
6	P1977-01	Bixby Knolls North	14926 72ND PL NE	Detention Pond
7	P1977-02	Bixby Knolls South	7203 NE 149TH ST	Detention Pond
8	P1978-01	Strawberry Hill	15213 72ND AVE NE	Detention Tank
9	P1978-02	Northlake Heights	18505 66TH AVE NE	Detention Tank
10	P1978-03	Highland Vista	15208 64TH AVE NE	Detention Tank
11	P1979-01	Pacific Northwest Estates	NE 159TH ST & 71ST AVE NE	Detention Tank
12	P1979-02	Johnson	NE 201ST ST & 60TH AVE NE	Detention Tank
13	P1980-01	Prestige Heights Southwest Tank	19003 64TH AVE NE	Detention Tank
14	P1980-02	Prestige Heights Northwest Tank	6310 NE 194TH ST	Detention Tank
15	P1980-03	Northshore Summit Park	6200 NE 193RD ST	Detention Tank
16	P1980-04	Prestige Heights Southeast Tank	19009 65TH AVE NE	Detention Tank
17	P1980-05	Prestige Heights Northeast Tank	6366 NE 194TH ST	Detention Tank
18	P1980-06	Northlake Hills West	5819 NE 198TH PL	Detention Tank
19	P1980-07	Northlake Hills East	19717 60TH AVE NE	Detentin Tank
20	P1980-08	Forest Hills Estates	19014 60TH PL NE	Detention Tank
21	P1981-01	0056 Sediment Box	6115 NE 175TH ST	Sediment Box
22	P1981-02	Hofto	8323 NE 162ND CT	Detention Tank
23	P1981-03	Dekoekkoek	5637 NE 200TH PL	Detention Tank
24	P1981-04	McDonald Highlands CB	67TH AVE NE & NE 151ST ST	Type 2 CB w/ FROP-T
25	P1981-05	McDonald Highlands East Tank	6635 NE 151ST ST	Detention Tank
26	P1981-06	McDonald Highlands South Tank	6332 NE 151ST ST	Detention Tank
27	P1981-07	McDonald Heighlands West Tank	15033 62ND AVE NE	Detention Tank
28	P1981-08	Sundquist	19311 59TH PL NE	Infiltration Trench
29	P1982-01	Maplebrook	5830 NE 204TH PL	Detention Tank
30	P1983-01	Curl	7703 NE 167TH ST	Detention Tank
31	P1983-03	Bon Air Heights Central	18600 67TH PL NE	Infiltration Tank w/ FROP-T
32	P1983-04	Bon Air Heights South	6704 NE 185TH ST	Detention Tank
33	P1983-05	Belmore	7105 NE 188TH CT	Detention Tank
34	P1983-06	Withers	NE 195TH ST & 76TH AVE NE	Detention Pond
35	P1983-07	Hodneland	8000 NE 149TH ST	Detention Tank, Dispersal Trench
36	P1985-01	Fairway Woods	16328 Inglewood Terrace NE	Detention Tank
37	P1985-02	Stroble	8003 NE 147TH ST	Detention Tank
38	P1986-01	Mosher	8008 NE 153RD PL	Dentention Tank, Dispersal Trench
39	P1986-02	Mann	7027 NE 153RD PL	Detention Pond
40	P1986-03	Anderson Lane	15109 84TH AVE NE	Detention Tank
41	P1987-01	Smiley	14511 89TH PL NE	Detention Tank
42	P1987-02	Kenmore Place North	19618 76TH AVE NE	Detention Tank
43	P1987-03	Kenmore Place South	76TH AVE NE & NE 196TH CT	Detention Tank
44	P1987-04	Rodgers	15302 61ST PL NE	Detention Tank
45	P1988-01	Inglewood Place	16718 Juanita DR NE	Detention Pond
46	P1988-02	Rainberry Park	7819 NE 150TH ST	Detention Tank

TABLE 3-1: LIST OF STORMWATER FACILITIES OWNED OR OPERATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
47	P1988-03	Brighton Park	6186 NE 195TH CT	Detention Tank
48	P1988-04	Naslund	8022 NE 145TH PL	Detention Tank
49	P1989-01	Berkeley Estates	15010 87TH AVE NE	Detention Vault
50	P1989-02	Britton	14536 88TH AVE NE	Detention Tank
51	P1990-01	Quinault Estates Sediment Vaults	8646 NE 170TH ST	Sediment Vault (2)
52	P1990-02	Whitney	8157 NE 165TH ST	Type 2 CB w/ FROP-T
53	P1990-03	Pope	16926 72ND AVE NE	Detention Tank
54	P1991-01	Quinault Estates East Sediment Pond	8619 NE 169TH ST	Sediment Pond
55	P1991-02	Bryan Park West	81ST PL NE & NE 161ST PL	Detention Tank
56	P1991-03	Bryan Park East	8134 NE 161ST PL	Detention Tank
57	P1991-04	Fountain	84TH AVE NE & NE 146TH ST	Detention Tank
58	P1991-05	Belmont Lane	NE 145TH ST & 92ND AVE NE	Detention Tank, Bioswale
59	P1992-01	Amber Heights Tank	8802 NE 150TH ST	Detention Tank
60	P1992-02	Amber Heights Pond	14803 88TH AVE NE	Detention Pond, Wet Swale
61	P1992-03	Dapper/Shields	16523 69TH PL NE	Detention Tank
62	P1992-04	Caymus Lane	19433 76TH CT NE	Detention Tank
63	P1992-05	Kearney/Cooper	8106 NE 145TH ST	Detention Tank
64	P1993-01	Vincent Court	7107 NE 167TH ST	Detention Tank, Bioswale
65	P1993-02	Inglewood Meadows	7118 NE 165TH PL	Detention Tank, Bioswale
66	P1993-03	Inglewood Court	7109 NE 165TH ST	Detention Tank
67	P1993-04	Belmont Heights	NE 145TH ST & 88TH AVE NE	Detention Pond, Bioswale
68	P1994-03	Brookfield Div II West	7804 NE 147TH ST	Detention Tank, Bioswale
69	P1994-04	Brookfield Div II East	7833 NE 147TH ST	Detention Tank, Bioswale
70	P1994-05	Breckenridge	NE 158TH ST & 81ST AVE NE	Detention Tank
71	P1994-07	Juanita Tank 153RD PL	15012 Juanita DR NE	Detention Tank
72	P1994-08	Juanita Tank 149TH ST	Juanita DR NE & NE 149TH ST	Detention Tank
73	P1994-09	Juanita Tank 145TH ST	Juanita DR NE & NE 145TH ST	Detention Tank
74	P1995-01	The Park at Inglemoor West Tank	8850 NE 160TH PL	Detention Tank
75	P1995-02	The Park at Inglemoor East Tank	9052 NE 160TH PL	Detention Tank, Bioswale
76	P1995-03	The Park at Inglemoor Ponds	9050 NE 160TH PL	Detention Tank, Detention Pond (2), Bioswale
77	P1995-04	The Park at Inglemoor West Bioswale	8800 NE 160TH PL	Bioswale
78	P1995-05	Eagle Brook II	14701 75TH PL NE	Detention Pond
79	P1996-01	Inglewood Estates West	78TH AVE NE & NE 148TH PL	Bioswale
80	P1996-02	Inglewood Estates East	7858 NE 148TH PL	Detention Tank, Bioswale
81	P1997-01	Brundson	16126 90TH AVE NE	Bioswale(2), Detention Tank
82	P1997-02	Northshore Glen	15239 80TH AVE NE	Detention Pond, Bioswale
83	P1998-01	Blank	8034 NE 148TH LN	Bioswale, Dispersal Trench
84	P1999-02	Greenbank Circle	7519 NE 203RD PL	Detention Tank, Bioswale
85	P1999-03	Berg's Lane	8007 NE 179TH PL	Detention Tank, Bioswale
86	P1999-04	Leopold Addition	8026 NE 162ND CT	Bioswale, Detention Tank
87	P2000-01	Rice	8009 NE 148TH LN	Detention Tank
88	P2000-02	Shadowbrook	7828 NE 183RD ST	Detention Pond, Bioswale, Dispersal Trench
89	P2000-03	Ridgelane	15517 73RD PL NE	Detention Vault
90	P2000-04	Warburton	16100 Juanita DR NE	Detention Pond
91	P2000-05	Heron Estates	76TH PL NE & NE 192ND ST	Detention Vault
92	P2000-06	Nelson Gardens East Pond (Tract H)	19426 79TH CT NE	Detention Pond

TABLE 3-1: LIST OF STORMWATER FACILITIES OWNED OR OPERATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
93	P2000-07	Nelson Gardens Central Pond (Tract I)	19414 77TH PL NE	Detention Pond
94	P2000-08	Nelson Gardens West Pond (Tract J)	19411 77TH PL NE	Detention Pond
95	P2000-09	Jacobson-Niad	7528 NE 153RD PL	Detention Pond
96	P2001-02	Willow Creek	18012 81ST AVE NE	Detention Vault
97	P2001-03	Berry South Vault	15115 85TH AVE NE	Detention Vault
98	P2001-04	Berry North Vault	15215 85TH AVE NE	Detention Vault
99	P2001-05	Emerald Court Place	8954 NE 148TH PL	Detention Vault
100	P2002-01	Cedarlane (Oosterwyk)	7110 NE 167TH ST	Detention Pond, Dispersal Trench
101	P2002-02	Noble	88TH AVE NE & NE 163RD ST	Detention Pond
102	P2002-03	Hart	NE 201ST PL & 75TH AVE NE	Detention Vault
103	P2002-04	Bridlepath Pond	8109 NE 198TH ST	Detention Pond
104	P2002-05	Bridlepath Vault	8119 NE 198TH ST	Detention Vault, Bioswale
105	P2002-06	Cort Ridge	16304 Simonds RD NE	Bioswale, Detention Tank
106	P2002-07	Westhill Place	82ND AVE NE & NE 187TH WAY	Detention Vault, Bioswale
107	P2002-08	Aspen Grove Estates	7519 NE 204TH PL	Detention Vault, Bioswale
108	P2003-01	Shadowcreek	7919 NE 196TH ST	Detention Vault
109	P2003-02	Wynfield Meadows West Vault (Tract E)	76TH AVE NE & NE 200TH ST	Detention Vault
110	P2003-03	Wynfield Meadows South Vault (Tract D)	7822 NE 199TH ST	Detention Vault
111	P2003-04	Wynfield Meadows East Vault (Tract C)	7825 NE 200TH ST	Detention Vault
112	P2003-05	Fernwood Court	8007 NE 147TH LN	Detention Vault, Dispersal Trench
113	P2003-06	Blueberry	NE 201ST PL & 68TH AVE NE	Detention Vault, Pump
114	P2003-07	Creekside Court	20213 83RD PL NE	Detention Vault
115	P2003-08	Kenmore Estates	NE 198TH ST & 80TH AVE NE	Detention Vault
116	P2003-09	Heron's Reach	7807 NE 197TH PL	Detention Vault
117	P2003-10	Inglemoor Court	NE 148TH PL & 88TH AVE NE	Detention Vault
118	P2003-11	Wynfield Meadows Filter CB	NE 200TH ST & 80TH AVE NE	Contech Filter CB
119	P2003-12	Harris	7601 NE 170TH ST	Detention Vault
120	P2004-01	Federov	76TH AVE NE & NE 192ND ST	Detention Vault
121	P2004-02	Michael's Place	20305 62ND Way NE	Detention Vault, Contech Filter MH
122	P2004-03	Ridgewood-Reppas	16412 82ND LN NE	Dentention Vault, Contech Filter MH
123	P2004-04	Turner	82ND PL NE & NE 166TH ST	Detention Vault
124	P2004-05	Campbell	88TH AVE NE & NE 147TH LN	Detention Vault
125	P2004-06	Hawthorne Glen	8420 NE 166TH PL	Contech Filter Vault
126	P2004-07	Ashton Lane (Traditions)	81ST AVE NE & NE 150TH ST	Detention Vault
127	P2004-08	Schmidt	7431 NE 203RD LN	Detention Vault, Contech Filter MH
128	P2004-09	Luke	8115 NE 147TH ST	Detention Vault
129	P2004-10	Qualridge	16312 Simonds RD NE	Detention Vault
130	P2004-11	Eastwood	7506 NE 155TH ST	Contech Filter CB, Detention Pond
131	P2004-12	Clearwater	7911 NE 181ST PL	Detention Pond
132	P2004-13	Broadfir	NE 149TH ST & 81ST AVE NE	Detention Vault
133	P2004-14	Frances Park	8116 NE 189TH PL	Detention Tank, Bioswale
134	P2004-15	Clifton	7607 NE 148TH PL	Detention Vault
135	P2004-16	Lara Lane	7909 NE 184TH ST	Detention Pond, Bioswale
136	P2004-17	Gardner	7413 NE 198TH PL	Detention Pond
137	P2005-01	Brookstone	8135 NE 187TH PL	Detention Vault
138	P2005-02	Himmelman	5634 NE 198TH PL	Detention Vault

TABLE 3-1: LIST OF STORMWATER FACILITIES OWNED OR OPERATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
139	P2005-03	McKenzie Place	NE 200TH ST & 75TH AVE NE	Detention Vault, Contech Filter MH
140	P2005-04	McCann	20208 81ST PL NE	Detention Vault, Dispersal Trench
141	P2005-05	Boulder Estates (Osgood)	NE 183RD ST & 80TH AVE NE	Detention Vault
142	P2005-06	Lake Forest Park Hills	NE 199TH ST & 60TH AVE NE	Detention Pond
143	P2005-07	Upright	16710 74th Avenue NE	Contech Filter CB
144	P2005-08	Rhododendren Park Decant Tank	6910 NE 170TH ST	Decant Tank
145	P2006-01	Arbor Land (Jacobsen)	7716 NE NE 151ST LN	Contech Filter Vault, Contech Filter CB, Detention Vault, Dispersal Trench
146	P2007-01	Swamp Creek Sediment Pond	19600 73RD AVE NE	Sediment Pond
147	P2007-02	Hancock	16027 76TH PL NE	Contech Filter CB
148	P2009-01	175TH ST Filter Vault East	8015 NE 175TH ST	Bioswale, Contech Filter Vault
149	P2009-02	175TH ST Filter Vault West	7911 NE 175TH ST	Bioswale, Contech Filter Vault
150	P2009-03	522 Filter Vault East	7024 NE Bothell Way	Contech Filter Vault
151	P2009-04	522 Filter Vault Central	6828 NE Bothell Way	Coalescing Plate Vault, Contech Filter Vault
152	P2009-05	522 Filter Vault West	6702 NE Bothell Way	Contech Filter Vault
153	P2009-06	73RD AVE Filter MH	73RD AVE NE & NE 175TH ST	Contech Filter MH
154	P2009-07	68TH AVE Filter MH	68TH AVE NE & NE 175TH ST (NE Corner)	Coalescing Plate Vault, Contech Filter MH
155	P2009-08	68TH AVE Filter Vault	18022 68TH AVE NE	Contech Filter Vault
156	P2009-09	73RD AVE South Pond	18816 73RD AVE NE	Pond
157	P2009-10	73RD AVE North Pond	19040 73RD AVE NE	Pond
158	P2009-11	73RD AVE Filter Vault	18727 73RD AVE NE	Wet Vault, Contech Filter Vault
159	P2009-12	Carefree Homes	7621 NE 170TH ST	Contech Filter CB
160	P2009-13	76TH PL Outfall	16016 76TH PL NE	Dispersion Tee
161	P2010-01	Kenmore City Hall	18120 68TH AVE NE	Green Roof, Pervious Concrete, Raingarden, Contech Filter CB (2) Wet Vault
162	P2011-01	Canyon View Estates	16438 85TH PL NE	Contech Filter MH
163	P2012-01	Wynfield South South Vault	7708 NE 195TH ST	Detention Vault
164	P2012-02	Wynfield South North Vault	7609 NE 198TH PL	Detention Vault
165	P2012-03	Wynfield South Stormfilter MH	7708 NE 195TH ST	Contech Filter MH
166	P2013-01	West Creek Village	7724 NE 193RD PL	Detention Vault
167	P2013-02	East Creek Pond	19708 80TH AVE NE	Detention Pond, Contech Filter Vault
168	P2013-03	East Creek Filter MH	19600 80TH AVE NE	Contech Filter MH
169	P2013-04	Northlake Landing	16707 74TH AVE NE	Detention Vault, Bioswale
170	P2013-05	Inglemoor Heights Vault	15457 87TH PL NE	Detention Vault, Dispersal Trench
171	P2013-06	Inglemoor Heights West Tank	15431 87TH PL NE	Contech Filter CB, Detention Tank, Dispersal Trench
172	P2013-07	Inglemoor Heights East Tank	15305 88TH AVE NE	Contech Filter CB, Detention Tank, Dispersal Trench
173	P2013-08	NUD Pump House (ROW)	8024 NE 150TH ST	Detention Tank
174	P2013-09	Evergreen Estates (Baer)	16013 88TH AVE NE	Detention Vault
175	P2014-01	0057 Box Culvert	7235 NE 170TH ST	FROP-T Flow Splitter, Contech Filter MH
176	P2014-02	Emerald Vue (Creektree)	14500 88TH PL NE	Detention Pond, Contech Filter MH
177	P2014-03	Dhalia Court (TEC)	16323 Simonds RD NE	Contech Filter CB (4), Detention Vault
178	P2014-04	Arbors at Wallace Creek (Hanks) Vault	NE 201ST PL & 73RD AVE NE	Contech Filter MH (2), Detention Vault
179	P2014-05	Arbors at Wallace Creek (Hanks) Tank	NE 201ST PL & 73RD AVE NE	Contech Filter CB, Detention Tank
180	P2014-06	Kimberly Place	20115 75TH AVE NE	Detention Vault
181	P2014-07	Sweeny	8422 NE 155TH ST	Detention Tank
182	P2015-02	Reserve at Inglemoor	16615 76TH AVE NE	Contech Filter MH, Detention Vault
183	P2015-03	Double Eagle	8206 NE 190TH ST	Detention Vault
184	P2015-04	Pearson Estates	15108 84TH AVE NE	Detention Vault

TABLE 3-1: LIST OF STORMWATER FACILITIES OWNED OR OPERATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
185	P2015-05	Glenbrook (Mikulich)	8421 NE 146TH ST	Detention Vault
186	P2015-06	Walters LP	8343 NE 175TH ST	Bioswale
187	P2015-07	Redhawk	8240 83RD PL NE	Detention Vault
188	P2015-08	Hidden Creek Bioswale	8300 NE 203RD ST	Bioswale (2)
189	P2016-01	522 Filtera South West	NE Bothell Way & 61ST AVE NE (SW Corner)	Filterra
190	P2016-02	522 Filtera South Central	NE Bothell Way & 61ST AVE NE (SE Corner)	Filterra
191	P2016-03	522 Filtera South East	6135 NE Bothell Way	Filterra
192	P2016-04	522 Filtera North East	6214 NE Bothell Way	Filterra
193	P2016-05	522 Filtera North Central	6136 NE Bothell Way	Filterra
194	P2016-06	522 Filtera North West	6126 NE Bothell Way	Filterra
195	P2016-07	61ST Filtera Southwest	61ST AVE NE & NE Bothell Way	Filterra
196	P2016-08	61ST Filtera Northwest	61ST AVE NE & NE Bothell Way	Filterra
197	P2016-09	61ST Filtera Southeast	61ST AVE NE & NE Bothell Way	Filterra
198	P2016-10	61ST Filtera Northeast	61ST AVE NE & NE Bothell Way	Filterra
199	P2016-11	Zuberman	58TH LN NE & NE 204TH PL	Bayfilter Vault, Detention Vault
200	P2016-12	Oasis	73RD CT NE & NE 150TH ST	R-Tank Detention Vault, Bayfilter MH
201	P2016-13	Cortesa (Meridian Terrace)	80TH AVE NE & 201ST PL NE	Detention Pond, Contech Filter MH
202	P2017-01	202ND ST Sidewalk	6635 NE 202ND ST	Bioswale, R-Tank Detention Vault
203	P2017-02	Moorlands Park	15221 84TH AVE NE	Perk Filter Vault
204	P2018-01	Lochmere	7719 NE 170TH ST	Contech Filter CB
205	P2019-01	Brookside	19911 80TH AVE NE	Detention Vault
206	P2019-02	Sims	15727 88TH AVE NE	Detention Vault, Contech Filter MH
207	P2019-03	Daniels North Tank	16206 81ST PL NE	Detention Tank
208	P2019-04	Daniels South Tank	16206 81ST PL NE	Detention Tank, Contech Filter MH
209	P2019-05	Solaire Townhomes Sidewalk	6909 NE 170TH ST	Pervious Concrete
210	P2020-01	Glasshouse Vault	NE 192ND ST & 76TH AVE NE	Detention Vault, Modular Wetland
211	P2020-02	Glasshouse Filter CB	NE 192ND ST & 76TH AVE NE	Perk Filter CB
212	P2020-03	Hiatt Ridge	14806 81ST AVE NE	Detention Vault, Biopod
213	P2020-04	Lumen 8 Townhomes Sidewalk	18138 73RD AVE NE	Pervious Concrete
214	P2020-05	Northshore Meadows North Vault	7407 NE 199TH PL	Detention Vault
215	P2020-06	Northshore Meadows South Vault	7408 NE 198TH PL	Detention Vault
216	P2021-01	Copper Lane	7679 NE 165TH PL	Detention Vault
217	P2021-02	Northbrook	7419 NE 197TH PL	Detention Vault
218	P2022-01	Shannon Ridge Vault	16466 73RD PL NE	Detention Vault
219	P2022-02	Shannon Ridge Tank	NE 165TH ST & 72ND AVE NE	Detention Tank, Contech Filter MH
220	P2022-03	BJH	18713 80TH AVE NE	Contech Filter CB, Infiltration Bed
221	P2022-04	522 East MWS	NE Bothell Way & 83RD PL NE	Modular Wetland
222	P2022-05	Sammamish River Bridge North MWS	17150 68TH AVE NE	Modular Wetland
223	P2022-06	Sammamish River Bridge South MWS	17150 68TH AVE NE	Modular Wetland
224	P2022-07	68TH Ped Bike Improvements 185TH MWS	68TH AVE NE & NE 185TH ST	Modular Wetland
225	P2022-08	68TH Ped Bike Improvements 185TH Bioswale	68TH AVE NE & NE 185TH ST	Bioswale
226	P2022-09	68TH Ped Bike Improvements 187TH Vault South	18529 68TH AVE NE	Modular Wetland, Detention Vault
227	P2022-10	68TH Ped Bike Improvements 187TH Vault North	18725 68TH AVE NE	Detention Vault
228	P2022-11	68TH Ped Bike Improvements 195TH Vault	19409 68TH AVE NE	Modular Wetland, Detention Vault
229	P2022-12	68TH Ped Bike Improvements 198TH Vault South	19812 68TH AVE NE	Modular Wetland, Detention Vault
230	P2022-13	68TH Ped Bike Improvements 198TH Vault North	68TH AVE NE & NE 198TH ST	Detention Vault

TABLE 3-1: LIST OF STORMWATER FACILITIES OWNED OR OPERATED BY THE CITY

MAP ID	FACILITY ID	PROJECT NAME	LOCATION	FACILITY TYPE
231	**P2022-14**	68TH Ped Bike Improvements 66TH Vault	6506 NE 202ND ST	Modular Wetland (2), Detention Vault
232	**P2022-15**	68TH Ped Bike Improvements 63RD Vault	6219 NE 202ND ST	Modular Wetland, Detention Vault
233	**P2022-16**	Juanita Ped Bike Improvements Pond	16400 Juanita DR NE	Flow Splitter, Detention Pond, Modular Wetland
234	**P2022-17**	Juanita Ped Bike Improvements 165TH Filterra Southwest	16450 Juanita DR NE	Filterra
235	**P2022-18**	Juanita Ped Bike Improvements 165TH Filterra Southeast	16450 Juanita DR NE	Filterra
236	**P2022-19**	Juanita Ped Bike Improvements 165TH Filterra Northwest	Juanita DR NE & NE 165TH ST (NW corner)	Filterra
237	**P2022-20**	Juanita Ped Bike Improvements 165TH Filterra Northeast	Juanita DR NE & NE 166TH CT	Filterra
238	**P2022-21**	Juanita Ped Bike Improvements 166TH Filterra Southwest	16614 Juanita DR NE	Filterra
239	**P2022-22**	Juanita Ped Bike Improvements 166TH Filterra Southeast	16614 Juanita DR NE	Filterra
240	**P2022-23**	Juanita Ped Bike Improvements 166TH Filterra Northwest	16638 Juanita DR NE	Filterra
241	**P2022-24**	Juanita Ped Bike Improvements 166TH Filterra Northeast	16638 Juanita DR NE	Filterra
242	**P2022-25**	Juanita Ped Bike Improvements 170TH Filterra West	16724 Juanita DR NE	Filterra
243	**P2022-26**	Juanita Ped Bike Improvements 170TH Filterra East	16910 Juanita DR NE	Filterra
244	**P2022-27**	Lowry	20325 75TH AVE NE	Biopod, Detention Vault, Dispersion Trench
245	**P2022-28**	Lakeside at 153RD	6851 NE 153RD PL	Bayfliter MH, R-Tank Detention Vault

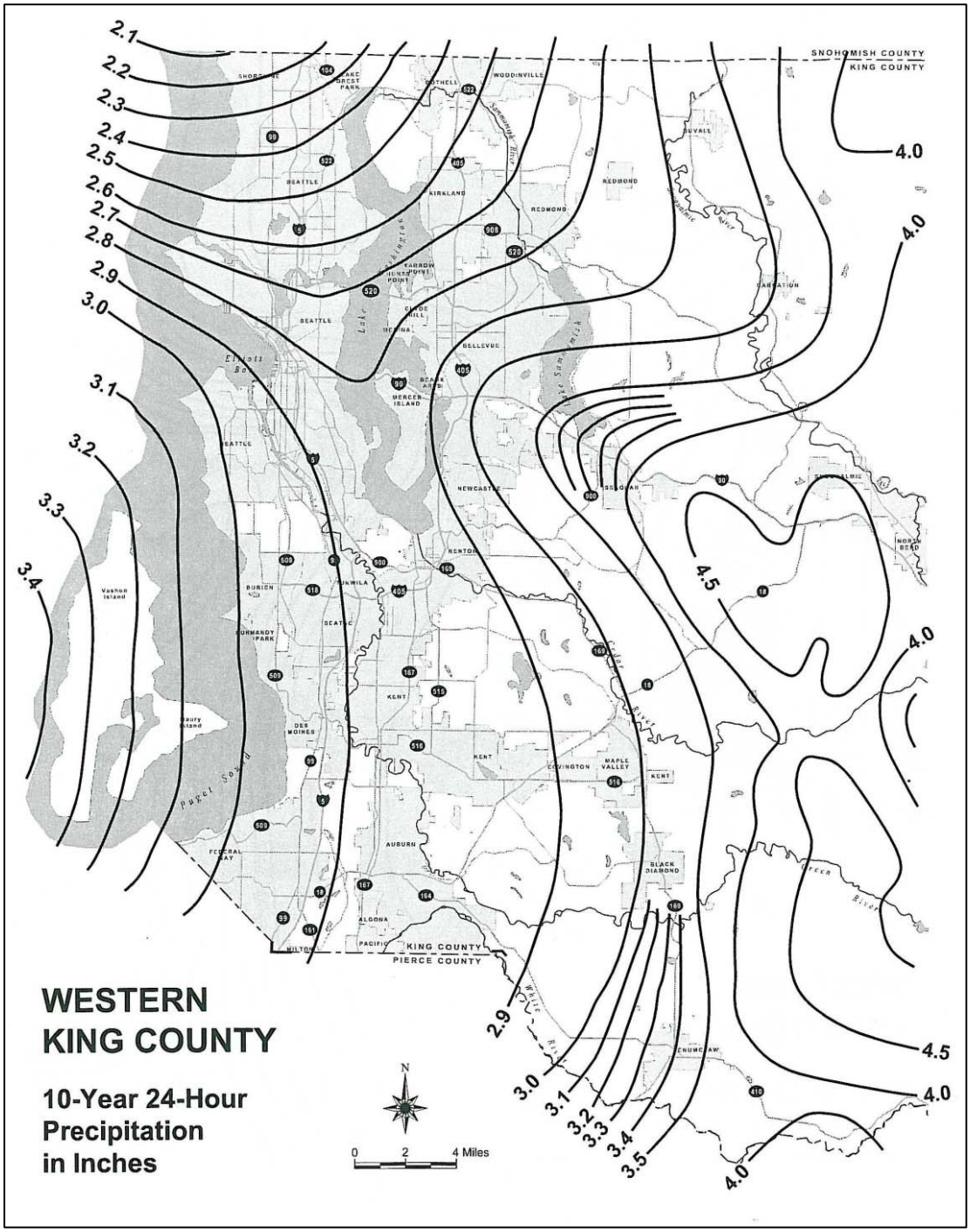
SPOT CHECKS

Permit section S5.C.7.c.ii requires spot checks of potentially damaged stormwater treatment and flow control BMPs/facilities after major storm events (24 hour storm event with a 10 year or greater recurrence interval). 24-hour-10-year recurrence interval rainfall in Kenmore ranges from 2.3 to 2.5 inches of rain in a 24-hour period. Figure 3-2 provides a map showing 10-Year 24-Hour isopluvials (major storm event) for King County.

Stormwater treatment and flow control BMPs/facilities are included for spot checks based on several factors, including high potential for flood damage, high potential for debris accumulation, high potential for control structure failure and/or documented historical problems. Facilities that go into overflow as designed are not considered at risk. In addition to treatment and flow control BMPs/facilities, the City also spot checks many culvert crossings, ditches, roadway areas and facilities susceptible to flooding after major storm events. Figure 3-3 provides a map of spot check locations in the City.

City staff typically conduct spot check inspections more frequently than required by the Permit to ensure that facilities are functioning properly even during heavy rain events less than a 10 year recurrence interval.

FIGURE 3-2: ISOPLUVIAL MAP FOR MAJOR STORM EVENTS



Isopluvials for 10-year 24-hour recurrence interval rainfall storm events for Western Washington ("Major Storm Event"). King County Surface Water Design Manual.

FIGURE 3-3: MAP OF SPOT CHECK LOCATIONS

Lake Forest Park

Bothell

Kirkland

Lake Washington

60TH AVE NE
60TH PL NE
NE 202ND ST
NE 203RD ST
NE 200TH ST
NE 198TH ST
NE 196TH ST
NE 195TH ST
NE 193RD ST
NE 192ND ST
NE 190TH ST
NE 185TH ST
NE 182ND ST
NE 181ST ST
NE BOTHELL WAY
NE 175TH ST
NE 170TH ST
NE 169TH ST
NE 166TH ST
NE 165TH ST
NE 155TH ST
NE 153RD PL
NE 150TH ST
NE ARROWHEAD DR
61ST AVE NE
62ND PL NE
62ND AVE NE
64TH AVE NE
56TH AVE NE
68TH AVE NE
70TH AVE NE
72ND AVE NE
73RD AVE NE
74TH AVE NE
75TH AVE NE
76TH AVE NE
78TH AVE NE
80TH AVE NE
81ST AVE NE
81ST PL NE
82ND AVE NE
83RD AVE NE
84TH AVE NE
88TH AVE NE
JUANITA DR NE
SIMONDS RD NE

Swamp Creek Trib 03
Swamp Creek
Swamp Creek Trib 02
Swamp Creek Trib 01
Little Swamp Creek
Tributary 0056
Muck Creek
Sammamish River
Samm Trib 01
Samm Trib 02
Samm Trib 03
Trib 0222
Trib 0223
Tributary 0057
Arrowhead Creek
Juanita Creek

1 NE BOTHELL WAY & NE 175TH ST
2 NE BOTHELL WAY & NE 182ND ST
3 60TH AVE NE & NE 195TH ST
4 NE 185TH ST & 68TH AVE NE
5 73RD AVE NE & NE 192ND ST
6 Swamp Creek & NE 195TH ST
7 NE 195TH ST & 80TH AVE NE
8 80TH AVE NE & NE 200TH ST
9 NE 200TH ST & NE 203RD ST
10 NE 169TH ST & Samm Trib 01
11 NE 169TH ST & Samm Trib 03
12 74TH AVE NE & NE 165TH ST
13 76TH AVE NE & NE 165TH ST
14 81ST PL NE & Tributary 0057
15 NE 155TH ST & SIMONDS RD NE
16 NE ARROWHEAD DR & 61ST AVE NE

0 0.25 0.5 0.75 1 Miles

Storm Spot Checks

The sections highlighted in orange and red are inspected after major storms.

Legend

- Spot Checks
- Arterial Checks
- Streams
- Kenmore Border

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MAP 3-3

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CATCH BASINS

Permit section S5.C.7.c.iii requires inspections of catch basins and inlets owned or operated by the City every two years and cleaned if necessary to comply with maintenance standards.

Since 2010, City staff have inspected City owned and operated catch basins annually. Catch basins identified for cleaning are cleaned by a vactor contractor. Catch basins identified for other maintenance needs are maintained by City staff.

Annual catch basin inspections also include field mapping as described in section S5.C.4.a to conduct ongoing mapping.

Annual catch basin inspections also include field screening as described in section S5.C.5.d to detect and identify non-stormwater discharges and illicit connections into the City's MS4.

SECTION 4 – PRACTICES, POLICIES & PROCEDURES

This section of the OMPPM describes the City's compliance with S5.C.7.d of the Permit which requires that the City implement practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City, and road maintenance activities under the functional control of the City. Lands owned or maintained by the City include, but are not limited to: streets, parking lots, roads, highways, buildings, parks, open space, road rights-of-way, maintenance yards and stormwater treatment and flow control BMPs/facilities. This section of the OMPPM provides documentation of the City's practices, policies and procedures, which the Permit requires no later than December 31, 2022.

Typical O&M activities are described in detail in *O&M Activity Worksheets* included in section 4.1. Descriptions of O&M policies for specific land uses and associated O&M activities are provided in *O&M Land Use Worksheets* included in section 4.2.

SECTION 4.1: O&M ACTIVITY WORKSHEETS

O&M Activity Worksheets address the following 15 activities provided in the Permit (S5.C.7.d.i-xv):

i. Pipe cleaning,
ii. Cleaning of culverts that convey stormwater in ditch systems,
iii. Ditch maintenance,
iv. Street cleaning,
v. Road repair and resurfacing, including pavement grinding,
vi. Snow and ice control,
vii. Utility installation,
viii. Pavement striping maintenance,
ix. Maintaining roadside areas, including vegetation management,
x. Dust control,
xi. Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts,
xii. Sediment and erosion control,
xiii. Landscape maintenance and vegetation disposal,
xiv. Trash and pet waste management, and
xv. Building exterior cleaning and maintenance.

Each O&M Activity Worksheet contains the following sections:

Description – A short description of what typical maintenance in the category includes.

Performance Criteria – A general description of Kenmore practices that promote proper structure operation and reduces stormwater impacts associated with runoff.

Maintenance Standard – Any applicable maintenance standards are referenced in this section. Maintenance standards are differentiated from procedural criteria by the fact that they have a numeric

threshold versus un-quantified observations (i.e. clean a structure when you have x amount of material versus clean a structure when material accumulation is judged to be an issue). Maintenance standards apply to stormwater treatment and flow control BMP/facility structures and catch basin cleaning.

Current Contracts – Many activities are contracted to outside agencies or private contractors. This section will reference the appropriate entity contracted to do the activity. Companies or agencies conducting work in Kenmore are expected to comply with Kenmore and Permit regulations.

Policy, Procedure, BMP – This section outlines what policies, procedures or BMPs are applicable to road maintenance activities conducted by Kenmore or contracted businesses/agencies. This section often references the Regional Road Maintenance Program Guidelines (RRMPG), which can be found online at: https://wsdot.wa.gov/construction-planning/protecting-environment/regional-roadside-maintenance. A copy of the Regional Road Maintenance Endangered Species Act Program (RRMP) Parts 1 & 2 are also provided as a separate PDF on the City's website at: https://www.kenmorewa.gov/government/departments/public-works/environmental-services/npdes.

The RRMPG were developed by a consortium of public agencies in 2002 to create O&M policies that jurisdictions could utilize to reduce road maintenance activities' impacts on surface waters and habitat. The effort was driven by the 1999 listings of several salmonids under the Endangered Species Act. Additionally, Kenmore has adopted the 2021 King County Stormwater Pollution Prevention Manual which outlines Best Management Practices (BMPs) for property and business owners in Kenmore. BMPs may be schedules of activities, prohibitions of practices, physical structures, maintenance procedures and other management practices undertaken to reduce or prevent increases in runoff quantity and pollution.

O&M ACTIVITY 1 – PIPE CLEANING

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 1 – PIPE CLEANING

DESCRIPTION:

Removal of dirt, debris and other materials from enclosed drainage systems by using a vactor with a jet rodder.

PROCEDURAL CRITERIA:

Enclosed drainage systems should be cleaned of trash, debris, sediment and/or any other material when they are functionally restricted.

MAINTENANCE STANDARD (if applicable):

King County Surface Water Design Manual (Appendix A):
No. 6 – Conveyance Pipes and Ditches

Current Contracts (Updated DEC 2022):

Ventilation Power Cleaning (22-C2779)

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #3 – Cleaning enclosed drainage systems
Part 2 BMPs (2.166) – Vactoring

Have all applicable environmental/regulatory permits on site during project.

Have spill kits available.

Monitor BMPs during and following project until site conditions stabilize.

Remove BMPs according to RRMPG.

O&M ACTIVITY 2 – CLEANING OF CULVERTS THAT CONVEY STORMWATER IN DITCH SYSTEMS

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 2 – CLEANING OF CULVERTS THAT CONVEY STORMWATER IN DITCH SYSTEMS

DESCRIPTION:
Removal of dirt, debris and other materials from culverts by using a vactor with a jet rodder.

PERFORMANCE CRITERIA:
Culverts should be cleaned of trash, debris, sediment and/or any other material when they are functionally restricted.

MAINTENANCE STANDARD (if applicable):
King County Surface Water Design Manual (Appendix A):
No. 6 – Conveyance Pipes and Ditches

Current Contracts (Updated DEC 2022):
Ventilation Power Cleaning (22-C2779)

Policy, Procedure, BMP:
Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #3 – Cleaning enclosed drainage systems
Part 2 BMPs (2.166) – Vactoring

Have all applicable environmental/regulatory permits on site during project.

Have spill kits available.

Monitor BMPs during and following project until site conditions stabilize.

Remove BMPs according to RRMPG.

O&M ACTIVITY 3 – DITCH MAINTENANCE

City of Kenmore **O&M ACTIVITY WORKSHEET** **ACTIVITY 3 – DITCH MAINTENANCE**
DESCRIPTION: All ditch maintenance activities including, but not limited to, the use of hand tools, front end loaders, drotts, vactors, backhoes or specialized equipment.
PERFORMANCE CRITERIA: Ditches should be cleaned of trash, debris, sediment, vegetation and/or any other material when they are functionally restricted.
MAINTENANCE STANDARD (if applicable): King County Surface Water Design Manual (Appendix A): No. 6 – Conveyance Pipes and Ditches
Current Contracts (Updated DEC 2022): Ventilation Power Cleaning (22-C2779) Job Specific Contracts for Specialized Services, if Needed
Policy, Procedure, BMP: Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions: Maintenance Category #4 – Open drainage systems Have all applicable environmental/regulatory permits on site during project. Have spill kits available. Monitor BMPs during and following project until site conditions stabilize. Remove BMPs according to RRMPG.

O&M ACTIVITY 4 – STREET CLEANING

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 4- STREET CLEANING

DESCRIPTION:

Removal of dirt, debris and other material by vacuum sweeping. Removal of sand after snow and ice control operations.

PERFORMANCE CRITERIA:

Street cleaning, primarily with sweeping, provides a safe roadway surface for the traveling public, minimizes contamination of stormwater and reduces airborne dust. Roadways should be swept when they begin to show an accumulation of material and after snow and ice control operations where sand has been used. In some instances, such as a spill, a vactor may be required to adequately clean the street.

MAINTENANCE STANDARD (if applicable):

Not applicable

Current Contracts (Updated DEC 2022):

Davidson-Macri Sweeping, Inc (21-C2703)
Ventilation Power Cleaning (22-C2779)

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #8 – Street surface cleaning
Part 2 BMPs (2.152) – Sweeping

Have all applicable environmental/regulatory permits on site during project.

Have spill kits available.

Monitor BMPs during and following project until site conditions stabilize.

Remove BMPs according to RRMPG.

O&M ACTIVITY 5 – ROAD REPAIR AND RESURFACING, INCLUDING PAVEMENT GRINDING

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 5 – ROAD REPAIR AND RESURFACING, INCLUDING PAVEMENT GRINDING

DESCRIPTION:

Repair, replace, install or maintain roadway surfaces. Activities include, but are not limited to: pothole and square cut patching; removing paved surface or roadway base; repairing roadway base; repaving; adding gravel or grading roads; access roads, or ROW surfaces; dust control; extending pavement edge; paving graveled shoulder; crack sealing; overlay; chip seal; and resurfacing.

PERFORMANCE CRITERIA:

Road repairs are performed to provide a safe roadway surface for the traveling public and to reduce further roadway deterioration or failure. Potholes are repaired as they occur within established guidelines to reduce accidents, vehicle damage and adverse environmental impacts.

MAINTENANCE STANDARD (if applicable):

Not Applicable

Current Contracts (Updated DEC 2022):

Standalone Bid/Contract Each Overlay Project

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #1 – Roadway surface
Maintenance Category #12 – Concrete

Have all applicable environmental/regulatory permits on site during project.

Have spill kits available.

Monitor BMPs during and following project until site conditions stabilize.

Remove BMPs according to RRMPG.

O&M ACTIVITY 6 – SNOW AND ICE CONTROL

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 6 – SNOW AND ICE CONTROL

DESCRIPTION:

Road maintenance crews are responsible for deicing, sanding and plowing operations during periods of freezing weather. Snow and ice removal is considered to be work of such importance that it is classified as an emergency operation. Safety for the traveling public and road department personnel shall be given primary consideration at all times. Snow and ice removal reduces vehicle accidents that may adversely impact sensitive areas. Post-event cleanup is considered a continuation of the event and removal of sediment from the road surface reduces sediment loading and preserves water quality.

PERFORMANCE CRITERIA:

Snow and ice control is performed during periods of freezing weather when slippery road conditions pose a risk to the safety of the traveling public.

MAINTENANCE STANDARD (if applicable):

Not Applicable

Current Contracts (Updated DEC 2022):

Northshore Utility District ILA (18-C1971)

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #10 – Snow and ice control

Refer to BMPs in the King County Stormwater Pollution Prevention Manual (SPPM) for proper actions:
A-40: Street Deicing Operations

Have all applicable environmental/regulatory permits on site during project.

Have spill kits available.

Monitor BMPs during and following project until site conditions stabilize.

Remove BMPs according to RRMPG.

O&M ACTIVITY 7 – UTILITY INSTALLATION

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 7 – UTILITY INSTALLATION

DESCRIPTION:

Water and sewer utilities are owned and operated, within Kenmore ROW, by the Northshore Utility District. Electric and gas utilities are owned and operated, within Kenmore ROW, by Puget Sound Energy. Communication utilities are owned and operated, within Kenmore ROW, by various companies.

PERFORMANCE CRITERIA:

Utility maintenance is required to provide a safe and consistent service of water, sewer, power and communications in Kenmore. Utility work is administered through Right-of-Way permits.

MAINTENANCE STANDARD (if applicable):

Not Applicable

Current Contracts (Updated DEC 2022):

Various Utility Franchise Agreements

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #1 – Roadway surface
Maintenance Category #12 – Concrete
Maintenance Category #13 – Sewer Systems
Maintenance Category #14 – Water Systems

Refer to BMPs in the King County Stormwater Pollution Prevention Manual (SPPM) for proper actions:
A-45: Maintenance of Public and Private Utility Corridors and Facilities

Have all applicable environmental/regulatory permits on site during project.

Have spill kits available.

Monitor BMPs during and following project until site conditions stabilize.

Remove BMPs according to RRMPG.

O&M ACTIVITY 8 – PAVEMENT STRIPING MAINTENANCE

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 8 – PAVEMENT STRIPING MAINTENANCE

DESCRIPTION:

Pavement striping is required for a functioning and safe roadway.

PERFORMANCE CRITERIA:

Pavement striping maintenance is needed when existing (or lack of) striping impairs the function and/or safety of the roadway.

MAINTENANCE STANDARD (if applicable):

Not Applicable

Current Contracts (Updated DEC 2022):

King County Roads Maintenance ILA (98-C15)

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:

Maintenance Category #1 – Roadway surface

Follow state and federal guidelines for handling paint and other traffic marking materials.

Stripe roadways in dry weather.

Have all applicable environmental/regulatory permits on site during project.

Have spill kits available.

Monitor BMPs during and following project until site conditions stabilize.

Remove BMPs according to RRMPG.

O&M ACTIVITY 9 – MAINTAINING ROADSIDE AREAS, INCLUDING VEGETATION MGMT.

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 9 – MAINTAINING ROADSIDE AREAS, INCLUDING VEGETATION MANAGEMENT

DESCRIPTION:

Maintenance of roadside areas improves drainage, restores proper grade, restores filtering capability, maintains vegetation to provide adequate sight distance, smooths rutting and removes buildup of sediment before entering drainage systems.

PERFORMANCE CRITERIA:

Maintenance of roadside areas is needed when proper drainage is compromised, sight distance is below acceptable levels or roadway safety is being impaired.

MAINTENANCE STANDARD (if applicable):

Not Applicable

Current Contracts (Updated DEC 2022):

Judha of Lion (21-C2693)
Total Landscape (01-C121)

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #1 – Roadway surface
Maintenance Category #7 – Gravel Shoulders
Maintenance Category #15 – Vegetation

Refer to BMPs in the King County Stormwater Pollution Prevention Manual (SPPM) for proper actions:
A-5: Storage and Use of Pesticides and Fertilizers
A-26: Landscaping Activities, Vegetation Management, and Irrigation

Have all applicable environmental/regulatory permits on site during project.

Have spill kits available.

Monitor BMPs during and following project until site conditions stabilize.

Remove BMPs according to RRMPG.

O&M ACTIVITY 10 – DUST CONTROL

City of Kenmore **O&M ACTIVITY WORKSHEET** **ACTIVITY 10 – DUST CONTROL**
DESCRIPTION: Dust control is the use of water, products and/or measures for reducing wind erosion. Particles moved by wind may cause air pollution, soil loss and/or water quality degradation.
PERFORMANCE CRITERIA: Any maintenance activity that has the potential to produce dust or any kind of airborne matter needs to apply dust control BMPs.
MAINTENANCE STANDARD (if applicable): Not Applicable
Current Contracts (Updated DEC 2022): Applicable to any work in Kenmore requiring dust control
Policy, Procedure, BMP: Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions: All maintenance categories. Part 2 BMPs (2.61) – Dust Control Refer to BMPs in the King County Stormwater Pollution Prevention Manual (SPPM) for proper actions: A-44: Dust Control for Commercial Operations

O&M ACTIVITY 11 – APPLICATION OF FERTILIZERS, PESTICIDES AND HERBICIDES

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 11 – APPLICATION OF FERTILIZERS, PESTICIDES AND HERBICIDES

DESCRIPTION:

Pesticides and herbicides are chemicals or biological agents applied to a target pest as a control measure. Fertilizers are chemical or natural substances composed of target nutrients added to soil or land to increase fertility.

PERFORMANCE CRITERIA:

Application of fertilizers, pesticides and herbicides may be needed to effectively maintain healthy, vibrant landscapes in Kenmore.

MAINTENANCE STANDARD (if applicable):

Not Applicable

Current Contracts (Updated DEC 2022):

Judha of Lion (21-C2693)
Total Landscape (01-C121)

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #15 – Vegetation

Refer to BMPs in the King County Stormwater Pollution Prevention Manual (SPPM) for proper actions:
A-5: Storage and Use of Pesticides and Fertilizers

Refer to guidelines in the City of Kenmore Integrated Pest Management (IPM) Manual

Refer to BMPs in the City of Kenmore Integrated Aquatic Vegetation Management Plan (IAVMP):
Aquatic Plant Control Alternatives Update – Herbicide Treatment

O&M ACTIVITY 12 – SEDIMENT AND EROSION CONTROL

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 12 – SEDIMENT AND EROSION CONTROL

DESCRIPTION:

Activities can expose soil and dirt making it vulnerable for erosion, which may cause sediment to enter local surface waters and negatively impact wildlife, water quality and habitat.

PERFORMANCE CRITERIA:

Any maintenance activity that has the potential to cause erosion and sediment transport must apply erosion and sediment control BMPs.

MAINTENANCE STANDARD (if applicable):

Not Applicable

Current Contracts (Updated DEC 2022):

Not Applicable

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
All maintenance categories and Part 2 BMPs (2.61) – Dust Control

Refer to BMPs in the King County Surface Water Design Manual (SWDM) for proper actions:
Appendix D – Erosion and Sediment Control (ESC) Standards

In general, sediment should never be allowed to leave a work site unless appropriate BMPs are utilized and specific conditions allowed by appropriate permits have been satisfied.

O&M ACTIVITY 13 – LANDSCAPE MAINTENANCE AND VEGETATION DISPOSAL

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 13 – LANDSCAPE MAINTENANCE AND VEGETATION DISPOSAL

DESCRIPTION:

Activities include repair, replacement, installation, removal and/or maintenance of landscaping on publicly maintained lands and rights-of-way. Vegetation and landscape maintenance includes, but is not limited to mechanical, chemical, cultural and biological control. It also includes the systems and structures that support the vegetation and landscaping.

PERFORMANCE CRITERIA:

The primary purpose of vegetation and landscape maintenance is to promote, maintain, sustain, manage or encourage vegetation growing on publicly maintained lands and rights-of-way to comply with a variety of regulations and standards.

MAINTENANCE STANDARD (if applicable):

King County Surface Water Design Manual (Appendix A):
No. 11 – Grounds (Landscaping)
(Vegetation specific standards applicable to surface water facility function not included here)

Current Contracts (Updated DEC 2022):

Judha of Lion (21-C2693)
Total Landscape (01-C121)

Policy, Procedure, BMP:

Refer to the BMPs in the Regional Road Maintenance Program Guidelines (RRMPG) for proper actions:
Maintenance Category #15 – Vegetation

Refer to BMPs in the King County Stormwater Pollution Prevention Manual (SPPM) for proper actions:
A-3 (Storage of Liquid Materials in Portable Containers)
A-5: Storage and Use of Pesticides and Fertilizers
A-26: Landscaping Activities, Vegetation Management, and Irrigation

Refer to guidelines in the City of Kenmore Integrated Pest Management (IPM) Manual

Green waste streams are separated. Clean green waste is recycled and non-clean or contaminated green waste is disposed of as solid waste.

O&M ACTIVITY 14 – TRASH AND PET WASTE MANAGEMENT

City of Kenmore

O&M ACTIVITY WORKSHEET

ACTIVITY 14 – TRASH AND PET WASTE MANAGEMENT

DESCRIPTION:

Trash accumulates on publicly maintained lands and rights-of-way in designated containers and in non-designated areas (litter). Residents bring their pets to various public areas including parks, streets and buildings.

PERFORMANCE CRITERIA:

Trash should be removed from City maintained lands and rights-of-way if present.

MAINTENANCE STANDARD (if applicable):

Not Applicable

Current Contracts (Updated DEC 2022):

Davidson-Macri Sweeping, Inc (21-C2703)
Ventilation Power Cleaning (22-C2779)

Policy, Procedure, BMP:

Trash and litter is picked up and disposed of properly by City staff. Trash receptacle areas are maintained.

The City participates in the "Adopt a Street" Program which requires a minimum of two trash pick-up events annually by the adopter.

King County Metro Transit maintains trash receptacles located at various bus stops throughout the city.

Streets are swept and stormwater conveyance systems are cleaned by contractors and City staff.

Pet waste bags and disposal containers are offered at public parks. Pet waste left at public facilities is collected and disposed of.

The public is responsible for collecting their pet waste and properly disposing of it in the garbage. The City provides education and outreach to promote this behavior.

O&M ACTIVITY 15 – BUILDING EXTERIOR CLEANING AND MAINTENANCE

City of Kenmore **O&M ACTIVITY WORKSHEET** **ACTIVITY 15 – BUILDING EXTERIOR CLEANING AND MAINTENANCE**
DESCRIPTION: Public buildings must be maintained and cleaned to function properly and promote a professional and welcoming environment to Kenmore residents and visitors.
PERFORMANCE CRITERIA: Buildings are maintained and cleaned as needed.
MAINTENANCE STANDARD (if applicable): Not Applicable
Current Contracts (Updated DEC 2022): Not Applicable
Policy, Procedure, BMP: Refer to BMPs in the King County Stormwater Pollution Prevention Manual (SPPM) for proper actions: BMP A-15 (Washing of Buildings, Rooftops, and Other Large Surfaces) BMP A-29 (Building Repair, Remodeling, and Construction)

SECTION 4.2: O&M LAND USE WORKSHEETS

Kenmore owns approximately 111 properties in addition to all the public Right-of-Way (See Figure 4-1, Table 4-1). King County owns approximately 20 properties in Kenmore and is responsible for O&M of these properties (and any other requirements set forth by King County's Phase I Permit). Washington State owns four properties in Kenmore (St. Edwards Park) and is responsible for O&M on these parcels. City of Seattle owns four properties in Kenmore (Tolt Pipeline) and is responsible for O&M on these parcels. Northshore School District owns 12 properties in Kenmore and is responsible for O&M of these properties.

The City utilizes a temporary half-acre maintenance yard at 6532 NE Bothell Way until a permanent site is developed (expected 2024). Additional details are provided in Section 6.

The City utilizes a small green waste storage and transfer facility located in the southwest corner of Rhododendron Park. Additional details are provided in Section 6.

Land use categories included with the O&M Land Use Worksheets include:

- Right-of-Way
- Parks
- Developed Parcels
- Undeveloped Parcels
- Stormwater Facilities

Each O&M Land Use Worksheet contains the following sections:

Description – A short description of what typical maintenance in the land use category includes.

Applicable O&M Activities – Indicates which O&M activities apply to the land use category. Refer to the corresponding O&M Activity Worksheet in section 4.1 for more detailed information.

Notes – Additional information pertaining to that land use category.

FIGURE 4-1: MAP OF PUBLIC PROPERTIES

Lake Forest Park

Bothell

Kirkland

Lake Washington

Sammamish River

NE 202ND ST
NE 198TH ST
NE 196TH ST
NE 195TH ST
NE 193RD ST
NE 192ND ST
NE 190TH ST
NE 185TH ST
NE 182ND ST
NE 181ST ST
NE BOTHELL WAY
NE 175TH ST
NE 170TH ST
NE 169TH ST
NE 166TH ST
NE 165TH ST
NE 155TH ST
NE ARROWHEAD DR
NE 203RD ST
NE 200TH ST
NE 150TH ST
60TH AVE NE
60TH PL NE
61ST AVE NE
62ND AVE NE
62ND PL NE
64TH AVE NE
56TH AVE NE
68TH AVE NE
70TH AVE NE
72ND AVE NE
73RD AVE NE
74TH AVE NE
75TH AVE NE
76TH AVE NE
76TH PL NE
78TH AVE NE
80TH AVE NE
81ST AVE NE
81ST PL NE
82ND AVE NE
83RD AVE NE
84TH AVE NE
88TH AVE NE
JUANITA DR NE
NE 153RD PL
SIMONDS RD NE

Public Properties

These are publically owned properties in the City of Kenmore.

- City of Kenmore
- City of Kenmore Right-of-Way
- King County
- Northshore School District
- City of Seattle
- Washington State

Refer to Table 4-1 for more detailed property information.

0 0.25 0.5 0.75 1 Miles

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KENMORE BY THE LAKE

CITY OF KENMORE

OMPPM

MAP 4-1

TABLE 4-1: LIST OF PUBLIC PROPERTIES

TABLE 4-1: LIST OF PUBLIC PROPERTIES

MAP ID	PIN	Owner	DESCRIPTION	NAME
1	0114100205	City of Kenmore	Passive Park/Stormwater Facility	Wallace Swamp Creek Park
2	0114100240	City of Kenmore	Undeveloped Land	Swamp Creek Properties
3	0114100241	City of Kenmore	Developed Parcel	Kenmore Elementary Access Road
4	0114100244	City of Kenmore	Undeveloped Land	Swamp Creek Properties
5	0114100365	Northshore School District	Undeveloped Land	Kenmore Middle School NGPA
6	0114100370	City of Kenmore	Developed Parcel	Public Works Future Facility Site
7	0114100371	City of Kenmore	Developed Parcel	Public Works Future Facility Site
8	0114100372	Northshore School District	Developed Parcel	Kenmore Middle School
9	0114100495	City of Kenmore	Developed Parcel	Kemore City Hall
10	0114100700	City of Kenmore	Undeveloped Land	Swamp Creek Properties
11	0114100703	City of Kenmore	Undeveloped Land	Swamp Creek Properties
12	0114100704	City of Kenmore	Undeveloped Land	Swamp Creek Properties
13	0114100705	City of Kenmore	Undeveloped Land	Swamp Creek Properties
14	0114100706	City of Kenmore	Undeveloped Land	Swamp Creek Properties
15	0114100708	City of Kenmore	Stormwater Facility	P2009-11
16	0114100730	City of Kenmore	Undeveloped Land	Swamp Creek Properties
17	0114100772	City of Kenmore	Undeveloped Land	Swamp Creek Properties
18	0114100920	King County	Developed Parcel	Kenmore Park & Ride
19	0114100955	King County	Developed Parcel	Mary's Place
20	0114100995	City of Kenmore	Undeveloped Land	Swamp Creek Properties
21	0114100997	City of Kenmore	Undeveloped Land	Swamp Creek Properties
22	0114100998	City of Kenmore	Undeveloped Land	Swamp Creek Properties
23	0114100999	City of Kenmore	Undeveloped Land	Swamp Creek Properties
24	0114101000	City of Kenmore	Undeveloped Land	Swamp Creek Properties
25	0114101005	City of Kenmore	Stormwater Facility	P2009-08
26	0114101009	City of Kenmore	Undeveloped Land	Swamp Creek Properties
27	0114101010	City of Kenmore	Undeveloped Land	Swamp Creek Properties
28	0114101012	City of Kenmore	Stormwater Facility	P2009-08
29	0114101565	City of Seattle	Tolt Pipeline	
30	0126049010	Northshore School District	Developed Parcel	Kenmore Middle School
31	0126049013	City of Kenmore	Passive Park	Twin Springs Park
32	0126049107	King County	Industrial Facility	Brightwater Site
33	0200300320	City of Kenmore	Stormwater Facility	P1992-02
34	0293610110	City of Kenmore	Stormwater Facility	P2004-07
35	0293720280	City of Kenmore	Stormwater Facility	P2002-08
36	0326049122	City of Seattle	Tolt Pipeline	
37	0704450300	City of Kenmore	Stormwater Facility	P1993-04
38	0726059053	King County	Active Park	Burke-Gilman Trail
39	0762000110	City of Kenmore	Stormwater Facility	P1999-03
40	0762000120	City of Kenmore	Stormwater Facility	P1999-03
41	0766900350	King County	King County Utilities, Tract or Open Space	
42	0837000170	City of Kenmore	Stormwater Facility	P1977-01, P1977-02
43	1088650560	City of Kenmore	Stormwater Facility	P2002-04
44	1088650570	City of Kenmore	Undeveloped Land	
45	1126049008	King County	Active Park	Burke-Gilman Trail
46	1126049100	Washington State	Developed Parcel	Kenmore Boat Launch
47	1126049117	City of Seattle	Tolt Pipeline	
48	1126049133	King County	Industrial Facility	Pump Station
49	1126049140	King County	Active Park	Burke-Gilman Trail
50	1126049142	City of Kenmore	Undeveloped Land	Inglewood Wetlands
51	1126049144	King County	Active Park	Burke-Gilman Trail
52	1126049148	City of Kenmore	Active Park	Logboom Park
53	1126049151	King County	Active Park	Burke-Gilman Trail
54	1126049160	City of Kenmore	Undeveloped Land	Inglewood Wetlands
55	1126049166	City of Kenmore	Developed Parcel	
56	1126049174	City of Kenmore	Undeveloped Land	Inglewood Wetlands
57	1126049177	City of Kenmore	Undeveloped Land	
58	1137610170	City of Kenmore	Stormwater Facility	P1994-03
59	1226049014	King County	Active Park	Burke-Gilman Trail
60	1426049014	Washington State	State Park	St Edward State Park
61	1426049015	Washington State	State Park	St Edward State Park
62	1426049070	Northshore School District	Developed Parcel	Arrowhead Elementary School

TABLE 4-1: LIST OF PUBLIC PROPERTIES

MAP ID	PIN	Owner	DESCRIPTION	NAME
63	1472330120	City of Kenmore	Stormwater Facility	P2002-01
64	1622000090	City of Kenmore	Stormwater Facility	P2004-12
65	1635500260	City of Kenmore	Stormwater Facility	P2004-15
66	1762800090	City of Kenmore	Stormwater Facility	P2002-06
67	1826059008	Northshore School District	Developed Parcel	Inglemoor High School
68	1826059118	City of Kenmore	Stormwater Facility	P1997-01
69	2140700240	City of Kenmore	Stormwater Facility	P1995-05
70	2326049001	Washington State	Developed Parcel	The Lodge at St Edward State Park
71	2333270150	City of Kenmore	Stormwater Facility	P2014-02
72	2426049132	King County	Undeveloped Land	
73	2787050100	City of Kenmore	Stormwater Facility	P2015-05
74	3578200140	City of Kenmore	Stormwater Facility	P1996-01
75	3578200150	City of Kenmore	Stormwater Facility	P1996-02
76	3578200160	City of Kenmore	Stormwater Facility	P1996-03
77	3578600155	Northshore School District	Developed Parcel	Inglemoor High School Access Road
78	3579000830	City of Kenmore	Stormwater Facility	P2022-16
79	3579000850	King County	King County Utilities, Tract or Open Space	
80	3582100100	City of Kenmore	Stormwater Facility	P1993-02
81	3582200210	City of Kenmore	Stormwater Facility	P1988-01
82	3649100127	City of Kenmore	Stormwater Facility	P1986-02
83	3649100334	City of Kenmore	Stormwater Facility	P2000-09
84	3818700145	King County	King County Utilities, Tract or Open Space	
85	3818700156	King County	King County Utilities, Tract or Open Space	
86	3820200040	City of Kenmore	Developed Parcel	Town Square
87	3820200050	City of Kenmore	Developed Parcel	Town Square
88	4019500090	City of Kenmore	Undeveloped Land	
89	4027701311	City of Kenmore	Active Park	Linwood Park
90	4156700004	City of Kenmore	Active Park	
91	4156700010	City of Kenmore	Active Park	Tl' awh-ah-dees Park
92	4156700015	City of Kenmore	Active Park	Tl' awh-ah-dees Park
93	4164100140	City of Kenmore	Active Park	Tl' awh-ah-dees Park
94	4164100145	City of Kenmore	Active Park	Tl' awh-ah-dees Park
95	4164100150	City of Kenmore	Active Park	Tl' awh-ah-dees Park
96	4164100155	City of Kenmore	Active Park	Tl' awh-ah-dees Park
97	4164100163	City of Kenmore	Active Park	Tl' awh-ah-dees Park
98	4164100171	City of Kenmore	Active Park	Tl' awh-ah-dees Park
99	4164100195	City of Kenmore	Active Park	Tl' awh-ah-dees Park
100	4164100200	City of Kenmore	Active Park	Tl' awh-ah-dees Park
101	4164100205	City of Kenmore	Active Park	Tl' awh-ah-dees Park
102	4164100210	City of Kenmore	Active Park	Tl' awh-ah-dees Park
103	4164100216	City of Kenmore	Active Park	Tl' awh-ah-dees Park
104	4276600070	City of Kenmore	Stromwater Facility	P1999-04
105	5302400680	City of Kenmore	Stormwater Facility	P1981-05
106	5630500087	City of Kenmore	Stormwater Facility	P1989-02
107	5631500010	King County	Stormwater Facility	P1986-03
108	5631500015	City of Kenmore	Active Park	Moorlands Park
109	5631500020	City of Kenmore	Active Park	Moorlands Park
110	5631500030	Northshore School District	Developed Parcel	Moorlands Elementary
111	5631500031	Northshore School District	Developed Parcel	Moorlands Elementary
112	5631500032	Northshore School District	Developed Parcel	Moorlands Elementary
113	5631500036	Northshore School District	Developed Parcel	Moorlands Elementary
114	5631500040	Northshore School District	Developed Parcel	Moorlands Elementary
115	5631500045	Northshore School District	Developed Parcel	Moorlands Elementary
116	5631500259	City of Kenmore	Stormwater Facility	P1998-01
117	5631500714	City of Kenmore	Stormwater Facility	P2004-11
118	5631500908	City of Kenmore	Stormwater Facility	P2004-03
119	5634500002	City of Kenmore	Stormwater Facility	P1990-03
120	5634500239	City of Kenmore	Undeveloped Land	
121	5634500295	King County	Undeveloped Land	
122	5634500888	City of Kenmore	Stormwater Facility	P1992-03
123	5634500980	City of Kenmore	Active Park	Rhododendron Park
124	6020500250	City of Kenmore	Stromwater Facility	P2000-06

TABLE 4-1: LIST OF PUBLIC PROPERTIES

MAP ID	PIN	Owner	DESCRIPTION	NAME
125	6020500260	City of Kenmore	Stormwater Facility	P2000-07
126	6020500270	City of Kenmore	Stormwater Facility	P2000-08
127	6178700066	City of Seattle	Tolt Pipeline	
128	6178930560	City of Kenmore	Stormwater Facility	P1978-02
129	6181700350	City of Kenmore	Developed Parcel	Kenmore Post Office
130	6181700644	King County	King County Utilities, Tract or Open Space	
131	6190500520	City of Kenmore	Stormwater Facility	P1997-02
132	6190500530	City of Kenmore	Stormwater Facility	P1997-02
133	6190500550	King County	Undeveloped Land	
134	6641020250	City of Kenmore	Stormwater Facility	P1995-04
135	6641020260	City of Kenmore	Stormwater Facility	P1995-03
136	6641020270	City of Kenmore	Stormwater Facility	P1995-02
137	6641020280	City of Kenmore	Stormwater Facility	P1995-01
138	6891800590	City of Kenmore	Stormwater Facility	P1980-02
139	6891800600	City of Kenmore	Stormwater Facility	P1980-01
140	6891800610	City of Kenmore	Active Park/Stromwater Facility	Northshore Summit Park
141	7702010120	City of Kenmore	Stormwater Facility	P2000-02
142	7946300005	City of Kenmore	Developed Parcel	
143	7946300195	City of Kenmore	Undeveloped Land	Temporary Maintenance Yard
144	7946300196	City of Kenmore	Undeveloped Land	Temporary Maintenance Yard
145	8718100080	City of Kenmore	Undeveloped Land	
146	8833510370	King County	Undeveloped Land	
147	9159900080	City of Kenmore	Stormwater Facility	P2000-04
148	0114100375	City of Kenmore	Developed Parcel	Public Works Future Facility Site
149	0114100590	City of Kenmore	Undeveloped Land	
150	0114100410	City of Kenmore	Developed Parcel	
151	0114100074	City of Kenmore	Stormwater Facility	P1983-06

RIGHT-OF-WAY

City of Kenmore
O&M LAND USE WORKSHEET
RIGHT-OF-WAY

DESCRIPTION:
Kenmore operates and maintains all the right-of-way within the city. The right-of-way is dominated by paved roadway surfaces, but also includes undeveloped land, sidewalks, landscaping, utilities, etc. Public stormwater facilities, if applicable, are inspected and maintained under section 3 of the OMPPM. Maintenance activities, including pipe cleaning, culvert cleaning, ditch maintenance, street cleaning, road repair, snow & ice control, utility installation, pavement striping and roadside area maintenance are covered under section 4 of the OMPPM.

APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	X
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	X
O&M Activity 7 – Utility installation	X
O&M Activity 8 – Pavement striping maintenance	X
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	X
O&M Activity 10 – Dust control	X
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	X
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	

NOTES:

PARKS

LINWOOD PARK

City of Kenmore
O&M LAND USE WORKSHEET
PARKS – LINWOOD PARK

DESCRIPTION:
Linwood Park is located at 5601 NE 193RD ST. It is approximately 3 acres in size and drains to Lake Washington via Stream 0056. Amenities include:

- playground equipment
- open grass areas
- benches
- picnic tables
- trash receptacles

APPLICABLE O&M ACTIVITIES:

O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	
O&M Activity 6 – Snow and ice control	
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	

NOTES:

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LOG BOOM PARK

City of Kenmore
O&M LAND USE WORKSHEET
PARKS – LOG BOOM PARK

DESCRIPTION:
Log Boom Park is located at 17415 61ST AVE NE. It is approximately 16 acres in size and drains to Lake Washington. Amenities include:

- public pier
- paved parking
- fishing
- playground equipment
- bike racks
- picnic table
- benches
- swimming beach
- restrooms
- trash receptacles
- daytime moorage

APPLICABLE O&M ACTIVITIES:

O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	X
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	X
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	X
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X

NOTES:

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MOORLANDS PARK

City of Kenmore
O&M LAND USE WORKSHEET
PARKS – MOORLANDS PARK

DESCRIPTION:

Moorland Park is located at 15221 84TH AVE NE. It is approximately 5 acres in size and drains to Lake Washington via unnamed streams and Sammamish River. Moorlands Park is owned by the City, but it is maintained by the Northshore School District through ILA 00-C88. Amenities include:

- picnic tables
- playground
- trash receptacles
- surface water facility
- baseball field
- paved trails
- bathroom facility

APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	
O&M Activity 6 – Snow and ice control	
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X

NOTES:

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NORTHSHORE SUMMIT PARK

City of Kenmore
O&M LAND USE WORKSHEET
PARKS – NORTHSHORE SUMMIT PARK

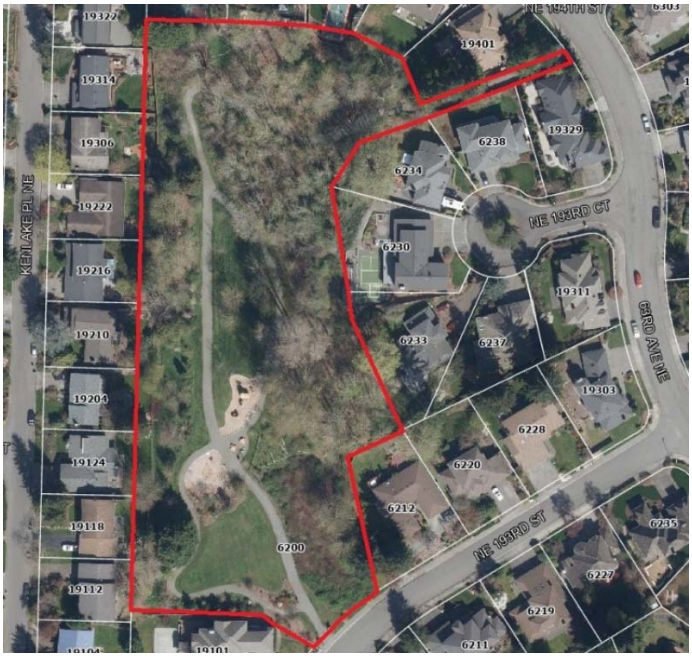
DESCRIPTION:
Northshore Summit Park is located at 6200 NE 193RD ST. It is approximately 3.5 acres in size and drains to Tributary 0056. Amenities include:

- picnic tables
- playground
- gravel and paved trails
- trash receptacles
- benches
- surface water facility

APPLICABLE O&M ACTIVITIES:

O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	
O&M Activity 6 – Snow and ice control	
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	

NOTES:



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RHODODENDRON PARK

City of Kenmore
O&M LAND USE WORKSHEET
PARKS – RHODODENDRON PARK

DESCRIPTION:
Rhododendron Park is located at 6910 NE 170TH ST. It is approximately 13 acres in size and drains to Lake Washington via Sammamish River. Amenities include:

- picnic tables
- covered picnic shelter
- cooking facilities
- public dock
- playgrounds
- restroom facilities
- gravel and paved trails
- boathouse
- trash and recycling receptacles
- senior center
- paved parking
- sport court

APPLICABLE O&M ACTIVITIES:

O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	X
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	X
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	X
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	X
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X

NOTES:

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WALLACE SWAMP CREEK PARK

City of Kenmore
O&M LAND USE WORKSHEET
PARKS – WALLACE SWAMP CREEK PARK

DESCRIPTION:
Wallace Swamp Creek Park is located at 19851 73RD AVE NE. It is approximately 17 acres in size and drains to Lake Washington via Swamp Creek. Amenities include:

- trails
- picnic tables
- surface water facility
- paved parking
- gravel trails

APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	X
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	X
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	X
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	X
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	X
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	

NOTES:

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SQUIRES LANDING (TL' AWH-AH-DEES) PARK

City of Kenmore

O&M LAND USE WORKSHEET

PARKS – TL' AWH-AH-DEES (SQUIRE'S LANDING) PARK

DESCRIPTION:

Tl' awh-ah-dees (Squire's Landing) Park is located at 7515 NE 175TH ST. It is approximately 40 acres in size and drains to Swamp Creek and Sammamish River. Amenities include:

- parking
- trails & pedestrian bridge
- bathroom
- surface water facility
- boat house
- boat storage
- public dock

APPLICABLE O&M ACTIVITIES:

O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	X
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	X
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	X
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X

NOTES:

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TWIN SPRINGS PARK

City of Kenmore
O&M LAND USE WORKSHEET
PARKS – TWIN SPRINGS PARK

DESCRIPTION:
Twin Springs Park is located at 19202 80TH AVE NE. It is approximately 25.5 acres in size and drains to Swamp Creek and Sammamish River. Amenities include:

- undeveloped
- public access to natural areas

APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	
O&M Activity 6 – Snow and ice control	
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	

NOTES:

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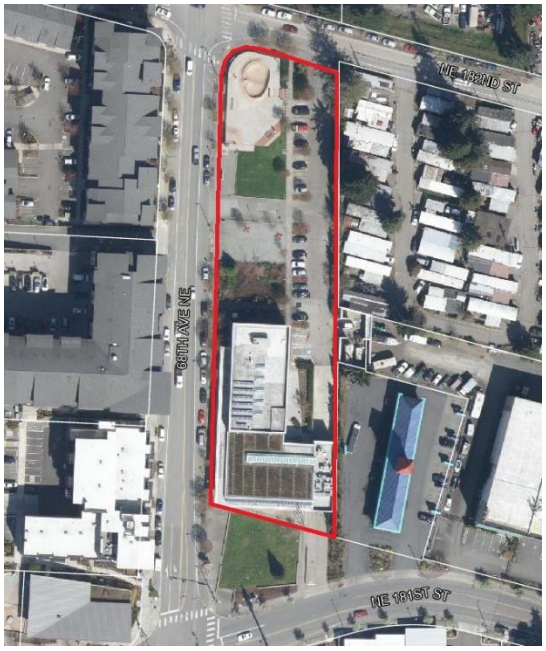
DEVELOPED PARCELS

CITY HALL

City of Kenmore **O&M LAND USE WORKSHEET** **DEVELOPED PARCELS – CITY HALL**	
DESCRIPTION: City Hall is located at 18120 68TH AVE NE. It is approximately 1.6 acres in size and drains to Swamp Creek.	
APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	
O&M Activity 3 – Ditch maintenance	
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	X
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	X
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X
NOTES:	



2022 Aerial Image

THE HANGAR

City of Kenmore
O&M LAND USE WORKSHEET
DEVELOPED PARCEL – THE HANGAR

DESCRIPTION:
The Hangar is located at 6728 NE 181ST ST. The property is approximately a half-acre in size and drains to Sammamish River. The site includes both an indoor and outdoor public gathering space.

APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	
O&M Activity 3 – Ditch maintenance	
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	X
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	X
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X

NOTES:

2022 Aerial Image

POST OFFICE

City of Kenmore **O&M LAND USE WORKSHEET** **DEVELOPED PARCEL – POST OFFICE**	
DESCRIPTION: The Post Office is located at 6700 NE 181ST ST. The property is approximately 0.77 acres in size and drains to Sammamish River. The site includes a building and a parking lot.	
APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	
O&M Activity 3 – Ditch maintenance	
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	X
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	X
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X
NOTES:	

2022 Aerial Image

PUBLIC WORKS FUTURE FACILITY SITE

City of Kenmore

O&M LAND USE WORKSHEET

DEVELOPED PARCEL – PUBLIC WORKS FUTURE FACILITY SITE

DESCRIPTION:

The Public Works Future Facility site is located at 6506 NE 202ND ST. The property is approximately 2.8 acres in size and drains to Swamp Creek. Currently, the site contains four vacant residential homes, but is planned to be developed into a Public Works Operations and Maintenance Facility in 2024-2025. The following O&M activities reflect current conditions.

APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	
O&M Activity 3 – Ditch maintenance	
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	
O&M Activity 6 – Snow and ice control	
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X

NOTES:

2022 Aerial Image

UNDEVELOPED PARCELS

City of Kenmore
O&M LAND USE WORKSHEET
UNDEVELOPED PARCELS

DESCRIPTION:
The City owns approximately 27 undeveloped parcels. 16 of these properties were purchased in the Swamp Creek flood plain, three properties are within the Sammamish River floodplain (Inglewood Wetlands), and eight are roadside parcels.

APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	
O&M Activity 3 – Ditch maintenance	
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	
O&M Activity 6 – Snow and ice control	
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	
O&M Activity 12 – Sediment and erosion control	
O&M Activity 13 – Landscape maintenance and vegetation disposal	
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	

NOTES:
For locations refer to:
Figure 4-1, Table 4-1 (Public Lands)

STORMWATER FACILITIES

City of Kenmore
O&M LAND USE WORKSHEET
STORMWATER FACILITIES

DESCRIPTION:
Stormwater facilities are engineered facilities that are designed to convey storm runoff, remove pollutants, and to control flow rates. Kenmore has adopted the facility management process used by King County.

Approximately 50 Kenmore properties contain stormwater facilities. Appendix A of the SWDM addresses sediment and erosion control, landscape maintenance and vegetation disposal and trash management.

APPLICABLE O&M ACTIVITIES:	
O&M Activity 1 – Pipe Cleaning	X
O&M Activity 2 – Cleaning of culverts that convey stormwater in ditch systems	X
O&M Activity 3 – Ditch maintenance	X
O&M Activity 4 – Street cleaning	
O&M Activity 5 – Road repair and resurfacing, including pavement grinding	X
O&M Activity 6 – Snow and ice control	
O&M Activity 7 – Utility installation	
O&M Activity 8 – Pavement striping maintenance	
O&M Activity 9 – Maintaining roadside areas, including vegetation mgmt.	X
O&M Activity 10 – Dust control	
O&M Activity 11 – Application of fertilizers, pesticides, and herbicides	X
O&M Activity 12 – Sediment and erosion control	X
O&M Activity 13 – Landscape maintenance and vegetation disposal	X
O&M Activity 14 – Trash and pet waste management	X
O&M Activity 15 – Building exterior cleaning and maintenance	X

NOTES:

For locations refer to:
Figure 2-1, Table 2-1 (Private Stormwater Facilities)
Figure 3-1, Table 3-1 (Public Stormwater Facilities)

SECTION 5 - TRAINING

This section of the OMPPM describes the City's compliance with S5.C.7.e of the Permit which requires that the City implement an ongoing training program for employees of the City whose primary construction, operations, or maintenance job functions may impact stormwater quality.

The training program addresses the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, ways to perform job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training is provided as needed to address changes in procedures, techniques, requirements, or staffing.

The City will provide training records, upon request, which includes dates, activities or course descriptions, and names and positions of staff in attendance.

SECTION 6 – SWPPP

This section of the OMPPM describes the City's compliance with S5.C.7.f of the Permit which requires that the City implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City. As necessary, updates to the SWPPPs are required no later than December 31, 2022.

TEMPORARY MAINTENANCE YARD

Kenmore contracted O&M services via interlocal agreement with Lake Forest Park until December 31, 2018. The City implemented a full an in-house O&M program with staff and equipment in 2019. A temporary maintenance yard was established on a half-acre city owned lot located at 6532 NE Bothell Way. A SWPPP for this facility is provided in Appendix E.

GREEN WASTE STORAGE AND TRANSFER FACILITY

The City utilizes a small area in Rhododendron Park for storage and transportation of sweeping materials and green waste. Rhododendron Park is located at 6910 NE 170TH ST in Kenmore, WA. A SWPPP for this facility is provided in Appendix F.

APPENDIX A – MAINTENANCE STANDARDS

The City's maintenance standards are provided in this appendix. Maintenance standards are a component of the 2021 King County Surface Water Design Manual and were adopted by the City on June 30, 2022.

APPENDIX A

MAINTENANCE REQUIREMENTS FOR FLOW CONTROL, CONVEYANCE, AND WATER QUALITY FACILITIES

This appendix contains the maintenance requirements for the following typical stormwater control and water quality facilities and components *(ctrl/click ► to follow the link)*:

NO. 1 – DETENTION PONDS

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Top or Side Slopes of Dam, Berm or Embankment	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat or not interfering with access or maintenance, they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.
	Settlement	Any part of a dam, berm or embankment that has settled 4 inches lower than the design elevation.	Top or side slope restored to design dimensions. If settlement is significant, a licensed civil engineer should be consulted to determine the cause of the settlement.
Storage Area	Sediment accumulation	Accumulated sediment that exceeds 10% of the designed pond depth.	Sediment cleaned out to designed pond shape and depth; pond reseeded if necessary to control erosion.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
Inlet/Outlet Pipe.	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Emergency Overflow/Spillway	Tree growth	Tree growth impedes flow or threatens stability of spillway.	Trees removed.
	Rock missing	Only one layer of rock exists above native soil in area five square feet or larger or any exposure of native soil on the spillway.	Spillway restored to design standards.

NO. 2 – INFILTRATION FACILITIES

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Infiltration Pond, Top or Side Slopes of Dam, Berm or Embankment	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of dams, berms or slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat to dam, berm, or embankment integrity or not interfering with access or maintenance, they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.
	Settlement	Any part of a dam, berm or embankment that has settled 4 inches lower than the design elevation.	Top or side slope restored to design dimensions. If settlement is significant, a licensed civil engineer should be consulted to determine the cause of the settlement.
Infiltration Pond, Tank, Vault, Trench, or Small Basin Storage Area	Sediment accumulation	If two inches or more sediment is present or a percolation test indicates facility is working at or less than 90% of design.	Facility infiltrates as designed.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
Infiltration Tank Structure	Plugged air vent	Any blockage of the vent.	Tank or vault freely vents.
	Tank bent out of shape	Any part of tank/pipe is bent out of shape more than 10% of its design shape.	Tank repaired or replaced to design.
	Gaps between sections, damaged joints or cracks or tears in wall	A gap wider than ½-inch at the joint of any tank sections or any evidence of soil particles entering the tank at a joint or through a wall.	No water or soil entering tank through joints or walls.
Infiltration Vault Structure	Damage to wall, frame, bottom, and/or top slab	Cracks wider than ½-inch, any evidence of soil entering the structure through cracks or qualified inspection personnel determines that the vault is not structurally sound.	Vault is sealed and structurally sound.

NO. 2 – INFILTRATION FACILITIES

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Results Expected When Maintenance Is Performed
Inlet/Outlet Pipes	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat; covers access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.
Infiltration Pond, Tank, Vault, Trench, or Small Basin Filter Bags	Plugged	Filter bag more than $^1/_2$ full.	Replace filter bag or redesign system.
Infiltration Pond, Tank, Vault, Trench, or Small Basin Pre-settling Ponds and Vaults	Sediment accumulation	6" or more of sediment has accumulated.	Pre-settling occurs as designed
Infiltration Pond, Rock Filter	Plugged	High water level on upstream side of filter remains for extended period of time or little or no water flows through filter during heavy rain storms.	Rock filter replaced evaluate need for filter and remove if not necessary.
Infiltration Pond Emergency Overflow Spillway	Rock missing	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of out flow path of spillway. Rip-rap on inside slopes need not be replaced.	Spillway restored to design standards.
	Tree growth	Tree growth impedes flow or threatens stability of spillway.	Trees removed.

NO. 3 – DETENTION TANKS AND VAULTS

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Tank or Vault Storage Area	Trash and debris	Any trash and debris accumulated in vault or tank (includes floatables and non-floatables).	No trash or debris in vault.
	Sediment accumulation	Accumulated sediment depth exceeds 10% of the diameter of the storage area for ½ length of storage vault or any point depth exceeds 15% of diameter. Example: 72-inch storage tank would require cleaning when sediment reaches depth of 7 inches for more than ½ length of tank.	All sediment removed from storage area.
Tank Structure	Plugged air vent	Any blockage of the vent.	Tank or vault freely vents.
	Tank bent out of shape	Any part of tank/pipe is bent out of shape more than 10% of its design shape.	Tank repaired or replaced to design.
	Gaps between sections, damaged joints or cracks or tears in wall	A gap wider than ½-inch at the joint of any tank sections or any evidence of soil particles entering the tank at a joint or through a wall.	No water or soil entering tank through joints or walls.
Vault Structure	Damage to wall, frame, bottom, and/or top slab	Cracks wider than ½-inch, any evidence of soil entering the structure through cracks or qualified inspection personnel determines that the vault is not structurally sound.	Vault is sealed and structurally sound.
Inlet/Outlet Pipes	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 3 – DETENTION TANKS AND VAULTS

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat; covers access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.

NO. 4 – CONTROL STRUCTURE/FLOW RESTRICTOR

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Structure	Trash and debris	Trash or debris of more than ½ cubic foot which is located immediately in front of the structure opening or is blocking capacity of the structure by more than 10%.	No Trash or debris blocking or potentially blocking entrance to structure.
		Trash or debris in the structure that exceeds 1/3 the depth from the bottom of basin to invert the lowest pipe into or out of the basin.	No trash or debris in the structure.
		Deposits of garbage exceeding 1 cubic foot in volume.	No condition present which would attract or support the breeding of insects or rodents.
	Sediment	Sediment exceeds 60% of the depth from the bottom of the structure to the invert of the lowest pipe into or out of the structure or the bottom of the FROP-T section or is within 6 inches of the invert of the lowest pipe into or out of the structure or the bottom of the FROP-T section.	Sump of structure contains no sediment.
	Damage to frame and/or top slab	Corner of frame extends more than ¾ inch past curb face into the street (If applicable).	Frame is even with curb.
		Top slab has holes larger than 2 square inches or cracks wider than ¼ inch.	Top slab is free of holes and cracks.
		Frame not sitting flush on top slab, i.e., separation of more than ¾ inch of the frame from the top slab.	Frame is sitting flush on top slab.
	Cracks in walls or bottom	Cracks wider than ½ inch and longer than 3 feet, any evidence of soil particles entering structure through cracks, or maintenance person judges that structure is unsound.	Structure is sealed and structurally sound.
		Cracks wider than ½ inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering structure through cracks.	No cracks more than 1/4 inch wide at the joint of inlet/outlet pipe.
	Settlement/ misalignment	Structure has settled more than 1 inch or has rotated more than 2 inches out of alignment.	Basin replaced or repaired to design standards.
	Damaged pipe joints	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering the structure at the joint of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of inlet/outlet pipes.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Ladder rungs missing or unsafe	Ladder is unsafe due to missing rungs, misalignment, rust, cracks, or sharp edges.	Ladder meets design standards and allows maintenance person safe access.
FROP-T Section	Damage	T section is not securely attached to structure wall and outlet pipe structure should support at least 1,000 lbs of up or down pressure.	T section securely attached to wall and outlet pipe.
		Structure is not in upright position (allow up to 10% from plumb).	Structure in correct position.
		Connections to outlet pipe are not watertight or show signs of deteriorated grout.	Connections to outlet pipe are water tight; structure repaired or replaced and works as designed.
		Any holes—other than designed holes—in the structure.	Structure has no holes other than designed holes.
Cleanout Gate	Damaged or missing	Cleanout gate is missing.	Replace cleanout gate.

NO. 4 – CONTROL STRUCTURE/FLOW RESTRICTOR

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
		Cleanout gate is not watertight.	Gate is watertight and works as designed.
		Gate cannot be moved up and down by one maintenance person.	Gate moves up and down easily and is watertight.
		Chain/rod leading to gate is missing or damaged.	Chain is in place and works as designed.
Orifice Plate	Damaged or missing	Control device is not working properly due to missing, out of place, or bent orifice plate.	Plate is in place and works as designed.
	Obstructions	Any trash, debris, sediment, or vegetation blocking the plate.	Plate is free of all obstructions and works as designed.
Overflow Pipe	Obstructions	Any trash or debris blocking (or having the potential of blocking) the overflow pipe.	Pipe is free of all obstructions and works as designed.
	Deformed or damaged lip	Lip of overflow pipe is bent or deformed.	Overflow pipe does not allow overflow at an elevation lower than design
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Metal Grates (If Applicable)	Unsafe grate opening	Grate with opening wider than $^{7}/_{8}$ inch.	Grate opening meets design standards.
	Trash and debris	Trash and debris that is blocking more than 20% of grate surface.	Grate free of trash and debris.
	Damaged or missing	Grate missing or broken member(s) of the grate.	Grate is in place and meets design standards.
Manhole Cover/Lid	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open structure requires urgent maintenance.**	Cover/lid protects opening to structure.
	Locking mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to Remove	One maintenance person cannot remove cover/lid after applying 80 lbs. of lift.	Cover/lid can be removed and reinstalled by one maintenance person.

NO. 5 – CATCH BASINS AND MANHOLES

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Structure	Sediment	Sediment exceeds 60% of the depth from the bottom of the catch basin to the invert of the lowest pipe into or out of the catch basin or is within 6 inches of the invert of the lowest pipe into or out of the catch basin.	Sump of catch basin contains no sediment.
	Trash and debris	Trash or debris of more than ½ cubic foot which is located immediately in front of the catch basin opening or is blocking capacity of the catch basin by more than 10%.	No Trash or debris blocking or potentially blocking entrance to catch basin.
		Trash or debris in the catch basin that exceeds $^1/_3$ the depth from the bottom of basin to invert the lowest pipe into or out of the basin.	No trash or debris in the catch basin.
		Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane).	No dead animals or vegetation present within catch basin.
		Deposits of garbage exceeding 1 cubic foot in volume.	No condition present which would attract or support the breeding of insects or rodents.
	Damage to frame and/or top slab	Corner of frame extends more than ¾ inch past curb face into the street (If applicable).	Frame is even with curb.
		Top slab has holes larger than 2 square inches or cracks wider than ¼ inch.	Top slab is free of holes and cracks.
		Frame not sitting flush on top slab, i.e., separation of more than ¾ inch of the frame from the top slab.	Frame is sitting flush on top slab.
	Cracks in walls or bottom	Cracks wider than ½ inch and longer than 3 feet, any evidence of soil particles entering catch basin through cracks, or maintenance person judges that catch basin is unsound.	Catch basin is sealed and is structurally sound.
		Cracks wider than ½ inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering catch basin through cracks.	No cracks more than $^1/_4$ inch wide at the joint of inlet/outlet pipe.
	Settlement/ misalignment	Catch basin has settled more than 1 inch or has rotated more than 2 inches out of alignment.	Basin replaced or repaired to design standards.
	Damaged pipe joints	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering the catch basin at the joint of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of inlet/outlet pipes.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 5 – CATCH BASINS AND MANHOLES

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Metal Grates (Catch Basins)	Unsafe grate opening	Grate with opening wider than $^{7}/_{8}$ inch.	Grate opening meets design standards.
	Trash and debris	Trash and debris that is blocking more than 20% of grate surface.	Grate free of trash and debris.
	Damaged or missing	Grate missing or broken member(s) of the grate. **Any open structure requires urgent maintenance.**	Grate is in place and meets design standards.
Manhole Cover/Lid	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open structure requires urgent maintenance.**	Cover/lid protects opening to structure.
	Locking mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to Remove	One maintenance person cannot remove cover/lid after applying 80 lbs. of lift.	Cover/lid can be removed and reinstalled by one maintenance person.

NO. 6 – CONVEYANCE PIPES AND DITCHES

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Pipes	Sediment & debris accumulation	Accumulated sediment or debris that exceeds 20% of the diameter of the pipe.	Water flows freely through pipes.
	Vegetation/roots	Vegetation/roots that reduce free movement of water through pipes.	Water flows freely through pipes.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Damage to protective coating or corrosion	Protective coating is damaged; rust or corrosion is weakening the structural integrity of any part of pipe.	Pipe repaired or replaced.
	Damaged	Any dent that decreases the cross section area of pipe by more than 20% or is determined to have weakened structural integrity of the pipe.	Pipe repaired or replaced.
Ditches	Trash and debris	Trash and debris exceeds 1 cubic foot per 1,000 square feet of ditch and slopes.	Trash and debris cleared from ditches.
	Sediment accumulation	Accumulated sediment that exceeds 20% of the design depth.	Ditch cleaned/flushed of all sediment and debris so that it matches design.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Vegetation	Vegetation that reduces free movement of water through ditches.	Water flows freely through ditches.
	Erosion damage to slopes	Any erosion observed on a ditch slope.	Slopes are not eroding.
	Rock lining out of place or missing (If Applicable)	One layer or less of rock exists above native soil area 5 square feet or more, any exposed native soil.	Replace rocks to design standards.

NO. 7 – DEBRIS BARRIERS (E.G., TRASH RACKS)

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed.
Site	Trash and debris	Trash or debris plugging more than 20% of the area of the barrier.	Barrier clear to receive capacity flow.
	Sediment accumulation	Sediment accumulation of greater than 20% of the area of the barrier	Barrier clear to receive capacity flow.
Structure	Cracked broken or loose	Structure which bars attached to is damaged - pipe is loose or cracked or concrete structure is cracked, broken of loose.	Structure barrier attached to is sound.
Bars	Bar spacing	Bar spacing exceeds 6 inches.	Bars have at most 6 inches spacing.
	Damaged or missing bars	Bars are bent out of shape more than 3 inches.	Bars in place with no bends more than ¾ inch.
		Bars are missing or entire barrier missing.	Bars in place according to design.
		Bars are loose and rust is causing 50% deterioration to any part of barrier.	Repair or replace barrier to design standards.

NO. 8 – ENERGY DISSIPATERS

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed.
Site	Trash and debris	Trash and/or debris accumulation.	Dissipater clear of trash and/or debris.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Rock Pad	Missing or moved Rock	Only one layer of rock exists above native soil in area five square feet or larger or any exposure of native soil.	Rock pad prevents erosion.
Dispersion Trench	Pipe plugged with sediment	Accumulated sediment that exceeds 20% of the design depth.	Pipe cleaned/flushed so that it matches design.
	Not discharging water properly	Visual evidence of water discharging at concentrated points along trench (normal condition is a "sheet flow" of water along trench).	Water discharges from feature by sheet flow.
	Perforations plugged.	Over 1/4 of perforations in pipe are plugged with debris or sediment.	Perforations freely discharge flow.
	Water flows out top of "distributor" catch basin.	Water flows out of distributor catch basin during any storm less than the design storm.	No flow discharges from distributor catch basin.
	Receiving area over-saturated	Water in receiving area is causing or has potential of causing landslide problems.	No danger of landslides.
Gabions	Damaged mesh	Mesh of gabion broken, twisted or deformed so structure is weakened or rock may fall out.	Mesh is intact, no rock missing.
	Corrosion	Gabion mesh shows corrosion through more than ¼ of its gage.	All gabion mesh capable of containing rock and retaining designed form.
	Collapsed or deformed baskets	Gabion basket shape deformed due to any cause.	All gabion baskets intact, structure stands as designed.
	Missing rock	Any rock missing that could cause gabion to loose structural integrity.	No rock missing.
Manhole/Chamber	Worn or damaged post, baffles or side of chamber	Structure dissipating flow deteriorates to ½ or original size or any concentrated worn spot exceeding one square foot which would make structure unsound.	Structure is in no danger of failing.
	Damage to wall, frame, bottom, and/or top slab	Cracks wider than ½-inch or any evidence of soil entering the structure through cracks, or maintenance inspection personnel determines that the structure is not structurally sound.	Manhole/chamber is sealed and structurally sound.
	Damaged pipe joints	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering the structure at the joint of the inlet/outlet pipes.	No soil or water enters and no water discharges at the joint of inlet/outlet pipes.

NO. 9 – FENCING

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Erosion or holes under fence	Erosion or holes more than 4 inches high and 12-18 inches wide permitting access through an opening under a fence.	No access under the fence.
Wood Posts, Boards and Cross Members	Missing or damaged parts	Missing or broken boards, post out of plumb by more than 6 inches or cross members broken	No gaps on fence due to missing or broken boards, post plumb to within 1½ inches, cross members sound.
	Weakened by rotting or insects	Any part showing structural deterioration due to rotting or insect damage	All parts of fence are structurally sound.
	Damaged or failed post foundation	Concrete or metal attachments deteriorated or unable to support posts.	Post foundation capable of supporting posts even in strong wind.
Metal Posts, Rails and Fabric	Damaged parts	Post out of plumb more than 6 inches.	Post plumb to within 1½ inches.
		Top rails bent more than 6 inches.	Top rail free of bends greater than 1 inch.
		Any part of fence (including post, top rails, and fabric) more than 1 foot out of design alignment.	Fence is aligned and meets design standards.
		Missing or loose tension wire.	Tension wire in place and holding fabric.
	Deteriorated paint or protective coating	Part or parts that have a rusting or scaling condition that has affected structural adequacy.	Structurally adequate posts or parts with a uniform protective coating.
	Openings in fabric	Openings in fabric are such that an 8-inch diameter ball could fit through.	Fabric mesh openings within 50% of grid size.

NO. 10 – GATES/BOLLARDS/ACCESS BARRIERS

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Chain Link Fencing Gate	Damaged or missing members	Missing gate.	Gates in place.
		Broken or missing hinges such that gate cannot be easily opened and closed by a maintenance person.	Hinges intact and lubed. Gate is working freely.
		Gate is out of plumb more than 6 inches and more than 1 foot out of design alignment.	Gate is aligned and vertical.
		Missing stretcher bar, stretcher bands, and ties.	Stretcher bar, bands, and ties in place.
	Locking mechanism does not lock gate	Locking device missing, non-functioning or does not link to all parts.	Locking mechanism prevents opening of gate.
	Openings in fabric	Openings in fabric are such that an 8-inch diameter ball could fit through.	Fabric mesh openings within 50% of grid size.
Bar Gate	Damaged or missing cross bar	Cross bar does not swing open or closed, is missing or is bent to where it does not prevent vehicle access.	Cross bar swings fully open and closed and prevents vehicle access.
	Locking mechanism does not lock gate	Locking device missing, non-functioning or does not link to all parts.	Locking mechanism prevents opening of gate.
	Support post damaged	Support post does not hold cross bar up.	Cross bar held up preventing vehicle access into facility.
Bollards	Damaged or missing	Bollard broken, missing, does not fit into support hole or hinge broken or missing.	No access for motorized vehicles to get into facility.
	Does not lock	Locking assembly or lock missing or cannot be attached to lock bollard in place.	No access for motorized vehicles to get into facility.
Boulders	Dislodged	Boulders not located to prevent motorized vehicle access.	No access for motorized vehicles to get into facility.
	Circumvented	Motorized vehicles going around or between boulders.	No access for motorized vehicles to get into facility.

NO. 11 – GROUNDS (LANDSCAPING)

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash or litter	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Trees and Shrubs	Hazard	Any tree or limb of a tree identified as having a potential to fall and cause property damage or threaten human life. **A hazard tree identified by a qualified arborist must be removed as soon as possible.**	No hazard trees in facility.
	Damaged	Limbs or parts of trees or shrubs that are split or broken which affect more than 25% of the total foliage of the tree or shrub.	Trees and shrubs with less than 5% of total foliage with split or broken limbs.
		Trees or shrubs that have been blown down or knocked over.	No blown down vegetation or knocked over vegetation. Trees or shrubs free of injury.
		Trees or shrubs which are not adequately supported or are leaning over, causing exposure of the roots.	Tree or shrub in place and adequately supported; dead or diseased trees removed.

NO. 12 – ACCESS ROADS

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris exceeds 1 cubic foot per 1,000 square feet (i.e., trash and debris would fill up one standards size garbage can).	Roadway drivable by maintenance vehicles.
		Debris which could damage vehicle tires or prohibit use of road.	Roadway drivable by maintenance vehicles.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Blocked roadway	Any obstruction which reduces clearance above road surface to less than 14 feet.	Roadway overhead clear to 14 feet high.
		Any obstruction restricting the access to a 10- to 12 foot width for a distance of more than 12 feet or any point restricting access to less than a 10 foot width.	At least 12-foot of width on access road.
Road Surface	Erosion, settlement, potholes, soft spots, ruts	Any surface defect which hinders or prevents maintenance access.	Road drivable by maintenance vehicles.
	Vegetation on road surface	Trees or other vegetation prevent access to facility by maintenance vehicles.	Maintenance vehicles can access facility.
Shoulders and Ditches	Erosion	Erosion within 1 foot of the roadway more than 8 inches wide and 6 inches deep.	Shoulder free of erosion and matching the surrounding road.
	Weeds and brush	Weeds and brush exceed 18 inches in height or hinder maintenance access.	Weeds and brush cut to 2 inches in height or cleared in such a way as to allow maintenance access.
Modular Grid Pavement	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Damaged or missing	Access surface compacted because of broken on missing modular block.	Access road surface restored so road infiltrates.

NO. 13 – BASIC BIOSWALE (GRASS)

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash and/or debris accumulated on the bioswale site.	No trash or debris on the bioswale site.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Swale Section	Sediment accumulation	Sediment depth exceeds 2 inches in 10% of the swale treatment area.	No sediment deposits in grass treatment area of the bioswale.
		Sediment inhibits grass growth over 10% of swale length.	Grass growth not inhibited by sediment.
		Sediment inhibits even spreading of flow.	Flow spreads evenly through swale
	Erosion/scouring	Eroded or scoured swale bottom due to channelization or high flows.	No eroded or scoured areas in bioswale. Cause of erosion or scour addressed.
	Poor vegetation coverage	Grass is sparse or bare or eroded patches occur in more than 10% of the swale bottom.	Swale has no bare spots and grass is thick and healthy.
	Grass too tall	Grass excessively tall (greater than 10 inches), grass is thin or nuisance weeds and other vegetation have taken over.	Grass is between 3 and 4 inches tall, thick and healthy. No clippings left in swale. No nuisance vegetation present.
	Excessive shade	Grass growth is poor because sunlight does not reach swale.	Health grass growth or swale converted to a wet bioswale.
	Constant baseflow	Continuous flow through the swale, even when it has been dry for weeks or an eroded, muddy channel has formed in the swale bottom.	Baseflow removed from swale by a low-flow pea-gravel drain or bypassed around the swale.
	Standing water	Water pools in the swale between storms or does not drain freely.	Swale freely drains and there is no standing water in swale between storms.
	Channelization	Flow concentrates and erodes channel through swale.	No flow channels in swale.
Flow Spreader	Concentrated flow	Flow from spreader not uniformly distributed across entire swale width.	Flows are spread evenly over entire swale width.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 14 – WET BIOSWALE

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and/or debris accumulated at the site.	No trash or debris at the site.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Swale Section	Sediment accumulation	Sediment depth exceeds 2 inches in 10% of the swale treatment area.	No sediment deposits in treatment area.
	Erosion/scouring	Eroded or scoured swale bottom due to channelization or high flows.	No eroded or scoured areas in bioswale. Cause of erosion or scour addressed.
	Water depth	Water not retained to a depth of about 4 inches during the wet season.	Water depth of 4 inches through out swale for most of wet season.
	Vegetation ineffective	Vegetation sparse, does not provide adequate filtration or crowded out by very dense clumps of cattail or nuisance vegetation.	Wetland vegetation fully covers bottom of swale and no cattails or nuisance vegetation present.
	Insufficient water	Wetland vegetation dies due to lack of water.	Wetland vegetation remains healthy (may require converting to grass lined bioswale
Flow Spreader	Concentrated flow	Flow from spreader not uniformly distributed across entire swale width.	Flows are spread evenly over entire swale width.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 15 – FILTER STRIP

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and debris accumulated on the filter strip site.	Filter strip site free of any trash or debris
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Grass Strip	Sediment accumulation	Sediment accumulation on grass exceeds 2 inches depth.	No sediment deposits in treatment area.
	Erosion/scouring	Eroded or scoured swale bottom due to channelization or high flows.	No eroded or scoured areas in bioswale. Cause of erosion or scour addressed.
	Grass too tall	Grass excessively tall (greater than 10 inches), grass is thin or nuisance weeds and other vegetation have taken over.	Grass is between 3 and 4 inches tall, thick and healthy. No clippings left in swale. No nuisance vegetation present.
	Vegetation ineffective	Grass has died out, become excessively tall (greater than 10 inches) or nuisance vegetation is taking over.	Grass is healthy, less than 9 inches high and no nuisance vegetation present.
Flow Spreader	Concentrated flow	Flow from spreader not uniformly distributed across entire swale width.	Flows are spread evenly over entire swale width.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 16 – WETPOND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and debris accumulated on the wetpond site.	Wetpond site free of any trash or debris.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Side Slopes of Dam, Berm, internal berm or Embankment	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of dams, berms or slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat to dam, berm or embankment integrity, are not interfering with access or maintenance or leaves do not cause a plugging problem they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.
Top or Side Slopes of Dam, Berm, internal berm or Embankment	Settlement	Any part of a dam, berm or embankment that has settled 4 inches lower than the design elevation.	Top or side slope restored to design dimensions. If settlement is significant, a licensed civil engineer should be consulted to determine the cause of the settlement.
	Irregular surface on internal berm	Top of berm not uniform and level.	Top of berm graded to design elevation.
Pond Areas	Sediment accumulation (except first wetpool cell)	Accumulated sediment that exceeds 10% of the designed pond depth.	Sediment cleaned out to designed pond shape and depth.
	Sediment accumulation (first wetpool cell)	Sediment accumulations in pond bottom that exceeds the depth of sediment storage (1 foot) plus 6 inches.	Sediment storage contains no sediment.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
	Water level (all wetpool cells)	Cell level(s) drops more than 12 inches in any 7-day period.	Cell level(s) drops less than 12 inches in any 7-day period.
	Algae mats (first wetpool cell)	Algae mats develop over more than 10% of the water surface should be removed.	Algae mats removed (usually in the late summer before Fall rains, especially in Sensitive Lake Protection Areas.)

NO. 16 – WETPOND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
	Design planting and vegetation survival and maintenance	Sparse or dying design planting, or when design plantings are not thriving across 80% or more of the design vegetated areas within the pond; invasive vegetation e.g., cattails	Design plantings and vegetation are thriving and appropriately spaced across 80% or more of the design vegetated areas within the pond; invasives removed including root clumps
Gravity Drain	Inoperable valve	Valve will not open and close.	Valve opens and closes normally.
	Valve won't seal	Valve does not seal completely.	Valve completely seals closed.
Emergency Overflow Spillway	Tree growth	Tree growth impedes flow or threatens stability of spillway.	Trees removed.
	Rock missing	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of out flow path of spillway. Rip-rap on inside slopes need not be replaced.	Spillway restored to design standards.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 17 – WETVAULT

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on facility site.	Trash and debris removed from facility site.
Treatment Area	Trash and debris	Any trash and debris accumulated in vault (includes floatables and non-floatables).	No trash or debris in vault.
	Sediment accumulation	Sediment accumulation in vault bottom exceeds the depth of the sediment zone plus 6 inches.	No sediment in vault.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Vault Structure	Damage to wall, frame, bottom, and/or top slab	Cracks wider than ½-inch, any evidence of soil entering the structure through cracks, vault does not retain water or qualified inspection personnel determines that the vault is not structurally sound.	Vault is sealed and structurally sound.
	Baffles damaged	Baffles corroding, cracking, warping and/or showing signs of failure or baffle cannot be removed.	Repair or replace baffles or walls to specifications.
	Ventilation	Ventilation area blocked or plugged.	No reduction of ventilation area exists.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Gravity Drain	Inoperable valve	Valve will not open and close.	Valve opens and closes normally.
	Valve won't seal	Valve does not seal completely.	Valve completely seals closed.
Access Manhole	Access cover/lid damaged or difficult to open	Access cover/lid cannot be easily opened by one person. Corrosion/deformation of cover/lid.	Access cover/lid can be opened by one person.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Access doors/plate has gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat; covers access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.

NO. 18 – STORMWATER WETLAND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Trash and debris accumulated on facility site.	Trash and debris removed from facility site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Side Slopes of Dam, Berm, internal berm or Embankment	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of dams, berms or slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat to dam, berm, or embankment integrity or not interfering with access or maintenance, they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.
Top or Side Slopes of Dam, Berm, internal berm or Embankment	Settlement	Any part of a dam, berm or embankment that has settled 4 inches lower than the design elevation.	Top or side slope restored to design dimensions. If settlement is significant, a licensed civil engineer should be consulted to determine the cause of the settlement.
	Irregular surface on internal berm	Top of berm not uniform and level.	Top of berm graded flat to design elevation.
Pond Areas	Sediment accumulation (first cell/forebay)	Sediment accumulations in pond bottom that exceeds the depth of sediment storage (1 foot) plus 6 inches.	Sediment storage contains no sediment.
	Sediment accumulation (wetland cell)	Accumulated sediment that exceeds 10% of the designed pond depth.	Sediment cleaned out to designed pond shape and depth.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
	Water level (first cell/forebay)	Cell level drops more than 12 inches in any 7-day period.	Cell level drops no more than 12 inches in any 7-day period.
	Water level (wetland cell)	Cell does not retain water for at least 10 months of the year or wetland plants are not surviving.	Water retained at least 10 months of the year or wetland plants are surviving.
	Algae mats (first cell/forebay)	Algae mats develop over more than 10% of the water surface should be removed.	Algae mats removed (usually in the late summer before Fall rains, especially in Sensitive Lake Protection Areas.)

NO. 18 – STORMWATER WETLAND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
	Vegetation	Vegetation dead, dying, or overgrown (cattails) or not meeting original planting specifications across more than 20% of the entire design vegetated area within the pond.	Plants in wetland cell surviving across 80% or more of the entire design vegetated area within the pond and not interfering with wetland function.
Gravity Drain	Inoperable valve	Valve will not open and close.	Valve opens and closes normally.
	Valve won't seal	Valve does not seal completely.	Valve completely seals closed.
Emergency Overflow Spillway	Tree growth	Tree growth impedes flow or threatens stability of spillway.	Trees removed.
	Rock missing	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of out flow path of spillway. Rip-rap on inside slopes need not be replaced.	Spillway restored to design standards.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 19 – SAND FILTER POND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Trash and debris accumulated on facility site.	Trash and debris removed from facility site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover (not in the treatment area)	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Pre-Treatment (if applicable)	Sediment accumulation	Sediment accumulations in pond bottom that exceeds the depth of sediment storage (1 foot) plus 6 inches.	Sediment storage contains no sediment.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
	Water level	Cell empty, doesn't hold water.	Water retained in first cell for most of the year.
	Algae mats	Algae mats develop over more than 10% of the water surface should be removed.	Algae mats removed (usually in the late summer before Fall rains, especially in Sensitive Lake Protection Areas.)
Pond Area	Sediment accumulation	Sediment or crust depth exceeds ½-inch over 10 % of surface area of sand filter.	No sediment or crust deposit on sand filter that would impede permeability of the filter section.
	Grass (if applicable)	Grass becomes excessively tall (greater than 6 inches) or when nuisance weeds and other vegetation start to take over or thatch build up occurs.	Mow vegetation and/or remove nuisance vegetation.
Side Slopes of Pond	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of dams, berms or slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat to dam, berm, or embankment integrity or not interfering with access or maintenance, they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.

NO. 19 – SAND FILTER POND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Sand Filter Media	Plugging	Drawdown of water through the sand filter media, takes longer than 24 hours, and/or flow through the overflow pipes occurs frequently. A sieve analysis of >4% -100 or >2% -200 requires replacing sand filter media.	Sand filter media surface is aerated or the surface is scraped and replaced, and drawdown rate is normal.
	Prolonged flows	Sand is saturated for prolonged periods of time (several weeks) and does not dry out between storms due to continuous base flow or prolonged flows from detention facilities.	Excess flows bypassed or confined to small portion of filter media surface.
	Short circuiting	Flows become concentrated over one section of the sand filter rather than dispersed or drawdown rate of pool exceeds 12 inches per hour.	Flow and percolation of water through the sand filter is uniform and dispersed across the entire filter area and drawdown rate is normal.
	Media thickness	Sand thickness is less than 18 inches.	Rebuild sand thickness to a minimum of 18 inches.
Underdrains and Clean-Outs	Sediment/debris	Underdrains or clean-outs partially plugged or filled with sediment and/or debris. Junction box/cleanout wyes not watertight.	Underdrains and clean-outs free of sediment and debris and are watertight.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Rock Pad	Missing or out of place	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil.	Rock pad restored to design standards.
Flow spreader	Concentrated flow	Flow from spreader not uniformly distributed across sand filter.	Flows spread evenly over sand filter.

NO. 20 – SAND FILTER VAULT

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on facility site.	Trash and debris removed from facility site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Pre-Treatment Chamber	Sediment accumulation	Sediment accumulation exceeds the depth of the sediment zone plus 6 inches.	Sediment storage contains no sediment.
Sand Filter Media	Sediment accumulation	Sediment depth exceeds ½-inch on sand filter media.	Sand filter freely drains at normal rate.
	Trash and debris	Trash and debris accumulated in vault (floatables and non-floatables).	No trash or debris in vault.
	Plugging	Drawdown of water through the sand filter media, takes longer than 24 hours, and/or flow through the overflow pipes occurs frequently. A sieve analysis of >4% -100 or >2% -200 requires replacing sand filter media.	Sand filter media drawdown rate is normal.
	Short circuiting	Seepage or flow occurs along the vault walls and corners. Sand eroding near inflow area. Cleanout wyes are not watertight.	Sand filter media section re-laid and compacted along perimeter of vault to form a semi-seal. Erosion protection added to dissipate force of incoming flow and curtail erosion.
Vault Structure	Damaged to walls, frame, bottom and/or top slab.	Cracks wider than ½-inch, any evidence of soil entering the structure through cracks or qualified inspection personnel determines that the vault is not structurally sound.	Vault replaced or repaired to provide complete sealing of the structure.
	Ventilation	Ventilation area blocked or plugged.	No reduction of ventilation area exists.
Underdrains and Cleanouts	Sediment/debris	Underdrains or clean-outs partially plugged, filled with sediment and/or debris or not watertight.	Underdrains and clean-outs free of sediment and debris and sealed.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 20 – SAND FILTER VAULT

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. Any open manhole requires immediate maintenance.	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat; covers access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.

NO. 21 – STORMFILTER (CARTRIDGE TYPE)

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Facility	Documentation	Update facility inspection record after each inspection.	Maintenance records are up to date.
		Provide certification of replaced filter media.	Filter media is certified to meet Stormfilter® specifications.
Site	Trash and debris	Any trash or debris which impairs the function of the facility.	Trash and debris removed from facility.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oils, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Life cycle	System has not been inspected for three years.	Facility is re-inspected and any needed maintenance performed.
Vault Treatment Area	Sediment on vault floor	Greater than 2 inches of sediment.	Vault is free of sediment.
	Sediment on top of cartridges	Greater than ½ inch of sediment.	Vault is free of sediment.
	Multiple scum lines above top of cartridges	Thick or multiple scum lines above top of cartridges. Probably due to plugged canisters or underdrain manifold.	Cause of plugging corrected, canisters replaced if necessary.
Vault Structure	Damage to wall, Frame, Bottom, and/or Top Slab	Cracks wider than ½-inch and any evidence of soil particles entering the structure through the cracks, or qualified inspection personnel determines the vault is not structurally sound.	Vault replaced or repaired to design specifications.
	Baffles damaged	Baffles corroding, cracking warping, and/or showing signs of failure as determined by maintenance/inspection person.	Repair or replace baffles to specification.
Filter Media	Standing water in vault	9 inches or greater of static water in the vault for more than 24 hours following a rain event and/or overflow occurs frequently. Probably due to plugged filter media, underdrain or outlet pipe.	No standing water in vault 24 hours after a rain event.
	Short circuiting	Flows do not properly enter filter cartridges.	Flows go through filter media.
Underdrains and Clean-Outs	Sediment/debris	Underdrains or clean-outs partially plugged or filled with sediment and/or debris.	Underdrains and clean-outs free of sediment and debris.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.

NO. 21 – STORMFILTER (CARTRIDGE TYPE)

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat and cover access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.
Inspection	Frequency	Maintenance conditions are site-specific, depending on pollutant loading. FIRST YEAR POST CONSTRUCTION: Monthly during wet season, every other month during dry season FOLLOWING FIRST YEAR: Continue monthly until site-specific frequency is established, then follow that schedule AT A MINIMUM, FOLLOWING FIRST YEAR: Annually (or quarterly if used as primary treatment) and following significant storms.	Inspect Stormfilter facility for any maintenance deficiencies; maintain or replace as required per established site-specific schedule and manufacturer's requirements.

NO. 22 – BAFFLE OIL/WATER SEPARATOR

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash or debris which impairs the function of the facility.	Trash and debris removed from facility.
	Contaminants and pollution	Floating oil in excess of 1 inch in first chamber, any oil in other chambers or other contaminants of any type in any chamber.	No contaminants present other than a surface oil film.
Vault Treatment Area	Sediment accumulation	Sediment accumulates exceeds 6 inches in the vault.	No sediment in the vault.
	Discharge water not clear	Inspection of discharge water shows obvious signs of poor water quality- effluent discharge from vault shows thick visible sheen.	Effluent discharge is clear.
	Trash or debris accumulation	Any trash and debris accumulation in vault (floatables and non-floatables).	Vault is clear of trash and debris.
	Oil accumulation	Oil accumulations that exceed 1 inch, at the surface of the water in the oil/water separator chamber.	No visible oil depth on water.
Vault Structure	Damage to Wall, Frame, Bottom, and/or Top Slab	Cracks wider than ½-inch or evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determines that the vault is not structurally sound.	Vault replaced or repaired to design specifications.
	Baffles damaged	Baffles corroding, cracking, warping and/or showing signs of failure as determined by maintenance inspection personnel.	Repair or replace baffles to specifications.
Gravity Drain	Inoperable valve	Valve will not open and close.	Valve opens and closes normally.
	Valve won't seal	Valve does not seal completely.	Valve completely seals closed.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat and cover access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or cover/lid.	Lifting rings sufficient to lift or remove cover/lid.

NO. 23 – COALESCING PLATE OIL/WATER SEPARATOR

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash or debris which impairs the function of the facility.	Trash and debris removed from facility.
	Contaminants and pollution	Floating oil in excess of 1 inch in first chamber, any oil in other chambers or other contaminants of any type in any chamber.	No contaminants present other than a surface oil film.
Vault Treatment Area	Sediment accumulation in the forebay	Sediment accumulation of 6 inches or greater in the forebay.	No sediment in the forebay.
	Discharge water not clear	Inspection of discharge water shows obvious signs of poor water quality - effluent discharge from vault shows thick visible sheen.	Repair function of plates so effluent is clear.
	Trash or debris accumulation	Trash and debris accumulation in vault (floatables and non-floatables).	Trash and debris removed from vault.
	Oil accumulation	Oil accumulation that exceeds 1 inch at the water surface in the in the coalescing plate chamber.	No visible oil depth on water and coalescing plates clear of oil.
Coalescing Plates	Damaged	Plate media broken, deformed, cracked and/or showing signs of failure.	Replace that portion of media pack or entire plate pack depending on severity of failure.
	Sediment accumulation	Any sediment accumulation which interferes with the operation of the coalescing plates.	No sediment accumulation interfering with the coalescing plates.
Vault Structure	Damage to Wall, Frame, Bottom, and/or Top Slab	Cracks wider than ½-inch and any evidence of soil particles entering the structure through the cracks, or maintenance inspection personnel determines that the vault is not structurally sound.	Vault replaced or repaired to design specifications.
	Baffles damaged	Baffles corroding, cracking, warping and/or showing signs of failure as determined by maintenance/inspection person.	Repair or replace baffles to specifications.
Ventilation Pipes	Plugged	Any obstruction to the ventilation pipes.	Ventilation pipes are clear.
Shutoff Valve	Damaged or inoperable	Shutoff valve cannot be opened or closed.	Shutoff valve operates normally.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.

NO. 23 – COALESCING PLATE OIL/WATER SEPARATOR

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat and cover access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.

NO. 24 – CATCH BASIN INSERT

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Media Insert	Visible Oil	Visible oil sheen passing through media	Media inset replaced.
	Insert does not fit catch basin properly	Flow gets into catch basin without going through media.	All flow goes through media.
	Filter media plugged	Filter media plugged.	Flow through filter media is normal.
	Oil absorbent media saturated	Media oil saturated.	Oil absorbent media replaced.
	Water saturated	Catch basin insert is saturated with water, which no longer has the capacity to absorb.	Insert replaced.
	Service life exceeded	Regular interval replacement due to typical average life of media insert product, typically one month.	Media replaced at manufacturer's recommended interval.
	Seasonal maintenance	When storms occur and during the wet season.	Remove, clean and replace or install new insert after major storms, monthly during the wet season or at manufacturer's recommended interval.

NO. 25 – DRYWELL BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Plugging, obstructions	Any cause limiting flow into drywell.	Drywell able to receive full flow prior to and during wet season.
Site	Trash and debris	Trash or debris that could end up in the drywell is evident.	No trash or debris that could get into the drywell can be found.
Pipes	Inlet is plugged	The entrance to the pipe is restricted due to sediment, trash, or debris.	The entrance to the pipe is not restricted.
	Vegetation/roots	Vegetation/roots that reduce free movement of water through pipes.	Water flows freely through pipes.
	Plugged	Sediment or other material prevents free flow of water through the pipe.	Water flows freely through pipes.
	Broken or joint leaks.	Damage to the pipe or pipe joints allowing water to seep out.	Pipe does not allow water to exit other than at the outlet.
Structure	Basin leaks	Holes or breaks in the basin allow water to leave the basin at locations other than per design.	Basin is sealed and allows water to exit only where designed.
Filter Media	Filter media plugged	Filter media plugged.	Flow through filter media is normal.
Inspection	Frequency	Annually and prior to and following significant storms.	Inspect drywell system for any defects of deficiencies.

NO. 26 – GRAVEL FILLED INFILTRATION TRENCH BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Blocking, obstructions	Debris or trash limiting flow to infiltration trench.	Infiltration trench able to receive full flow prior to and during wet season.
Site	Trash and debris	Trash or debris that could end up in the infiltration trench is evident.	No trash or debris that could get into the infiltration trench can be found.
Pipes	Inlet is plugged	The entrance to the pipe is restricted due to sediment, trash, or debris.	The entrance to the pipe is not restricted.
	Vegetation/roots	Vegetation/roots that reduce free movement of water through pipes.	Water flows freely through pipes.
	Plugged	Sediment or other material prevents free flow of water through the pipe.	Water flows freely through pipes.
	Broken or joint leaks.	Damage to the pipe or pipe joints allowing water to seep out.	Pipe does not allow water to exit other than at the outlet to the trench.
Structure	Flow not reaching trench	Flows are not getting into the trench as designed.	Water enters and exits trench as designed.
	Cleanout/inspection access does not allow cleaning or inspection of trench	The cleanout/inspection access is not available.	Cleanout/inspection access is available.
Filter Media	Filter media plugged	Filter media plugged.	Flow through filter media is normal.
Inspection	Frequency	Annually and prior to and following significant storms.	Inspect infiltration trench system for any defects of deficiencies.

NO. 27 – GRAVEL FILLED DISPERSION TRENCH BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Blocking, obstructions	Debris or trash limiting flow to dispersion trench or preventing spreader function.	Dispersion trench able to receive full flow prior to and during wet season.
Site	Trash and debris	Trash or debris that could end up in the dispersion trench is evident.	No trash or debris that could get into the dispersion trench can be found.
Pipes	Inlet is plugged	The entrance to the pipe is restricted due to sediment, trash, or debris.	The entrance to the pipe is not restricted.
	Vegetation/roots	Vegetation/roots that reduce free movement of water through pipes.	Water flows freely through pipes.
	Plugged	Sediment or other material prevents free flow of water through the pipe.	Water flows freely through pipes.
	Broken joint or joint leaks.	Damage to the pipe or pipe joints allowing water to seep out.	Pipe does not allow water to exit other than at the outlet to the trench.
	Cleanout caps	Cleanout caps are broken, missing, or buried.	Cleanout caps are accessible and intact.
Structure	Flow not reaching trench	Flows are not getting into the trench as designed.	Water enters and exits trench as designed.
	Perforated pipe plugged	Flow not able to enter or properly exit from perforated pipe.	Water freely enters and exits perforated pipe.
	Flow not spreading evenly at outlet of trench	Outlet flows channelizing or not spreading evenly from trench.	Sheet flow occurs at the outlet of the trench.
	Cleanout/inspection access does not allow cleaning or inspection of perforated pipe	The cleanout/inspection access is not available.	Cleanout/inspection access is available.
Filter Media	Filter media plugged	Filter media plugged.	Flow through filter media is normal.
Inspection	Frequency	Annually and prior to and following significant storms.	Inspect dispersion trench system for any defects of deficiencies.

NO. 28 – NATIVE VEGETATED SURFACE / NATIVE VEGETATED LANDSCAPE BMP

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Trash and debris accumulated on the native vegetated surface/native vegetated landscape site.	Native vegetated surface site free of any trash or debris.
Vegetation	Native vegetation type	Less than two species each of native trees, shrubs, and groundcover occur in the design area.	A minimum of two species each of native trees, shrubs, and groundcover is established and healthy.
	Native vegetated area	Less than 90% if the required vegetated area has healthy growth.	A minimum of 90% of the required vegetated area has healthy growth.
	Undesirable vegetation	Weeds, blackberry, and other undesirable plants are invading more than 10% of vegetated area.	Less than 10% undesirable vegetation occurs in the required native vegetated surface area.
Vegetated Area	Soil compaction	Soil in the native vegetation area compacted.	Less than 8% of native vegetation area is compacted.
	Insufficient area	Less than 3.5 square feet of native vegetation area for every 1 square foot of impervious surface.	A minimum of 3.5 square feet of native vegetation area for every 1 square foot of impervious surface.
	Excess slope	Slope of native vegetation area greater than 15%.	Slope of native growth area does not exceed 15%.
Inspection	Frequency	Annually	Inspect native vegetation area for any defects of deficiencies

NO. 29 – PERFORATED PIPE CONNECTIONS BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Blocking, obstructions	Debris or trash limiting flow into perforated pipe system or outfall of BMP is plugged or otherwise nonfunctioning.	Outfall of BMP is receiving designed flows from perforated pipe connection.
Inflow	Inflow impeded	Inflow into the perforated pipe is partially or fully blocked or altered to prevent flow from getting into the pipe.	Inflow to the perforated pipe is unimpeded.
Pipe Trench Area	Surface compacted	Ground surface over the perforated pipe trench is compacted or covered with impermeable material.	Ground surface over the perforated pipe is not compacted and free of any impervious cover.
Outflow	Outflow impeded	Outflow from the perforated pipe into the public drainage system is blocked.	Outflow to the public drainage system is unimpeded.
Outfall Area	Erosion or landslides	Existence of the perforated pipe is causing or exasperating erosion or landslides.	Perforated pipe system is sealed off and an alternative BMP is implemented.
Inspection	Frequency	Annually and prior to and following significant storms.	Perforated pipe system is operating as designed.

NO. 30 – PERMEABLE PAVEMENT BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Surface cleaning/ vegetation control	Media surface vacuumed or pressure washed annually, vegetation controlled to design maximum. Weed growth suggesting sediment accumulation.	No dirt, sediment, or debris clogging porous media, or vegetation limiting infiltration.
Porous Concrete, Porous Asphaltic Concrete, and Permeable Pavers	Trash and debris	Trash and debris on the pavement interfering with infiltration; leaf drop in fall season.	No trash or debris interfering with infiltration.
	Sediment accumulation	Sediment accumulation on the pavement interfering with infiltration; runoff from adjacent areas depositing sediment/debris on pavement.	Pavement infiltrates as designed; adjacent areas stabilized.
	Infiltration rate	Pavement does not infiltrate at a rate of 10 inches per hour.	Pavement infiltrates at a rate greater than 10 inches per hour.
	Ponding	Standing water for a long period of time on the surface of the pavement.	Standing water infiltrates at the desired rate.
	Broken or cracked pavement	Pavement is broken or cracked.	No broken pavement or cracks on the surface of the pavement.
	Settlement	Uneven pavement surface indicating settlement of the subsurface layer.	Pavement surface is uniformly level.
	Moss growth	Moss growing on pavement interfering with infiltration.	No moss interferes with infiltration.
	Inflow	Inflow to the pavement is diverted, restricted, or depositing sediment and debris on the pavement.	Inflow to pavement is unobstructed and not bringing sediment or debris to the pavement.
	Underdrain	Underdrain is not flowing when pavement has been infiltrating water.	Underdrain flows freely when water is present.
	Overflow	Overflow not controlling excess water to desired location; native soil is exposed or other signs of erosion damage are present.	Overflow permits excess water to leave the site at the desired location; Overflow is stabilized and appropriately armored.
Permeable Pavers	Broken or missing pavers	Broken or missing paving blocks on surface of pavement.	No missing or broken paving blocks interfering with infiltration.
	Level surface	Uneven surface due to settlement or scour of fill in the interstices of the paving blocks.	Pavement surface is uniformly level.
	Compaction	Poor infiltration due to soil compaction between paving blocks.	No soil compaction in the interstices of the paver blocks limiting infiltration.
	Dead grass	Grass in the interstices of the paving blocks is dead.	Healthy grass is growing in the interstices of the paver blocks.
Inspection	Frequency	Annually and after large storms, and as needed seasonally to control leaf drop, evergreen needles etc.	Permeable pavement is functioning normally.

NO. 31 – BIORETENTION BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Vegetation	Vegetation to be watered and pruned as needed and mulch applied to a minimum of 2 inches to maintain healthy growth.	Healthy vegetation growth with full coverage as designed.
Bioretention Area	Trash and debris	Trash and debris in the bioretention area; leaf drop in the fall season.	No trash or debris In the bioretention area.
	Sediment accumulation	Sediment accumulation in the bioretention area interfering with infiltration.	Water in the bioretention infiltrates as designed.
	Ponding	Standing water in the bioretention area for more than two days.	Standing water infiltrates at the desired rate.
	Inflow	Inflow not getting into bioretention; debris/sediment blockage at inlet features; native soil is exposed or other signs of erosion damage is present.	Unobstructed and properly routed inflow into bioretention area; inlet is stabilized and appropriately armored.
	Overflow outlet	Overflow water not controlled by outlet features; native soil is exposed or other signs of erosion damage is present.	Outlet features control overflow; overflow is stabilized and appropriately armored.
	Underdrain	Underdrain is not flowing when bioretention area has been infiltrating water.	Underdrain flows freely when water is present.
Vegetation	Plant health	Plants not thriving across at least 80% of the entire design vegetated area within the BMP; overly dense vegetation requiring pruning.	Healthy water tolerant plants in bioretention area, plants thriving across at least 80% of the entire design vegetated area within the facility.
	Plant species	Plants not water tolerant species.	Plants are water tolerant.
	Weeds	Weeds growing in bioretention area.	No weeds in bioretention area.
	Watering	Planting schedule requires frequent watering (approx. weekly Year 1, bimonthly Years 2 and 3) for new facilities, and as needed for established plantings or dry periods	Plants are established and thriving
	Pest Control	Signs of pests, such as wilting or chewed leaves or bark, spotting or other indicators; extended ponding period encouraging mosquitoes	Plant community is pest-free when following an approved Integrated Pest Management plan; bioretention functioning normally and ponding controlled as needed for pest control
Containment Berm and Earthen Slopes	Erosion;	Erosion occurring at earthen slopes or containment berm side slope.	Erosion on the containment berm and side slopes has been repaired and the cause of the erosion corrected.
	Voids created by nuisance animals (e.g., rodents) or tree roots	Voids affecting berm integrity or creating leaky pond condition	Voids have been repaired; facility is free of nuisance animals following an approved Integrated Pest Management plan.
	Settlement	Any part of the containment berm top has less than 6 inches of freeboard from the maximum pond level to the top of the berm.	A minimum of 6 inches freeboard from the maximum pond level to the top of the berm.
Amended Soil	Soil nutrients	Soil not providing plant nutrients.	Soil providing plant nutrients.
	Bare spots	Bare spots on soil in bioretention area.	No bare spots, bioretention area covered with vegetation or mulch mixed into the underlying soil.
	Compaction	Poor infiltration due to soil compaction in the bioretention area.	No soil compaction in the bioretention area.
Inspection	Frequency	Annually and after large storms, and as needed seasonally for pruning, plant maintenance, pest control and to control leaf drop, evergreen needles etc.	Bioretention facility is functioning normally; plant community is thriving and pest-free.

NO. 32 – RAINWATER HARVESTING BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Storage volume	No rain water in storage unit at the beginning of the rain season.	Maximum storage available at the beginning of the rain season (Oct. 1st).
Collection Area	Trash and debris	Trash of debris on collection area may plug filter system	Collection area clear of trash and debris.
Filter	Restricted or plugged	Filter is partially or fully plugged preventing water from getting in to the storage unit.	Filter is allowing collection water into storage unit.
Inspection	Frequency	Annually and after large storms	Rain harvesting equipment is functioning normally.
	Maintenance log	A Maintenance log must be kept and available for review by KC staff.	Maintenance log is kept and is available to KC staff.

NO. 33 – ROCK PAD BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on rock pad site.	Rock pad site free of any trash or debris.
Rock Pad Area	Rock pad size	Rock pad is not 2 feet by 3 feet by 6 inches thick or as designed.	Rock pad is 2 feet by 3 feet by 6 inches thick or as designed.
	Vegetation	Vegetation is seen growing in or through rock pad.	No vegetation within rock pad area.
Rock	Exposed soil	Soil can be seen through the rock pad.	Full thickness of the rock pad is in place, no soil visible through rock pad.
Inspection	Frequency	Annually and after large storms	Rock pad is functioning normally.

NO. 34 – SHEET FLOW BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on the sheet flow site.	Sheet flow site free of any trash or debris.
Sheet flow area	Erosion	Soil erosion occurring in sheet flow zone.	Soil erosion is not occurring and rills and channels have been repaired.
	Concentrated flow	Sheet flow is not occurring in the sheet flow zone.	Sheet flow area is regraded to provide sheet flow.
Inspection	Frequency	Annually and after large storms	Rain harvesting equipment is functioning normally.

NO. 35 – SPLASH BLOCK BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on the splash block.	Splash block site free of any trash or debris.
Splash Block	Dislodged	Splash block moved from outlet of downspout.	Splash block correctly positioned to catch discharge from downspout.
	Channeling	Water coming off the splash block causing erosion.	No erosion occurs from the splash block.
	Downspout water misdirected	Water coming from the downspout is not discharging to the dispersal area.	Water is discharging normally to the dispersal area.
Inspection	Frequency	Annually and after large storms.	Rain harvesting equipment is functioning normally.

NO. 36 – VEGETATED ROOF BMP (Retained from the 2009 SWDM for reference)

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Vegetation	Vegetation to be watered and pruned as needed to maintain healthy growth.	Healthy vegetation growth with full coverage as designed.
Site	Trash and debris	Trash and debris has accumulated on the vegetated roof.	Vegetated roof free of any trash or debris.
Waterproof Membrane	Leaking	Waterproof membrane breached.	Waterproof membrane has no tears or holes allowing water through it.
Drainage Layer	Drainage pathway	Drainage layer flow plugged or obstructed.	Drainage layer passing water with no obstruction.
Drainage	Overflow	Drainage of overflow is obstructed.	Overflow has no obstruction.
Growth Media	Compaction	Soil in the growth media area compacted.	No part of the growth media is compacted.
	Erosion	Growth media washed out.	Growth media is not being washed away.
	Nutrients	Plants are not thriving.	Growth media has proper nutrients to support plant growth.
Vegetation	Vegetation Type	Vegetation species not succulents, grass, herbs, and/or wildflowers adapted to harsh conditions.	Correct species of vegetation is used.
	Vegetation Area	Healthy vegetation covers less than 90% of vegetation area.	Healthy vegetation covers more than 90% of vegetation area.
	Undesirable Vegetation	Weeds and other undesirable plants are invading more than 10% of vegetated area.	No undesirable vegetation occurs in the vegetated area. No herbicides or pesticides used to control undesirable vegetation.
	Special Vegetation	Special vegetation not thriving.	Special vegetation is kept healthy and inspected on frequent schedule.
Border Zone	Access	Border zone limited by vegetation overgrowth or other means.	Border zone is kept open so vegetated area is accessible.
Gravel Stop	Containment	Gravel stop does not contain overflow or divert it to a designed outlet.	Overflow water is only exits from the designed outlet.
Inspection	Frequency	Annually and after large storms.	Rain harvesting equipment is functioning normally.
		Vegetation inspected monthly.	Vegetation is kept healthy and thriving.

APPENDIX B – INTEGRATED PEST MANAGEMENT MANUAL

The City's Integrated Pest Management Manual (IPM) is provided in this appendix.

Integrated Pest Management Program Manual

City of Kenmore
Public Works Operations

Revised September 2021

Introduction

The City's parks and natural areas reflect the values of the community. The Public Works Department strives to ensure that public landscapes remain attractive while meeting the expectations of its users as well as preserve natural ecosystems for the future. Park landscapes including trees, shrubs, flower beds, ponds, streams, rivers, and lakes make up these open spaces which require maintenance and protection from damage by both humans as well as biological pests.

Integrated pest management (IPM) is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical methods in a way that will minimize the effects on the environment, minimize domestic and health risks, while considering budgetary restrictions. The objectives of the IPM program are:

- To protect the health, safety, and welfare of the community
- To provide efficient cost-effective maintenance of the City's park resources, which includes non-chemical controls whenever possible
- To design new and renovate existing landscape areas that suit site conditions with sustainable maintenance practices, thus providing a comprehensive stewardship of parks and natural resources
- To restore, create and protect environmentally valuable areas such as wetlands and riparian areas, aquatic and terrestrial wildlife habitat, forests, and meadow areas.

I. Definitions

Integrated Pest Management (IPM) – A decision-making process to determine if, where, when and how pest problems will be managed. An IPM program includes all potential pest control strategies, but focuses on non-chemical controls whenever possible, to perpetuate a sustainable environment. The following four pest control methods may be employed in an IPM program:

Cultural Control: The use of sound horticultural practices to optimize plant health and to suppress insects, disease, and weed growth. Other cultural controls include site-appropriate design and the use of disease or drought-resistant plants.

Mechanical Control: The use of a variety of tools and equipment for the purpose of eliminating pests.

Biological Control: The use of biological control agents that act as predators or parasites of pest species or the use of other beneficial organisms that improve plant health by enhancing soil quality.

Chemical Control: The application of various agricultural products such as herbicides, insecticides or fungicides or other chemical compounds to a target pest as a means of control.

SDS – Safety Data Sheets or SDS are prepared by manufacturers of chemical products to relay the necessary safety and protective information to users about the said chemical compounds.

Pesticide – Any material including agricultural chemicals, herbicides, insecticides and fungicides, or biological agents applied to a target pest as a control measure.

Pest – The word "pest" has been broadly defined in this document to include "injurious" insect species, plant pathogens, noxious or invasive vegetation, vertebrate animals such as rodents, structural pests or any other factor that creates an unhealthy environment for landscapes and structures.

Threshold – The term "threshold" refers to the point at which pest injury can no longer be tolerated without compromising the health or aesthetic value of a plant, ecosystem, or other assets of value including human health. Once a threshold is being approached, some control measure may be necessary to suppress pest activity to acceptable levels.

II. Background

Policies and Regulations

By legal definition, a pesticide is any substance for which a manufacturer or distributor claims pesticidal value. Today there are more than 32,000 pesticide products registered to destroy, prevent, attract, or in some manner, control pests.

The first act of pesticide control was passed in 1910 called the Insecticide Act of 1910. Since then there has been the Federal Insecticide, Fungicide, and Rodenticide Act of 1947 (FIRFA) and more recently, the Federal Environmental Pesticide Control Act of 1972. The major provisions of this act are:

- All pesticides must be registered with the U.S. Environmental Protection Agency (EPA). Qualified states may also register pesticides under special conditions.
- All pesticides will be classified for either general or restricted use.
- Only certified applicators, or those under their supervision, may apply restricted use pesticides. States have the authority to certify applicators.
- Use of a pesticide inconsistent with labeling instructions is prohibited.
- Violators may be fined or imprisoned or both.

Washington State pesticide laws and rules:

- Chapter 15.58 RCW Washington Pesticide Control Act, 1971
- Chapter 17.21 RCW Washington Pesticide Application Act, 1967
- Chapter 16-228 WAC General Pesticide Rules

Other important regulations pertain to working within a protected area, such as wetlands and riparian corridors, steep slopes, and native growth protection areas. Certain activities are restricted in these areas and may require special permits granted by the City and other regulatory agencies. Further of these areas and their restrictions will be described in specific chapters of this manual.

Pesticide Use Decision

The following agencies and individuals are involved in the determination of when to use pesticides in the City of Kenmore.

- The **Washington State Department of Agriculture (WSDA)** sets the overall policy for pesticide use in the state of Washington.
- The **Washington Department of Ecology (WDOE)** requires a special permit for all aquatic herbicide applications. This permit allows herbicide control for all listed noxious weeds within an aquatic environment and monitors impacts levels on non-target plants.
- The **Public Works Operations Manager** is responsible for upholding and applying the City's pesticide policies and procedures within their areas of control. They are also responsible for ensuring that any personal protective equipment (PPE) is available and properly fitted for use by applicable staff for any chemical application.
- The **City's Contractors**, under the direction of the Public Works Operations Manager, will determine the most appropriate control measure for actual landscape pest situations, including selecting the most appropriate pesticide products, if necessary. They are also responsible for the safe storage and handling of pesticides, spill responses, and related training.
- The **Public Works Operations Manager** is responsible for ensuring that City Contractors and Public Works staff are maintaining their mandatory annual recertification training for all licensed pesticide applicators, officially called "Pesticide Operators" that may be performing pesticide applications to any City owned properties.

Pest Management Guidelines

The following pest management guidelines generally apply to all City of Kenmore's Parks and other public landscapes:

- City landscapes will be designed to minimize pest management. Where resources are available and existing design themes will not be compromised, modifying landscapes will be considered to reduce pest management.
- All reasonable, cost effective non-chemical pest control options will be considered first before resorting to the use of pesticides.
- Public Works will practice IPM in all pest management situations, understanding that some situations will require the use of a pesticide product.
- Certain levels of pest problems or populations will be accepted within established thresholds. Those thresholds will vary with the pest and the landscape setting.
- Public Works will not perform routine or calendar-based pesticide applications.
- Only pesticides approved for that particular use will be used for the prescribed applications. When pesticides are applied, the smallest effected area will be treated, and

the application will be timed to minimize public contact and the effects on the environment.

- Whenever possible, pesticide applications will be carefully timed to control the pest and reduce the need for re-treatment.
- In accordance with the Washington State Licensing Guidelines, all staff and contractors who are engaged in the use, application and storage of pesticides shall have a current Washington State Pesticide Applicators License. Contractors must notify the Public Works Department prior to the application of any pesticide for approval to use such pesticides.
- Public Works pesticide applicators shall strictly observe all pesticide products label requirements. All chemicals used on City property will have an SDS on file, and will be available to all staff, contractors, and the public upon request.
- Pesticides shall not be used to control plants with edible fruit during the fruiting season unless the plant being controlled is not of sufficient size to produce fruit. Fruiting plants such as blackberries should be first cut to the ground, allowed to re-sprout, and then chemically controlled before the plant can produce fruit. Plants controlled in this manner should never be allowed to produce fruit in the future.
- All sites where pesticides have been applied shall be posted, as required by the Washington State Department of Agriculture (WSDA). As required by the WSDA, all applications of pesticides will be recorded.
- Public Works will continue its aggressive training program for all staff that apply pesticides and will continue to emphasize learning new pest control techniques, as they are available.
- Public Works will continue to field test alternative controls to pesticide use and will implement successful control options as budget allows.
- To promote public understanding and support of the benefits of the IPM program, educational assistance and information will be provided to the public regarding the use of pesticides.
- The City shall comply with all Federal, State and Local regulations pertaining to the application, handling, storage, and disposal of pesticides.

Components of an IPM Program

IPM involves a structured decision-making process that embodies the philosophy and components of the IPM system. Through the following applications, as well as the proceeding guidelines, a well-managed IPM program can be implemented.

1. **Identification of pest populations:** Identify the nature, location, scale, and the intensity of the problem.
2. **Determine plant injury levels:** Define the tolerance levels for aesthetic and economic injuries. Prescribe the point at which actions must be taken to avoid exceeding the tolerance level.
3. **Design and implement the pest management treatment:** Research all possible options and design strategies. Non-target organisms must be considered at this time. Use of pesticides is limited to situations where other cultural and biological options are not likely to be successful within the context of available resources. The pesticide chosen shall be

the least toxic of those available and with the minimal of impact, as defined by that chemical's use.

4. **Evaluate results.** Conduct follow-up inspections to support evaluation:
   - Did the pest population decline to acceptable levels?
   - Was there a negative impact on non-target organisms?
   - Do the host plants appear to be able to thrive following a successful treatment?
5. **Adjust and extend program as indicated.** Decide whether further treatment will be necessary, either on a temporary or permanent basis. If the treatment is to be on a permanent basis, schedule to plan potential site modifications to eradicate the problem or prevent future recurrences.
6. **Create documentation of all research, monitoring, and application data.** A comprehensive system of forms for monitoring data and documenting treatment is a key component of a successful IPM program.
7. **Share pest management information with decision-makers and maintenance staff.** Professional staff must know the degree to which landscape pest management programs impact existing staff, maintenance budgets, and park assets. Only through such understanding and ongoing communication can the best long-term strategies be developed for managing pest populations.

IPM Alternatives Selection Hierarchy

The following selection rationales are used as a guide in determining whether pesticides shall be used in place of other control methods:

- Proper planning and management decisions begin the IPM process.
- Cultural methods of vegetation and pest control are preferred and will be employed first.
- If unsuccessful, mechanical means of vegetation and pest control will be employed next where feasible, and then,
- Biological means of vegetation and pest control will be employed next where they are practical and feasible.
- Pesticides will only be used when no other feasible method exists that will control the pest within the realities of the location, site conditions, budget, and other relevant considerations. At the same time, it is recognized that pesticide use is a legitimate element of an IPM program.

III. Best Management Practices

Storage and Use Guidelines

Every employee has a personal responsibility to themselves, other staff, and the public to follow safe work practices when storing or using pesticides.

1. **Management Practices**
   - Always read the label of the chemical that you will be using.
   - Store and handle all chemicals or fertilizers in a manner that minimizes worker exposure and potential for contamination of surface and ground water.

- Always have the correct Safety Data Sheet (SDS) on hand for all chemicals or fertilizers at your site (required by law).
- Always check the SDS for the type of protection needed and the recommended re-entry time before the chemical is applied.
- When possible, purchase the smallest amount of any pesticide needed and avoid stockpiling of chemicals.
- Store fertilizer in a separate weatherproof area.
- All spray equipment shall be maintained in proper working order and stored in an OSHA-approved site.
- All protective gear (masks, filters, rain gear) will be stored separately from any possible contamination.
- Store and mix all chemicals in a WSDA-approved storage and mixing area. Label storage area with an NFPA-coded sign to protect Fire Department or Hazmat personnel in case of emergency.
- Any pesticides in inventory that are no longer needed for use will be disposed of through hazardous materials disposal practices.

2. Pesticide Application Equipment

Pesticide application for all listed areas will be carried out by hand with directed, low-volume, single-wand sprayers, wiping, daubing and painting equipment, injection systems, or drop spreaders. Typically, applications are done with backpack sprayers, but may also include sprayers with larger fill tanks providing the same kind of hand application method is used. These methods of delivery result in low-volume applications at low nozzle pressures. This practice minimizes the formation of fine mists that can result in pesticide drift. These practices also help ensure that the pesticide applied will reach only its intended target. In large open turf areas, boom type sprayers may also be employed. Boom sprayers are efficient and expedient, used to destroy weeds species after they have exceeded the acceptable threshold level.

3. Personal Protective Equipment (PPE)

The table on the following page shows the personal protective equipment required by local, state, and federal regulations for pesticide use.

4. Chemical Application near Watercourses & Aquatic Habitats

Generally, the use of chemical products within 50 feet of a watercourse shall be prohibited in favor of an alternative control method. If a pesticide or herbicide must be applied within the 50 foot buffer, only products registered for use near water bodies shall be used, and great care will be taken to ensure that the product does not migrate into the watercourse either through drift or by overland flow. Weather conditions must be monitored carefully to avoid applying a chemical near a watercourse immediately before heavy rains. Soil conditions and site topography must also be carefully studied to determine the appropriate timing of a chemical application **and/or whether a chemical should even be applied at the site.**

Personal Protective Equipment (PPE) Guide for Using Pesticides			
Pesticide Formulation	LABEL SIGNAL WORD		
	Caution	Warning	Danger
Dry	• long-legged pants • long-sleeved shirt • shoes & socks	• long-legged pants • long-sleeved shirt • shoes & socks • wide-brimmed hat • gloves	• long-legged pants • long-sleeved shirt • shoes & socks • hat • gloves • cartridge or canister respirator if dusts in air or if label precautionary statement says "Poisonous or fatal if inhaled"
Liquid	• long-legged pants • long-sleeved shirt • shoes & socks • wide-brimmed hat • gloves	• long-legged pants • long-sleeved shirt • shoes & socks • wide-brimmed hat • rubber gloves • goggles if required label precautionary statement • cartridge or canister respirator if label precautionary statement says "Do not breathe vapors or spray mist" or "Poisonous if inhaled"	• long-legged pants • long-sleeved shirt • rubber boots • rubber gloves • goggles or face shield if required label precautionary statement • cartridge or canister respirator if label precautionary statement says "Do not breathe vapors or spray mist" or "Poisonous if inhaled"
Liquid when mixing	• long-legged pants • long-sleeved shirt • shoes & socks • wide-brimmed hat • gloves • rubber apron	• long-legged pants • long-sleeved shirt • shoes & socks • wide-brimmed hat • rubber gloves • goggles or face shield • rubber apron • Respirator if label precautionary statement says: "Do not breathe vapors or spray mist" or "Poisonous (or fatal or harmful) if inhaled"	• long-legged pants • long-sleeved shirt • rubber boots • wide-brimmed hat • rubber gloves • rubber apron • canister respirator
Liquid (prolonged exposure to spray)	• long-legged pants • long-sleeved shirt • boots • rubber gloves • waterproof wide brimmed hat	• water-repellent long-legged pants & long-sleeved shirt • rubber boots • rubber gloves • rubber apron • waterproof wide brimmed hat • face shield • cartridge or canister respirator	• waterproof suit • rubber boots • rubber gloves • rubber apron • waterproof hood or wide brimmed hat • face shield • canister respirator

IV. IPM Best Management Practices

Public Works maintains a wide variety of landscape types, each with unique pest control issues and control measures. For these reasons, the pest control measures specific to each landscape are dealt with separately in this section. If chemical applications are required, only chemicals approved for a specific location will be used in that location.

Control of Pests Commonly Found in Kenmore

- **Blackberries –** An aggressive, invasive plant, blackberry will overtake a disturbed site at an alarming rate. Himalayan blackberry is a Class C noxious weed that is not selected for required control in King County. Control is recommended but not required because it is so widespread in King County. Without a consistent intensive maintenance program, mechanical control is not very effective by itself. But combined with chemical control measures and replanting of the site, effective control can be maintained. Chemical applications shall be kept to the area of infestation. Treatment efforts should include re-vegetating the site with desirable plant species.
- **Scotch Broom –** An unruly plant, it thrives on disturbed sites. It is difficult to control, and spreads rapidly. The seeds and flowers are toxic, making it a high priority for eradication. Mechanical control can have some effect, but it must be done at the proper time of year. Chemical control can also be effective but requires follow up management techniques until full eradication occurs. Chemical applications shall be kept to the area of infestation.
- **English Ivy –** A very aggressive, invasive, introduced plant, Ivy is difficult to control or eradicate. Mechanical control is somewhat effective, but very time consuming. A combination of mechanical and chemical control is more effective, and spread can be kept to a minimum, with continuous control measures. Chemical applications shall be kept to the area of infestation.
- **Knotweed** - Invasive knotweeds, mostly non-regulated Class B noxious weeds, are perennials found throughout King County, especially on roadways and riverbanks. Knotweed is widely spread and not required for control except for a few specific locations within King County. Stem injection in combination with mechanical removal is the most effective control method. The City does not actively treat knotweeds.
- **Tansy Ragwort –** A regulated Class B noxious weed, required for control in King County. Tansy ragwort is a **toxic** biennial found throughout King County, especially on open, sunny sites such as in pastures and on roadsides. Tansy Ragwort is acutely toxic to people and animals. Public Works uses both mechanical and chemical means to control infestations on City owned land.
- **Poison Hemlock -** A Class B noxious weed, it is a widespread **toxic** biennial plant often found in open sunny areas, fields, vacant lots, and on roadsides. Poison-hemlock is acutely toxic to people and animals. Although not required for control in King County, Public Works does use both mechanical and chemical means to control infestations on City owned land.
- **Orange Hawkweed -** Thrives in disturbed areas such as roadsides, gravel pits and pastures. It can also invade meadows and forested areas and is well-adapted to life at

higher elevations. Usually found in sunny areas, it is somewhat shade tolerant. A regulated Class B noxious weed, required for control in King County.

- **Purple Loosestrife -** Purple loosestrife is typically found invading lakeshores, wetlands, ponds, and wet pastures and ditches. Purple loosestrife is a Class B noxious weed and control is required in King County.
- **Garden Loosestrife -** Garden loosestrife displaces native vegetation along streambanks, wetlands and shorelines and reduces habitat needed by waterfowl and fish, including several important salmon species. Garden loosestrife is a Class B noxious weed and control is required in King County.
- **Rats/Mice –** Rats/Mice are only somewhat of a pest problem in City owned parks and facilities. Kenmore can be a favorable location due to the abundance of water sources and proximity to Lake Washington. The City does have some natural predators of rats and mice which can help reduce infestations. Not only do rats/mice pose a human health risk they can also cause damage to electrical wires and other building materials. Rats/Mice can also contaminate insulation and other areas with their urine and feces, they will be controlled in certain situations. The common method of control is baiting with an approved rat bait/trap. Extreme caution must be taken to place bait in locations where people or domestic animals cannot access it.
- **Yellow Jackets, Hornets, and Wasps –** These insects often require control in parks. Control is typically through use of an approved insecticide. Only individual nests are treated and **only if the nest poses an imminent risk to humans using park facilities**.
- **Vector-borne Disease –** Complete control of mosquito-borne diseases, such as the West Nile Virus are near impossible, but cultural control can have some effect, such as removing any standing-stagnant water from any sites. Larvicides may also be used to control mosquito infestations if it's determined that public health concerns warrant their use.

IPM for Plant Beds

Plant beds are defined as non-turf planted areas that include woody plant material such as shrubs and trees and ground covers. The category also includes floral color displays containing herbaceous plants such as perennials, annuals, and bulbs. The most serious pest management issue in plant beds is weed control. If not controlled, weeds not only make a plant bed look unkempt but, more importantly, can out-compete desirable landscape plants resulting in a loss of assets.

Pest Tolerance Thresholds

- In general, weeds are not tolerated in landscaped beds in City parks and streetscapes.
- Insect pests are tolerated unless they pose a threat to humans or certain plant collections (e.g., the rhododendron collection at Rhododendron Park).
- Diseased plants are not tolerated and are usually removed.
- Insect and disease infestations are often an indication and result of unfavorable conditions that should be assessed before control method is determined.

Pest Management Strategies

Weed Control

- Weeds are controlled by hand pulling, or by mechanical methods in larger plant beds.
- Plant beds will be mulched after planting to suppress new weed growth.
- Use of cardboard under a heavy layer of mulch can help suppress weed growth for a longer period.
- Herbicides can be sprayed, if necessary.

Insect Control

- Certain insects can be controlled by mechanical removal.
- Herbicides can be sprayed if necessary.

Disease Control

- Diseased plants shall be hand pulled from the landscape and discarded appropriately.
- In some situations, a diseased section of a plant can be pruned and removed successfully.
- Disease resistant plants shall be planted in all city landscapes whenever possible.
- Chemical control (e.g., a fungicide) may be needed to prevent the spread of disease to nearby healthy plants.

IPM for Trees

Trees are an integral part of most landscapes, whether formal or natural, and are considered an asset. They provide shade, clean the air of pollutants, modify both micro and macro climates, and provide visual relief to the urban environment. Because trees are often very large and tall, accessing and managing insects and disease can be quite difficult and costly.

Pest Tolerance Thresholds

- In general, insect and disease pests in trees are tolerated.
- Insect or disease pests in selected, high-value specimen trees may be subject to control measures.

Pest Management Strategies

Physical Damage to Trees

Physical damage to trees can be a major factor in the overall loss of trees. This damage most often occurs at the hands of people or by mother nature. Trees can be repeatedly struck by mowers or string trimmers during routine landscape maintenance. Street trees are often damaged as the result of car accidents or vandals. Ultimately, the damage to the tree's bark can lead to tree loss. Trees can also be lost with lack of appropriate care during construction projects. And mother nature can also cause physical damage or loss of trees during heavy wind and/or rain events or even extreme temperatures.

- Removing turf from around the tree base to create tree mulch rings 3 to 4 feet in diameter can substantially reduce damage caused by mowers and trimmers. With tree

mulch rings, a mower or trimmer never has to come close enough to the tree to cause damage. The tree mulch ring will need to be kept free of grass and weeds.
- All pruning for tree health reasons and for hazard reduction will be done in conformance with the International Society of Arboriculture standards.

Insect Control

Public Works does not actively control insect pests in trees. This is particularly true of large trees where the control of the pest might require the use of large aerial spray equipment, which carries with it a high probability of the insecticide applied leaving the area due to wind drift. For example, Public Works does not spray aphids despite the "honeydew" problem associated with them. When insect pests are controlled in trees, the following measures are used:

- Trees that are highly susceptible to specific insect pests (such as blue spruce and spruce aphids) may be removed from the landscape and replaced with a resistant species.
- When possible, the portion of the tree affected by the insect (such as tent caterpillars) can be physically removed, eliminating the pest.
- An insecticide may be applied to control a specific insect pest in very selected situations. These situations include pests on specimen quality trees at special gardens or in high visibility locations where the presence of the pest threatens the life of the tree. In these situations, general foliar applications will not be made unless the potential for product drift can be controlled.
- Injection technology may allow for systemic control of certain insect pests with minimal or no impact to human or environmental health. Public Works will continue to explore this technology as a potential control in the future for insect pests that may threaten the health of valuable park trees.

Disease Control

Most diseases are tolerated in trees, unless they lead to a tree becoming a hazard to the surrounding environment. As with insecticides, it is unlikely that Public Works will subscribe to general foliar applications of fungicides or similar pesticide products to control disease pests in trees. The following are control measures that can be performed:

- Trees that are susceptible to particular disease pathogens may be removed from the landscape and replaced with resistant varieties.
- When possible, parts of trees affected by disease should be pruned out and properly disposed to stop the spread of disease within the tree and to adjacent trees.
- An appropriate fungicide may be applied to control a specific disease pathogen in very selected situations. These cases include specimen quality trees in special gardens or in high-visibility park locations where the presence of the disease threatens the life of the tree. In these situations, general foliar applications will not be made unless the potential for product drift can be controlled.
- Injection technology may allow for systemic control of certain disease in trees pests with minimal or no impact to human or environmental health.

IPM for Turf

Public works maintains variety of turf types. These include park lawn areas (both formal and informal), meadow areas, athletic fields and other turf types. Each of these turf types has different pest management challenges, and practices may vary accordingly.

Pest Tolerance Thresholds

- Some level of weed, insect, and disease pests are tolerated in general park lawn areas.
- Pests in highly maintained turf such as athletic fields or other high- visibility/high-use areas are generally controlled through good turf maintenance practices.

Pest Management Strategies

Broadleaf Weeds

Weeds in turf are tolerated to some level. When control is necessary, the primary method is through the following cultural practices:

- careful monitoring of watering practices
- fertilization
- aeration
- top-dressing
- over-seeding

By performing these cultural practices, turf is made healthier and better able to compete with various broadleaf weeds. Chemical weed control will be used only as a last resort for controlling particularly difficult weeds in high-visibility turf areas.

- In these limited situations the least toxic, least residual pesticide will be used for spot treatments.
- General broadcast treatments will generally be avoided.
- Timing of such applications will be made to avoid contact with the public to the extent possible.
- Posting of the site that has been treated will meet or exceed legal requirements.

Insect Control

The only real insect pest currently of significance for turf in the Kenmore is the European Crane Fly. While it can be quite damaging to turf areas, the crane fly is not controlled by prolific means.

- Chemical control is used only in the very limited circumstances to turf of very high visibility and value such as selected high-visibility/high-use turf areas.
- Any chemical applications will be spot treatments directed specifically at the turf areas containing the pest.
- The preferred initial choice for application in high-use areas is the “safest” or least toxic product available.

Disease Control

Disease in general park turf is typically tolerated and not actively controlled.

- In high-use/high-visibility park turf areas, disease will be controlled to a considerable degree by performing sound cultural practices.
- Pesticides may be used as a last resort to control disease in park turf areas.

IPM for Natural and Sensitive Areas

Natural areas are City-owned property with critical environmental resources. These sensitive habitats shelter native ecosystems and wildlife habitat. For the purposes of this IPM manual, these resource assets are divided into three major groups:

- Wetlands, riparian corridors, shorelines, and aquatic habitats
- Forests
- Meadows

Pest Tolerance Thresholds
For all natural and sensitive areas:

- Invasive plants are generally not tolerated. Invasive plants will be controlled in conjunction with natural resource enhancement efforts in these environments as resources permit and where control can be practically achieved.
- Only insect pests that pose a risk to the public (such as hornets) or to the resource will be controlled.
- Plant diseases will generally be tolerated unless: a specific control can be employed that will be effective in ensuring the health of particularly valuable assets; or if they pose a threat to other plant populations outside of the natural area; or if they pose an unacceptable risk to the public.
- Herbicide Use: The use of herbicides in any natural environment must be carefully considered. Herbicides will be used for weed control in natural areas only when other control measures have been tried and failed, and only if control can be achieved through the use of a herbicide, and is imperative to the health of the site. For wetland or water environments, only approved wetland herbicides will be used.

When needed, herbicide use practices are as follows:

- Cut and stem treatment (daubing or painting) is the preferred choice for natural area management.
- Certain invasive plants are difficult to treat and control in their mature form. If possible, remove existing growth manually or mechanically. Wait for new growth to become established. Then treat with the appropriate and approved herbicide.

Pest Management Strategies
Weed Control
An overriding principle of IPM is the maintenance of healthy plant communities. That means weed control of the following types:

- **Timed mowing.** Carefully timed mowing before seed set can effectively reduce weed seed sources.

- **Mulching.** Mulching around the base of plantings is widely accepted as a horticultural practice for soil fertility and weed control. In most instances, composted wood chips or onsite recycle leaf litter are adequate materials. Avoid wood chips from diseased trees. Mulch should be between 3 to 4 inches deep for best results.
- **Weed watch during mulching.** Care must be given to not incorporate new weed problems when importing mulch materials.

Woody Brush Control

The control of woody brush, like blackberry, is very important in certain park locations. Often these plants are found in transition areas between developed park areas and natural areas. If not controlled, woody brush can easily overtake forest-edge environments, eliminating vital habitat opportunities. Control measures for woody brush include the following:

- Manual or mechanical removal using hand tools or gas-powered equipment. Special tools are now available for removing woody brush. In many areas, this can provide effective control.
- Chemical control can be employed when other measures are not mechanically or economically feasible. Spot applications are preferred, whenever possible, to large area applications.

Insect Control

Only insects like the European and Asian Gypsy moth and the Asian Long Horned Beetle that can be potentially devastating to the urban forest will be controlled. Staff will cooperate with state and federal agencies in their monitoring and control programs to prevent the introduction of these pests.

Disease Control: Root Rots

Even native forests can have serious disease problems. Root rots are the most serious problem, leading often to the death of significant trees. Several strategies help control root rot in forests:

- inoculate with mycorrhizae
- remove infected wood
- plant resistant varieties
- do not change site conditions on mature trees

Stump Re-Sprouting Control

Often there is a need to remove small trees and prevent re-sprouting of a stump. Methods for controlling the re-sprouting of stumps include the following:

- If the location of the stump(s) will allow access by equipment, then they can be mechanically removed providing the location is not within an environmentally critical area.
- Small stumps may be removed manually providing they are not on steep slopes or in other environmentally critical areas.
- The re-sprouting of stumps can also be controlled by painting newly cut stump surfaces with an herbicide. Care will be taken to limit the application of the selected herbicide to the stump surface only.

Nuisance Wildlife Control

Mountain beavers, moles, coyotes, beavers, opossums, raccoons, waterfowl, and other species can be destructive to natural areas when their activities are excessive. Overall, the City does not encourage the interference with wildlife, and prefers to leave them to their natural behaviors. If control of wildlife is deemed necessary, Public Works will work with the most appropriate agency to formulate a control solution.

Noxious Weed and Invasive Plant Control

Noxious weeds are a danger to our environment and the economy. These introduced species cost our region millions of dollars in lost agricultural production, environmental degradation and added maintenance costs. Once invasive plants spread to natural areas, they harm native plants and wildlife and can be impossible to eradicate. Noxious weed and invasive plant control shall follow the guidelines established by *King County Noxious Weed Boards*. Except in the case of Class A weeds, the goal is suppression of weed populations to below threshold (damage causing) levels. Eradication of certain ecological weeds (blackberry or ivy) in all the City's natural areas is neither feasible nor cost-effective. However, controlling spread of the problem and eradicating it in certain priority locations is the goal.

Control methods include:

- Use **extent of removal** and **type of habitat** to determine the pest control method.
- Large areas that are totally infested can be mowed. Areas that are interspersed with invasive pests require more selective procedures such as manual removal.
- Heavy equipment or manual removal can be used on firm soils. On either steep or saturated soil, use techniques that will minimize site or slope disturbance.
- Where mechanical or manual removal is neither possible nor practical, but control is essential, careful, and selective use of an approved herbicide is permitted.
- Re-establishing a new native planting regime as quickly as possible following the removal of invasive plants is critical to successful forest restoration. These new plantings will require care for several years to guarantee establishment.
- Preserve established native plants when possible rather than reestablishing new plants after the clearing of invasives.
- Public education and outreach concerning plant identification and management techniques will also aid the City in controlling noxious weeds.

V. Training

Because IPM is an ecologically sophisticated process that requires professional expertise in vegetation and pest management, it demands trained field personnel that are knowledgeable about:

- Ecological interactions and relationships among vegetation and pests;

- Potential tools and materials that can be used to effectively manage vegetation and pests by manipulating environmental conditions; and
- Correct timing for implementing specific management practices relative to vegetation and pest biology.

Educational opportunities in IPM will enhance crew professionalism, their knowledge of current vegetation and pest management practices, and their stewardship of managed landscapes.

Resources

Washington State Department of Agriculture
https://agr.wa.gov/

Washington State Noxious Weed Board
https://www.nwcb.wa.gov/

King County Noxious Weeds
https://kingcounty.gov/services/environment/animals-and-plants/noxious-weeds.aspx

WSU Urban IPM and Pesticide Safety Education
https://pep.wsu.edu/

State of Washington Department of Ecology
https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Aquatic-pesticide-permits

APPENDIX C – INTEGRATED AQUATIC VEGETATION MAINTENANCE PLAN

The ‘Selected Action and Strategy’ section from the IAVMP is included in this appendix, which describes City’s maintenance of aquatic vegetation in public access areas of Lake Washington and Sammamish River.

The full Integrated Aquatic Vegetation Management Plan (IAVMP) can be found on the City’s website.

SELECTED ACTION STRATEGY AND IMPLEMENTATION

ACTION STRATEGY

The City of Kenmore has added the following aquatic plant management strategies for this update to be implemented in 2021:

- Use non-chemical methods of control where feasible and not cost-prohibitive.
- Reduce the amount of herbicide application by focusing treatment on smaller, high use areas where aquatic plants grow close to the water surface and significantly impact motorboating by entanglement in boat propellers.
- Adaptively manage aquatic plants by adjusting herbicide application areas based on pre-treatment surveys of plant density and, if necessary, adjusting chemical formulations based on the changes in plant species composition.

IMPLEMENTATION

Permitting

Managing aquatic plants requires permit(s) from the City as well as other state agencies, such as the Department of Ecology (Ecology) or Department of Fish and Wildlife (WDFW). This section provides context and guidance on the permitting processes required to conduct aquatic weed management strategies discussed in this document. The overarching purpose for aquatic plant removal permits is to protect riparian and littoral zones.

Several sections of the Washington Administrative Code (WAC) address requirements for removal of aquatic weeds. The State Environmental Policy Act (SEPA) requires a review process that identifies and analyzes environmental impacts. The Shoreline Management Act of 1971 (Chapter 90.58 RCW-Revised Code of Washington) provides guidelines for permitted uses, with protection of the environment the primary consideration (RCW 90.58.020). In addition, Kenmore Municipal Code (KMC) Chapter 16 focuses on protection of the environment while also allowing for reasonable use of public or private property.

The City of Kenmore Development Services Department (DSD) is responsible for oversight of proposed development and permitting throughout the City of Kenmore. DSD will look specifically at the criteria listed in the WAC, SEPA, Shoreline Management Act, and

For questions about permits contact DSD by email at permittech@kenmorewa.gov or by phone at 425-398-8900.

KMC to determine what potential impacts to critical areas must be avoided and what restoration or rehabilitation to critical areas will be required.

The current Kenmore City Council has stated a preference for non-herbicide management of aquatic invasive and nuisance plants as the most ecologically sound option for most projects. In response, the City has established a streamlined process for acquiring the necessary aquatic weed removal permit(s) for non-herbicide removal/management performed as described in the City of Kenmore 2017 IAVMP. An Ecology permit or WDFW Hydraulic Project Approval (HPA) may also be required, as outlined in the following sections on herbicide treatment and non-herbicide management.

Most of the strategies discussed in the IAVMP involve hiring an experienced, licensed contractor. Whether the contractor is applying herbicides or conducting non-herbicide strategies, they will typically manage the permit process for their clients. Because outside agencies are involved, it's wise to allow a minimum of 45 days after hiring a contractor for permit approval and acquisition.

Permitting requirements are summarized in Table 3 and described separately for each type of management.

Table 3. Aquatic Plant Management Permit Requirements.

Method	SEPA Review or Exemption by City of Kenmore Required?	Shoreline Permit Exemption Letter from City of Kenmore Required?	Aquatic Plant and Algae Management Permit from Ecology Required?	Hydraulic Project Approval (HPA) Permit from WDFW Required?	Who Applies for Permit/ Who Approves Permit?	Time Required for Permit Approval
Herbicide Treatment	No	No	Yes	No	Applicator/ Ecology	Not applicable
Hand Pulling	Yes	Yes	No	Yes	Contractor/ City & WDFW	45 days
Suction Dredging	Yes	Yes	No	Yes	Contractor/ City & WDFW	45 days
Bottom Barrier	Yes	Yes	No	Yes	Contractor/ City & WDFW	45 days
Mechanical Harvesting	Yes	Yes	No	Yes	Contractor/ City & WDFW	45 days

Ecology = Washington Department of Ecology; WDFW = Washington Department of Fish and Wildlife

Non-Herbicide Management of Noxious Weeds

The first step in obtaining permits for non-herbicide management of noxious weeds is completion of an IAVMP Shoreline Substantial Development Permit Exemption (IAVMP SSDX) checklist (Form 209.1) for review by the City of Kenmore DSD. The checklist outlines what information is required and references important sections of Code. The checklist must clearly identify what types of plants are targeted for removal. If the targeted plants are noxious weeds

and there is minor and incidental removal of beneficial plants, that is allowable under a shoreline exemption. However, the removal of beneficial plants must truly be incidental and minor in nature for the project to qualify for an exemption. If the intent is to remove both noxious weeds and beneficial plants, or if both are targeted, an exemption does not apply and a more thorough review is required (see Non-Herbicide Management of Beneficial Plants below).

The IAVMP SSDX application can be completed online at <www.mybuildingpermit.com>. Specific requirements and costs for each project will be determined upon completion of the application. Once reviewed by the City of Kenmore DSD, a Shoreline Exemption Approval letter will be issued (if applicable). A copy of the exemption letter will be required by WDFW. WDFW will review the project, and is available for consultation during the review process, to determine whether an Individual Hydraulic Project Approval (HPA) Permit is required, or if the work will be covered by the Aquatic Plants and Fish Pamphlet (WDFW 2015).

Manual plant control in or along the shores of the Sammamish River *may* be covered by the Pamphlet HPA, providing all conditions in the Pamphlet HPA will be met including adherence to the narrow project timing window of August 1 through 31 for the Sammamish River (see Table 2 in WDFW 2015). The Pamphlet HPA must be on the project site and produced upon request by WDFW. However, completing the SEPA Checklist and applying for an Individual HPA may provide greater flexibility in carrying out the project. For instance, an Individual HPA request is reviewed by WDFW biologists and work outside the fish timing window specified in the Pamphlet HPA may be allowed on a case-by-case basis.

Aquatic weed removal in Lake Washington has different requirements than the Sammamish River. All manual control methods implemented by a contractor in or along the shores of Lake Washington require an Individual HPA Permit from the WDFW. Unless the project is small and limited to hand pulling on private property by the property owner, a permit application is completed by the Contractor through the online Aquatic Protection Permitting System (WDFW 2020b) and the application is reviewed and either approved (through issuance of an HPA permit) or denied within 45 days. Small hand pulling projects by property owners are covered under the Pamphlet HPA (WDFW 2015). Manual control methods in both Lake Washington and the Sammamish River have timing tables restricting manual control to between August 1 and 31 (see Table 2 in WDFW 2015), but extension of this narrow timing window may be allowed by WDFW depending on the control method and area.

Steps for non-herbicide management of noxious weeds include:

1. Complete City of Kenmore 209.1 IAVMP SSDX checklist and review with Development Service's Permit Coordinator.

2. Shoreline Exemption Approval letter issued by the City if the project qualifies for an exemption.

3. Hire contractor and provide City's SSDX Exemption letter to contractor for submission to WDFW (Contractor applies for appropriate permit).

4. After WDFW review, work is performed in compliance with IAVMP and WDFW Individual HPA or Pamphlet HPA.

Non-Herbicide Management of Beneficial Plants

Removal of plants not identified on the State's noxious weed list may be more complicated to provide general guidance on because 1) there isn't a general permit outlining specific requirements such as with herbicide treatment, 2) regulations may be interpreted differently on a case-by-case basis, and 3) different regulatory agencies may use different terminology and have different and sometimes conflicting goals for plant management. As a result, the process of removing or controlling beneficial aquatic plants (also referred to as "native," "non-invasive," "nuisance," etc.) requires a more substantial review, including the following:

- Shoreline Substantial Development Permit (SSDP)
- Shoreline Conditional Use Permit (SCUP)
- State Environmental Policy Act (SEPA)

Applicants should complete Checklist #208 and #210 and the SEPA Environmental Checklist through <www.mybuildingpermit.com>, and expect approximately at least 6 months for the review process to be completed.

Herbicide Treatment

Herbicide treatment of invasive aquatic weeds on the State's Noxious Weeds list does not fall under the Shoreline Management Act and a Shoreline Permit. Exemption is not required, nor is a SEPA review required, provided that the guidance within the IAVMP is followed. The 2016 IAVMP incorrectly stated that a Shoreline Permit was required for herbicide treatment. Instead, herbicide treatment is regulated by the Washington State Department of Ecology's Aquatic Plant and Algae Management General Permit or APAM (Ecology 2019). This permit establishes requirements, including notification, timing, application, and reporting for shoreline and in-water herbicide treatment of noxious weeds, native nuisance plants, and algae. The herbicide applicator obtains the appropriate General Permit from the Department of Ecology.

The steps for herbicide treatment permitting include:

1. Hire licensed herbicide applicator. The applicator must be licensed in Washington State with an aquatic endorsement. An applicator's license can be confirmed on the Washington State Department of Agriculture's website under the "Pesticide and SPI License Lists" section.

2. Licensed applicator applies for permit from Department of Ecology.

3. Treatment of aquatic weeds under the terms of the permit (notification, timing, reporting requirements are outlined in the permit).

City Projects

As described above, the City implemented the 2017 IAVMP in 2018 and 2019 by herbicide treatment of invasive nonnative submersed plants, nuisance native submersed plants, and fragrant waterlily in the following four of the eight priority areas: Log Boom Park, Rhododendron Park, Squires Landing Park, and the public boating area from the boat launch to the mouth of the Sammamish River. The City also treated these same plants in the Inglewood Wetlands in Lake Washington, which was designated as a conservation area by 2017 IAVMP and not targeted for treatment, however, the area was treated because of the high prevalence of invasive plants. The City did not implement any of the physical control methods of harvesting, bottom barriers, or hand pulling.

For future implementations by the City of Kenmore, the City will continue to regularly evaluate the management of aquatic weeds and the effectiveness of plant management strategies employed to date. The City will continue to hire contractors for herbicide treatments and manual control in public areas. The City will provide education and training to encourage residents to combine efforts in residential and commercial areas to manually remove aquatic plants or contract for herbicide treatment of noxious weeds.

The City plans to focus future aquatic plant management efforts in the areas surrounding public parks and navigation channels for recreational and commercial uses. The City will focus most management efforts in areas around Log Boom Park and Squire's Landing Park because of the high public use and dense vegetation commonly present in these areas. The proposed management strategies for these and other public use areas are outlined below in order from east to west (Figure 1), based on existing plant communities, feasible management methods, and results of recent herbicide treatments. Management strategies should be adjusted each year as needed based on current plant survey information and past performance.

Squire's Landing Park

The aquatic plant community at Squire's Landing Park is dominated by Eurasian watermilfoil that forms a dense surface canopy impacting active boating in the adjacent river. The planned aquatic plant management area is shown in Figure 5.

The control alternative recommended for this area is diver suction dredging. If this manual method is ineffective or not possible due to shallow depths, then herbicide treatment using ProcellaCOR™ may be used to control Eurasian watermilfoil in this area. Treatment with milfoil weevil is not viable due to a lack of availability of the weevil.

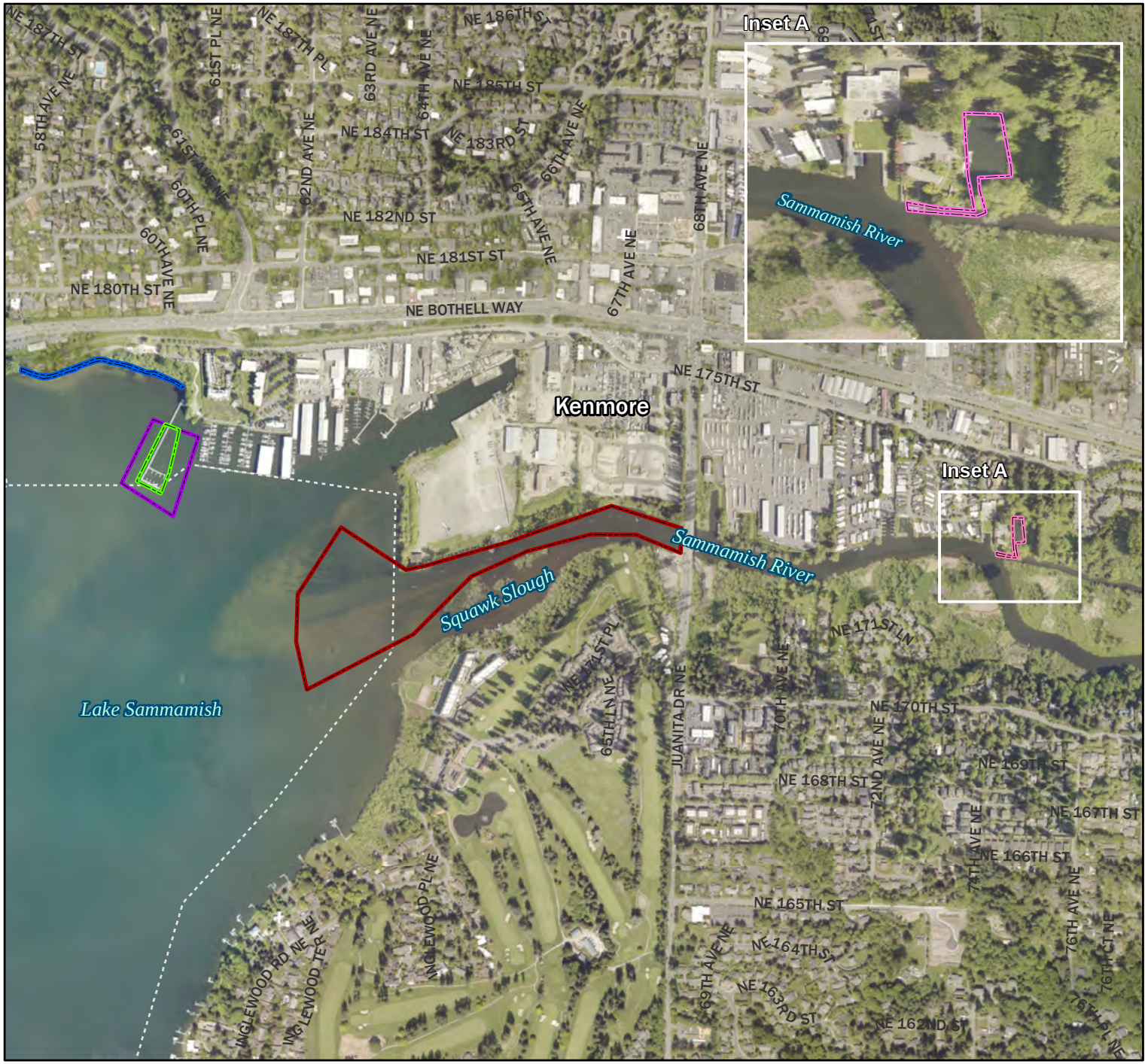


Figure 5. City of Kenmore Aquatic Plant Management Areas Planned for 2021 and 2022.

Legend

- City boundary
- Channel Survey Area

City Management Areas

- Beach Raking Area
- Log Boom Park Pier - Inner
- Log Boom Park Pier - Outer
- Squire's Landing Management Area

HERRERA

0 475 950 Feet

King County 2019

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ProcellaCOR™ is recommended as the backup management method for this area due to its low aquatic toxicity, high effectiveness on Eurasian watermilfoil, rapid uptake by milfoil in flowing waters, and high species-selectivity preventing harm to native vegetation. ProcellaCOR™ does not require repeated applications, so one spring application per year in the chemical treatment area is anticipated to be sufficient for spot treatment of Eurasian watermilfoil.

After the population of Eurasian watermilfoil is controlled in the control area, the area will be monitored to determine whether follow up algae control is necessary. If excess algae growth develops (e.g., surface scum covering over 50 percent of the treatment area), short-term algae control may be achieved by applying a state-approved algicide. If algae control is needed beyond 2021, then long-term algae control techniques using non-chemical methods should be evaluated (e.g., mixing, shading, or nutrient inactivation).

Middle Sammamish River

This area of Sammamish River connects Squire's Landing Park with Lower Sammamish River (as shown in Figure 1) and provides the public access to and from these public areas. Treatment is not targeted for this area in 2021 and 2022 because the aquatic plant community, which is dominated by Eurasian watermilfoil, is dense along the river banks but not in the central portion of the river, providing unobstructed boat access to Lake Washington from Squire's Landing.

Lower Sammamish River (Including Rhododendron Park and WDFW Boat Launch)

Aquatic plant management in the Sammamish River at Rhododendron Park and the public boat launch is not targeted for treatment in 2021 and 2022 because the aquatic plant community, which is dominated by Eurasian watermilfoil, is dense along the river banks but not in the central portion of the river, providing unobstructed boat access to Lake Washington from the WDFW boat launch. As noted below for the East Open Water area, the area beyond the river mouth and included in the Channel Survey Area in Figure 5 also should be surveyed each year to assess the potential need for treatment within all or some of this area because the noxious weed curly leaf pondweed dominated this area in 2020.

Inglewood Wetlands

The recommendation remains the same as it was presented in the 2017 IAVMP and the Inglewood Wetlands, identified as a conservation area, will not be targeted for treatment unless the fragrant water lilies further encroach upon the navigation channel and obstruct boat access from the river to the lake.

East Open Water

Moderate to dense growth of both native and invasive aquatic plant species are typically present in the East Open Water Area of Lake Washington (Figure 1). Management is not targeted for this area in 2021 and 2022 due to the large size of these areas and associated high management cost.

Portions East Open Water Area adjacent to the mouth of the Sammamish River as depicted as the Channel Survey Area in Figure 5 should be surveyed each year to assess the potential need for control within all or some of this area. Very shallow water and dense curly leaf pondweed were observed to partially obstruct boat navigation through this area in 2020. If boat navigation in this area is severely obstructed in the future, then the City should consider directing boats away from obstructed portions of the area using navigation buoys or suction dredging obstructed portions of the area as appropriate. As described below for the Monitoring and Evaluation Plan, it is recommended that sonar equipment be used to measure plant biovolume and delineate areas where plants grow within 1 foot of the water surface and impact motorboat navigation. Depending on the plant communities observed during each survey, appropriate control methods should be used to target those specific plant communities to maintain recreational access. Mechanical harvesting or suction dredging are recommended as the primary treatments for this area. If necessary, herbicides may be used in the event manual methods are insufficient to control vegetation which interferes with access to this area.

West Open Water

Moderate to dense growth of both native and invasive aquatic plant species are typically present in the West Open Water Area of Lake Washington (Figure 1). Management is not targeted for this area in 2021 and 2022 due to the large size of the area and associated high management cost. If boat navigation in this area is severely obstructed in the future, then the City should consider providing boating access lanes through the West Open Water Area from the dock in Log Boom Park to the deep portion of the lake.

Log Boom Park

The strategy for Log Boom Park in 2021 is to focus management of aquatic plants in the vicinity of the dock where motorboating is most impacted and to improve access by hand-carried boats launched from shore on the east side of the dock.

Aquatic plant growth in the shallow waters near shore will be managed as necessary to maintain recreational access to the area. The aquatic plant community surrounding the public dock at Log Boom Park is dominated by the native plants coontail, white-stemmed pondweed, and ribbon-leaf pondweed, and include an abundance of the nonnative plant tapegrass. Noxious weed abundance was low in 2020 in the immediate vicinity of the dock, but an abundance of Eurasian watermilfoil has been observed and treated in this area in previous years.

Large amounts of aquatic plant fragments accumulate on the lake shore in Log Boom Park. The source of these fragments extends very far from shore and aquatic plant management in the vicinity of the shore would not significantly affect fragment accumulation on shore. Management of fragment accumulation on shore is best performed by raking and disposal (in compost) of the plant fragments to reduce aesthetic and recreational impacts of large accumulations on shore. Regular shoreline cleanup of aquatic vegetation and detritus is recommended to maintain safe access to the lake in Log Boom Park.

Costs, advantages, and disadvantages of manual management methods were for Log Boom Park are compared in Table 4 for the inner and outer pier areas shown in Figure 5.

It should be noted that major portions of Log Boom Park and Squire's Landing Park will be closed for approximately two years from Summer 2021 through Summer 2023 to construct major park improvements approved by voters in 2016 through the City's Walkways and Waterways bond measure. It's unknown at this time how this construction will impact in-water treatment undertaken by the City. More information on these projects can be found by visiting the City's Walkways and Waterways web page at <https://www.kenmorewa.gov/our-city/current-projects/walkways-and-waterways>.

Diver suction dredging is recommended for non-chemical, manual control of aquatic plants in Log Boom Park because it is the most cost-effective manual method. Divers selectively adjust the suction dredge to deter regrowth of invasive plants by removing all roots and other plant parts, while removing only the upper portions of native plants to reduce boating impacts without removing their roots to allow regrowth and reduce establishment of invasive plants in their place. Hand pulling and bottom barriers are much more expensive than diver suction dredging. Burlap bottom barriers cover all plants and allow faster colonization by invasive plants on the barrier. Mechanical harvesting is slightly less expensive than diver suction dredging but is less effective because it does not remove invasive plant roots and leaves lower portions of invasive plants to outgrow the native plants.

Suction dredging should be initiated in early summer before plant growth reaches the water surface. It is anticipated that suction dredging will provide adequate control of plant growth for two years because invasive plant roots will be removed. Suction dredging intensity and rate should vary depending on the plant species and observed density. Suction dredging requires an individual HPA permit and use of proper equipment to control fragment escapement and turbidity impacts.

Mechanical harvesting is also a viable option for controlling vegetation in this area. Mechanical harvesting has the advantage of leaving native plant roots intact while also reducing the amount of vegetation growth to the surface. Mechanical harvesting should be initiated on two occasions in both early and late summer to control regrowth all summer.

Herbicide application would be less expensive and may be used as a contingency to mechanical methods if greater coverage is needed or adequate funding is not available. Diquat may be used to control both the native and invasive vegetation around the dock as an alternative to bottom

barriers. Diquat application would be a lower level of effort and cost for the City to control vegetation in this area. The actual treatment area may vary based on the pre-treatment survey results. Diquat can only be applied within the approved fish window for Lake Washington that extends from July 16 through July 31 for protection of sockeye salmon spawning (WDFW 2016). It is anticipated that only one treatment in the last two weeks of July would be needed each year.

Commercial and Residential Projects

No commercial management efforts were reported since the 2017 IAVMP at the North Lake Marina. Kenmore Air reported annual treatments that were successful; however, ongoing navigation issues were caused by plant drift resulting from inconsistent treatment in adjacent areas. The US Army Corps of Engineers will be conducting maintenance dredging of the Kenmore Federal Navigation Channel in the winter of 2020 to 2021 (Figure 5). This maintenance dredging is intended to enable continued access to the Kenmore Industrial Park but will also disturb the Eurasian watermilfoil and coontail in this area, inhibiting plant growth. Commercial treatment is determined by individual businesses independently from the City.

The only residential project using herbicides was for Arrowhead Point where Triclopyr was used for Eurasian watermilfoil control and Diquat was used for Brazilian Egeria and nuisance native submersed plant control. Treatment undertaken in residential areas is determined by individual sponsors (homeowners associations, etc.) independently from the City. Residents have also used a weed razor to control aquatic plant growth near docks.

The City recommended in the 2017 IAVMP that waterfront residents consider the formation of a Plant Management Association. This type of volunteer organization, formed by, run by, and for the benefit of, waterfront residents could provide an opportunity for residents to pool their resources and/or work in tandem with one another to employ approved management strategies such as jointly contracting with an herbicide-application company or harvester, manual removal of plants, installation of bottom barriers, and other management strategies outlined in this plan. A residential community organization has not been formed and is not planned for the near future.

Communication

Successful implementation of this plan revolves around a collective sharing of information. The City will endeavor to keep the public informed through the City's IAVMP web page by using this portal to convey current and future plant management strategies for public areas.

The City will make reporting requirements clear in Requests for Proposals from contractors and consistent between years to create a usable record of past treatments for comparison and analysis. The requirements for monitoring and evaluation are further detailed in the Monitoring and Evaluation Plan section of this update. The treatment plans and reports, along with other useful links and information, will be made available on the City's IAVMP webpage at: <http://www.kenmorewa.gov/IAVMP>.

APPENDIX D – REGIONAL ROAD MAINTENANCE ESA GUIDELINES

To keep the size of this document more manageable, a copy of the Regional Road Maintenance Endangered Species Act Program (RRMP) Parts 1 & 2 (355 pages) are provided as a separate PDF on the City's website at https://www.kenmorewa.gov/government/departments/public-works/environmental-services/npdes.

The Regional Road Maintenance Endangered Species Act Program (RRMP) website can be found online at https://wsdot.wa.gov/construction-planning/protecting-environment/regional-roadside-maintenance.

APPENDIX E – SWPPP TEMPORARY YARD

CITY OF KENMORE

STORMWATER POLLUTION PREVENTION PLAN

TEMPORARY MAINTENANCE YARD

Permit # WAR 04-5519

City of Kenmore, WA

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Contents

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INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) for the City's Temporary Maintenance Yard and was developed to document compliance with the National Pollutant Discharge Elimination System (NPDES) Western Washington Phase II Municipal Stormwater Permit (Permit) Section S5.C.7.f. The Permit was issued July 1, 2019 by the Washington State Department of Ecology (Ecology) and became effective August 1, 2019 and expires on July 31, 2024. The Permit complies with the provisions of the State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of Washington (RCW) and the Federal Water Pollution Control Act (The Clean Water Act or CWA) Title 33 United States Code, Section 1251 et seq. The Permit is available on Ecology's website at: https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Western-Washington-Phase-II-Municipal-Stormwater.

A SWPPP is required for heavy equipment maintenance or storage yards and material storage facilities owned or operated by the City. Heavy equipment maintenance or storage yards are defined as an uncovered area where any heavy equipment (e.g., mowing equipment, excavators, dump trucks, backhoes, bulldozers) are washed or maintained, or where at least five pieces of heavy equipment are stored on a long term basis. Material storage facilities are defined as an uncovered area where bulk materials (e.g., liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means. The City's Temporary Maintenance Yard requires a SWPPP under this definition.

SWPPP ORGANIZATION

The objectives of this SWPPP, as defined by the Permit, will be organized into the following sections within the SWPPP:

Facility Best Management Practices
A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed (S5.C.7.f.i).

Annual Facility Inspections
Conduct annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine if additional or different BMPs are needed (S5.C.7.f.ii).

Facility Inventory
Provide an inventory of the materials and equipment stored on-site, and the activities conducted at the facility which may be exposed to precipitation or runoff and could result in stormwater pollution (S5.C.7.iii).

Facility Site Map
Provide a site map showing the facility's stormwater drainage, discharge points, and areas of potential pollutant exposure (S5.C.7.f.iv).

FACILITY BEST MANAGEMENT PRACTICES

The City implements the 2021 King County Stormwater Pollution Prevention Manual (SPPM). The SPPM provides best management practices (BMPs) for commercial, multi-family and residential properties.

The following table identifies SPPM BMPs applicable to this SWPPP. Full BMP documentation is provided in Appendix A.

BMP Table

BMP	Description	Additional
BMP A-1	Required BMPs for all Properties with Commercial Activities	Install and maintain CB inlet protection inserts
BMP A-2	Storage of Liquid Materials in Stationary Tanks	
BMP A-3	Storage of Liquid Materials in Portable Containers	
BMP A-4	Storage of Soil, Sand, and Other Erodible Materials	
BMP A-5	Storage of Dry Pesticides & Fertilizers	
BMP A-8	Storage of Solid Wastes	Portable toilet is monitored for maintenance and operation per manufacturer's recommendations
BMP A-11	Cleaning and Washing of Tools and Equipment	
BMP A-13	Vehicle Washing and Steam Cleaning	
BMP A-16	Unloading of Liquid Materials	
BMP A-26	Landscaping Activities and Vegetation Management	
BMP A-31	Parking Lots, Driveways and Outside Storage Areas	
BMP A-40	Street Deicing Operations	

FACILITY INSPECTIONS

The Permit requires, at a minimum, annual inspections of the Yard, including visual observations of discharges, to evaluate the effectiveness of BMPs, identify maintenance needs, and determine if additional or different BMPs are needed.

Inspection results shall be documented and recorded using forms provided in Appendix B and C of the SWPPP. Hardcopies of inspection results shall be kept with the Yard copy of the SWPPP and additional copies provided to Environmental Services.

Wet and Dry Weather Visual Inspections

Each of the four catch basins located in the Yard shall be inspected twice a year, once during dry weather and once during a storm runoff event. Appendix B contains the inspection forms.

An Environmental Services staff person will conduct the dry weather inspection during normally scheduled annual citywide catch basin inspections. Any qualified Public Works staff person may conduct the wet weather inspection.

Note that a visual inspection shall occur following any significant spill to confirm that no spilled material has contaminated the City's drainage system.

The staff person conducting the inspection should look for the indicators described below:

- **Floatables**: Floatables indicate if obvious trash or other controllable debris, such as landscaping material, leaf litter, etc… has entered into the storm drain.
- **Foam**: Foam indicates that potentially soap or other cleaning products have entered in to the storm system.
- **Sheen**: Sheen, which also looks like a rainbow hue on the water surface, is commonly indicative of petroleum products, often present from parking lot runoff.
- **Staining**: Staining on surface areas around catch basins may indicate that an illicit material was present at some point.
- **Turbidity**: Turbidity, which makes the water appear cloudy, is usually an indication of dirt or sediment in the water.
- **Odor**: Certain contaminants in stormwater can give off specific odors, which should be described as accurately as possible. Odors can include those similar to eggs, solvent, fuel/oil, cleaning agent, etc… When noting odors, the inspector should make sure that the odor is not related to sources other than beyond the runoff being inspected.
- **Discoloration**: A red/orange color can indicate rust from iron pipes or iron bacteria. Other colors such as white could indicate paint or cleaning agent emulsions.
- **Flow**: Flow during dry weather may indicate an illicit discharge or possibly groundwater.

Annual BMP Evaluation

Once each year, BMPs shall be evaluated at the Yard to determine if additional BMPs are needed or if current BMPs should be modified. The evaluation shall be conducted using the Annual BMP Evaluation Form in Appendix C.

The staff person conducting the BMP evaluation should be looking for indicators such as:

- Catch basin inserts are clean and operable
- Liquid materials have appropriate secondary containment
- Fueling areas are clean
- Erodible materials are stored appropriately with no track out
- Solid waste containers are in good condition and covered
- Portable toilets are in good condition and maintained
- No surface indicators of spills and leaks

SWPPP Revisions

The SWPPP should be revisited once per year and revised if needed to reflect any updates to Permit requirements, codes, annual inspection results or identified BMP modifications.

FACILITY INVENTORY

Vehicles

The Yard provides parking for the City's Public Works Operations and Maintenance vehicles, which include:

Vehicle ID	Model Year	Make	Model	Description	Pollutant Potential*
301	1999	Ford	F-250	Truck	Low
303	2001	Dodge	2500	Truck	Low
304	2002	GMC	Sonoma	Truck	Low
305	2002	GMC	Sonoma	Truck	Low
307	2004	Ford	F-150	Truck	Low
312	2010	Ford	F-550	Truck (Diesel)	Low
319	2015	Ford	F-150	Truck	Low
328	2019	Chevy	Silverado	Truck	Low
329	2019	Ford	F-350	Truck (Diesel)	Low
330	2019	Ford	F-350	Truck (Diesel)	Low
332	2019	Chevy	Silverado	Truck	Low
334	2019	Ford	F-750	Truck (Diesel)	Low

** When exposed to precipitation and appropriate BMPs are in place. Vehicle maintenance, washing and fueling activities are not conducted at the Yard.*

Large Equipment

The Yard provides parking and storage space for the following equipment:

Equipment ID	Model Year	Make	Model	Description	Pollutant Potential*
300	N/A	N/A	N/A	Fuel Tank	
313	N/A	N/A	N/A	De-icer Attachment	Low
316	2012	International	Maxxforce	Street Sweeper	Low
318	2014	Mirage	Xcel	Cargo Trailer	Low
323	N/A	N/A	N/A	Water Trailer	Low
325	N/A	NUD Plow	N/A	Snow Plow	Low
326	N/A	NUD Plow	N/A	Snow Plow	Low
331	2018	Maxe	Dump Trailer	Dump Trailer	Low
333	2019	Caterpillar	Backhoe	Backhoe	Low

** When exposed to precipitation and appropriate BMPs are in place. Mechanical maintenance and fueling of larger equipment is not conducted at the Yard.*

Materials/Tools/Small Equipment

The Yard provides permanent storage for limited quantities of materials, tools and smaller equipment. Materials are often staged for storage only during project schedules, as needed, to reduce space needs. Materials, tools and small equipment present in the Yard include:

Material	Storage Location	Storage Frequency	Quantity	Pollutant Potential*
Lumber	Open Storage	Temporary	N/A	Low
Precast Catch Basin Components	Open Storage	Temporary	2-3	Low
Stormwater Pipe Components	Open Storage	Temporary	10-12	Low
Traffic Control Devices	Open Storage	Permanent	N/A	Low
Hand Tools	Open and Enclosed Storage	Permanent	N/A	Low
Power Tools	Enclosed Storage	Permanent	N/A	Low
Backhoe Accessories	Open Storage	Permanent	N/A	Low
Dumpster	Open Storage	Permanent	1	Medium
Portable Toilet	Open Storage	Permanent	1	Medium
Petroleum Products	Enclosed Storage	Permanent	35 Gal	High
Sand	Open Storage	Temporary	5-10 Yards	High
Gravel	Open Storage	Temporary	5-10 Yards	High
Salt	Open Storage	Temporary	5-10 Yards	High
Fertilizer - Liquid	Enclosed Storage	Temporary	120 Gal	High
De-Icer - Liquid	Enclosed Storage	Permanent	4,000 Gal	High

** When exposed to precipitation and appropriate BMPs are in place*

Activities With Pollutant Potential If Exposed to Precipitation

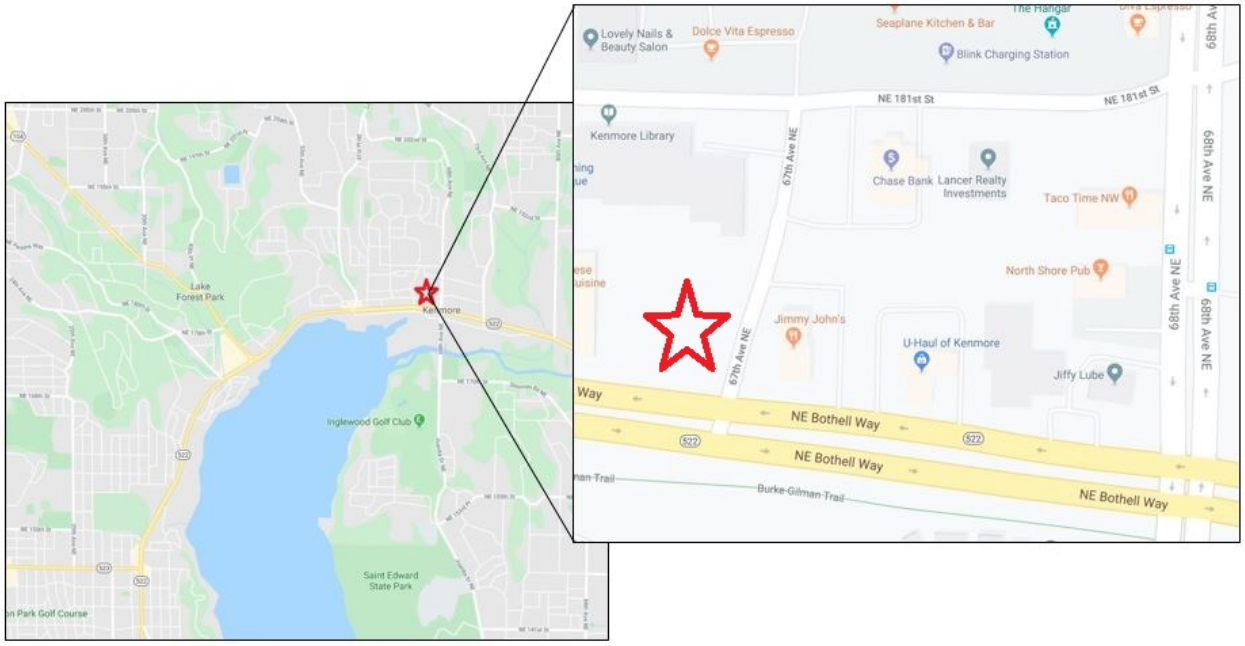
Activity	Description	BMP
Parking Vehicles and Equipment		Refer to BMP A-31 Parking Lots, Driveways and Outside Storage Areas
Maintain Drainage System	All properties with commercial activities are required to maintain the local drainage system, identify and label drains and prohibits illicit connections.	Refer to BMP A-1 Required BMPs for all Properties with Commercial Activities Install and maintain CB inlet protection inserts
Petroleum Storage	Storage of up to 35 gallons of petroleum (primarily fuel for power tools)	Refer to BMP A-3 Storage of Liquid Materials in Portable Containers
Fueling (Tools)	Refueling of power tools	Refer to BMP A-16 Unloading of Liquid Materials

Activity	Description	BMP
Sand/Gravel/Salt Storage	Storage of materials at the yard - typically 5-10 yards of any given material	Refer to BMP A-4 Storage of Soil, Sand, and Other Erodible Materials
Deicer Storage	4,000 gallons of de-icer is stored in stationary containment.	Refer to BMP A-2 Storage of Liquid Materials in Stationary Tanks
Deicer Applications (Liquid)	The City stores 4,000 gallons of de-icer at the Yard and refills applicator equipment as needed	Refer to BMP A-40 Street Deicing Operations
Fertilizer, Pesticide & Herbicide Storage (Dry)	Storage of dry fertilizer for use primarily in spring/summer	Refer to BMP A-5 Storage of Dry Pesticides & Fertilizers
Fertilizer, Pesticide & Herbicide Storage (Liquid)	Storage of up to 15 gallons of liquids.	Refer to BMP A-3 Storage of Liquid Materials in Portable Containers
Fertilizer & Pesticide Mixing/Transfer (Liquid)	The City mixes liquid fertilizer and pesticides and refills applicator equipment as needed.	Refer to BMP A-16 Unloading of Liquid Materials
Application of Fertilizers & Pesticides	The City may apply fertilizers and pesticides to Yard landscaping as needed.	Refer to BMP A-26 Landscaping Activities and Vegetation Management
Vehicle/Equipment Maintenance	The City contracts for offsite vehicle/equipment maintenance and it is not conducted at the Yard. Fueling and washing is also conducted offsite.	Not conducted onsite
Dumpster Usage	One commercial sized dumpster is stored at the Yard	Refer to BMP A-8 Storage of Solid Wastes
Portable Toilet Usage	One portable toilet is utilized at the yard	Refer to BMP A-8 Storage of Solid Wastes and portable toilet is monitored and replaced as needed
Cleaning & Washing of Tools and Equipment	Tools and equipment are cleaned and washed onsite only if discharge can be contained and managed.	Refer to BMP A-11 Cleaning and Washing of Tools and Equipment
Cleaning & Washing of Vehicles	Vehicles (and mobile equipment) are cleaned and washed offsite to the maximum extent practicable.	Refer to BMP A-13 Vehicle Washing and Steam Cleaning

FACILITY SITE MAP

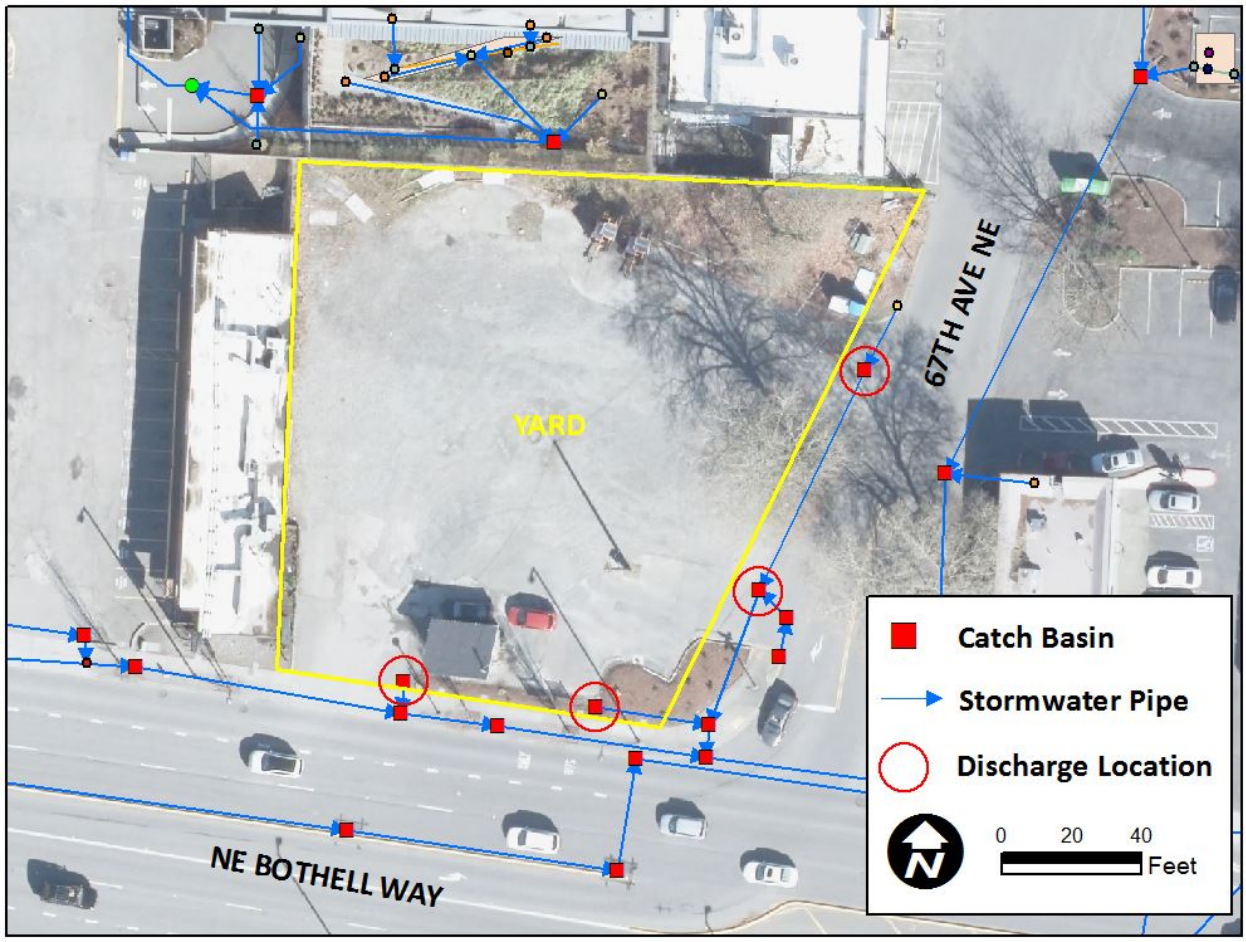
The Public Works Operations and Maintenance Yard (Yard) is located at 6532 NE Bothell Way in Kenmore, WA. The Yard consists of two parcels (794630-0196 and 794630-0195) totaling 0.51 acres in area. The Yard is generally flat with slight slopes to the south/southeast. The City began utilizing this vacant lot as a Yard in January 2019 as a temporary location for use by Public Works while the City searches for a permanent site to be established in the future.

General Site Map



The Yard is located at the corner of NE Bothell Way and 67TH AVE NE in Kenmore, WA at the north end of Lake Washington. The area surrounding the Yard is primarily comprised of commercial and industrial uses. Access to and from the Yard is through one entrance on 67TH AVE NE via a secured gate, which is closed and locked during non-business hours.

Site Drainage Map (2018 Aerial View)



The Yard is located on a relatively flat corner lot with a slight slope to the south/southeast. Runoff from the site is collected at four catch basins, which convey stormwater east along NE Bothell Way and then south to Sammamish River (approximately 1,500 feet). The site is primarily covered with compacted gravel with some asphalt on the south side of the lot. Landscaping is located around much of the perimeter.

Due to the small area of the site and location of catch basins along the lower perimeter of the Yard, any mobile pollutants pose a risk for potential pollutant exposure in the City's MS4 if left unmanaged, particularly in the two southeast catch basins.

Site Layout

Access to the site is restricted through one gated entrance on 67TH AVE NE. The half-acre site is extremely small and space is limited to primarily parking vehicles and equipment, and storage of limited quantities of materials. The site does not support construction or fabrication activities, fleet maintenance or storage of large quantities of materials as would be typical at larger public works yards. Activities not supported by this site are primarily contracted out.

The view below (angled down and looking east) shows the general layout of the Yard in summer 2019. This temporary Yard was still under development and an additional storage shed has subsequently been added at the northwest corner (lower left of photo) and a 4,000 gallon deicer storage container has been added at the southwest corner (lower right of photo).

A multiuse commercial property and King County Library are adjacent to the Yard on the west and north sides, respectively (bottom and left of photo). Landscaping along the south and east sides (right and top of photo) generally contain runoff on the property where it is collected at four catch basins.

FACILITY SPILL PREVENTION AND RESPONSE PLAN

This section describes the Spill Prevention and Response Plan. Spill prevention is primarily achieved through the implementation of previously described BMPs. When spills do occur, the main objective of the response is to contain and remove the spill to minimize detrimental impacts to the environment and life safety.

In response to a spill, City staff should take the following steps:

1) Known Substance Contained Within Yard:
    a. The employee has determined that they are prepared and trained to respond, and
    b. The employee has determined that responding does not jeopardize safety, and
    c. Appropriate spill response materials are available, then
    d. The employee may conduct spill containment and cleanup, and
    e. Report to supervisor and Environmental Services Division staff person.
2) Known Substance Not Contained Within Yard:
    a. Contact supervisor and available staff person with Environmental Services Division, and
    b. Mobilize vactor response, if appropriate, and
    c. Mobilize sweeper response, if appropriate, and
    d. The employee has determined that they are prepared and trained to respond, and
    e. The employee has determined that responding does not jeopardize safety, and
    f. Appropriate spill response materials are available, then
    g. The employee may conduct spill containment and cleanup.
3) Known or Perceived as a Hazardous Substance (i.e. flammable, corrosive, explosive or dangerous in nature):
    a. Leave the immediate area of the spill, and
    b. Prevent others from approaching the spill, and
    c. Call emergency services at 911, and
    d. Contact supervisor and available staff person with Environmental Services Division.

Drainage System and Spill Flow Map

In the event of a spill, the topography of the Yard will convey material south/southeast and potentially enter the City's drainage system at four known locations or track onto 67TH Ave NE and/or NE Bothell Way before eventually discharging to Sammamish River. The following map shows the most likely impacted drainage infrastructure during a spill event.


YARD
NE BOTHELL WAY
NE 175TH ST
68TH AVE NE
Sammamish River
Catch Basin Spill Route
Stormwater Pipe
Sammamish River Outfall
0
87.5
175
Feet

Spill Response Kits and Materials

Spill response kits are located in all Public Works vehicles and in the Yard storage container.

Staff shall be trained to utilize the correct product types (i.e. particulates, pads, socks or booms) with the appropriate sorbent for the pollutant (i.e. universal or petroleum).

Appendix A – BMP Documentation

A-1: Required BMPs for All Properties with Commercial Activities

The following best management practices (BMPs) are required for all commercial, industrial, agricultural, public, and residential properties with commercial activities in unincorporated King County.

In addition to implementing required BMPs listed herein, property owners must maintain drainage facilities to meet King County Standards, as required by King County Code 9.04.120.

BMPs are required by King County Water Quality Code 9.12. If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

Clean and Maintain Stormwater Drainage System

- Evaluate the condition of the catch basin by checking the amount of sediment in the bottom of the catch basin (sump). Catch basins must be cleaned out when the solids, trash and debris in the sump reaches one–half of the depth between the bottom of the sump and the bottom of the lowest inflow or outflow pipe connected to the catch basin or is at least 6 inches below this point.
- Clean and maintain catch basins annually. Sites with activities generating sediments and other debris will have to inspect and clean out their catch basins more often. Frequent sweeping of paved parking and storage areas will save time and money in maintaining the stormwater drainage system.
- Hire a professional drainage contractor to inspect and maintain your stormwater drainage system or clean the system yourself. If there is sediment or other debris in the drainage pipes, then a professional contractor must be hired to flush or jet out the pipes. Confined space entry should only be conducted by individuals trained to do so. For information on confined spaces refer to www.osha.gov/confined-spaces
- Soak up small amounts of floating oil with absorbent pads. The pads and nonhazardous sediments can be bagged up and disposed of as solid waste. Up to one cubic yard of nonhazardous solid material may be disposed of as solid waste in your regular garbage. For additional information please call King County Solid Waste Division at 206-477-4466. If you exceed this threshold hire a professional drainage contractor. For information on how to use absorbent pads please watch Seattle Public Utility's video *How to Use Your Spill Kit* (https://www.youtube.com/watch?v=NeH98Rx7dOE).
- All of the solids and stagnant water collected from catch basin sumps must be disposed of properly. None of the sump contents can be flushed into the catch basin outflow pipe. Contractors who perform catch basin clean-out services are required to follow appropriate disposal requirements.

- Other components of the stormwater drainage system (e.g., ponds, tanks, and bioswales) must also be maintained. If this maintenance is beyond your ability, contractors are available to complete this work.

Label All Storm Drain Inlets on Your Property

- Stencil or apply catch basin/storm drain markers adjacent to storm drains to help prevent the improper disposal of pollutants. If the catch basin grate is stamped with warnings against polluting, then additional marking may not be required if there is no evidence of pollutants being dumped or washed into the storm drain.
- When painting stencils or installing markers, temporarily block the storm drain inlet so that no pollutants are discharged from labelling activities.
- Maintain the legibility of markers and signs.
- Contact King County Stormwater Services at 206-477-4811 for a free stencil or catch basin marker.

Eliminate Illicit Connections to the Storm Drainage System

- Connections to the stormwater drainage system that convey substances other than stormwater are prohibited.
- Illicit connections must be removed immediately, permanently plugged or re–plumbed.
- If the connection is re-plumbed, the line must discharge to the proper receiver, such as the sanitary sewer, a septic system, an on–site treatment system, or a holding tank for off–site disposal. There are restrictions on what can be disposed of to the sanitary sewer and septic systems. Contact your sewer authority or Public Health – Seattle and King County.
- Unknown connections may require additional investigation to determine where all stormwater and non–stormwater discharges go. This may include smoke, dye or chemical testing, or closed-circuit television inspection. Contact King County Stormwater Services at 206-477-4811 for further assistance.

Maintain Drainage Facilities

- Drainage facilities must meet the standards and requirements set forth in King County's Surface Water Design Manual for continual performance, operation, and maintenance.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Catch Basin Inserts
    - Disposal
    - Drainage Maintenance Contractors
    - Oil/Water Separator

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*Contact King County Stormwater Services at 206-477-4811 or visit **kingcounty.gov/stormwater** for stencils, catch basin markers, assistance with determining if you have an illicit connection or any further questions.*

A-2: Outdoor Storage of Liquid Materials in Stationary Tanks

The following best management practices (BMPs) apply to the outdoor storage of liquid materials in stationary containers and indoor storage where the potential exists to flow outside.

This does not apply to underground storage tanks or to businesses permitted by the Washington State Department of Ecology to treat, store or dispose of dangerous wastes. Storage of reactive, combustibles or flammable liquids must comply with the King County Fire Code (KCC 17).

Potential pollutants can include but are not limited to hydrocarbons, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, and other pollutants.

BMPs are required by King County Water Quality Code 9.12. If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Store and contain liquid materials so if the tank leaks, the contents will not get into the stormwater drainage system, surface waters or groundwater. This requires secondary containment or using a double–walled tank.
- Place small, gravity–fed farm fuel tanks without secondary containment on flat and open ground so that a spill or leak will not run downhill toward creeks, ditches, floor drains or drain tiles before it can be contained and cleaned up.
- Place tanks securely on stable ground.
- Label all containers with the product name and associated hazards (e.g., flammable, corrosive, toxic or reactive).
- Install a spill control device (e.g., an oil/water separator or down–turned elbow) in the catch basins that collect runoff from the tank storage area if the liquid is oil, gas, or other material that separates from and floats on water.
- Place drip pans or absorbent materials under taps and at all potential drip and spill locations during filling and unloading of tanks. Properly dispose of collected liquids and absorbent materials. Turn over empty drip pans when not in use of move under cover.
- Have spill cleanup materials/spill kit near the tanks and any liquid transfer areas.
- Post a spill plan and keep contact information current.
- Train all employees on spill response methods and procedures.

Required Routine Maintenance

- Sweep and clean paved storage areas as needed. Do not hose down the area to a storm drain.

- Check tanks and sumps/catch basins regularly for leaks and spills. Collect and dispose of all spilled liquids.
- Inspect spill control devices regularly and remove floating oil and debris.
- Collect and properly dispose of stormwater that collects in containment areas.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Containment
    - Disposal
    - Oil/Water Separator
    - Spill Response and Cleanup Plan

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-3: Storage of Liquid Materials in Portable Containers

The following best management practices (BMPs) apply to the outdoor storage of liquid materials in portable containers and indoor storage where the potential exists to flow outside.

Storage of reactive, combustibles or flammable liquids must comply with the King County Fire Code (KCC 17). The local fire district must be consulted for limitations on clearance of roof covers over containers used to store flammable materials.

Potential pollutants can include but are not limited to hydrocarbons, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, and other pollutants.

BMPs are required by King County Water Quality Code 9.12. If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Place tight–fitting lids on all containers.
- Enclose or cover the containers.
- Raise containers off the ground with a spill containment pallet or similar method to contain the material in the event of a spill or accident.
- Place drip pans or absorbent materials under all potential drip and spill locations during filling and unloading of containers. Properly dispose of collected liquids and used absorbent materials. Turn over empty drip pans when not in use or move under cover.
- Do not use metal drums for liquid chemicals that are corrosive.
- Label all containers with the product name and associated hazards (e.g., flammable, corrosive, toxic or reactive).
- Have spill cleanup materials/spill kit located nearby.
- Have a spill plan with current contact information.
- Train all employees on spill response methods and procedures.

Required Routine Maintenance

- Sweep and clean the container storage areas as needed. Do not hose down the area to the stormwater drainage system.
- Routinely check containers and replace any compromised ones. Check nearby catch basins to ensure nothing spilled into them. Dispose of all spilled liquids properly.
- Inspect spill control devices routinely and properly remove and dispose of accumulated oil and debris.

- Storage of reactive, combustible, or flammable liquids must comply with the King County Fire Code. The local fire district must be consulted for limitations on clearance of roof covers over containers used to store flammable materials.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Containment
    - Disposal
    - Spill Response and Cleanup Plan

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-4: Outdoor Storage of Soil, Sand, and Other Erodible Materials

The following best management practices (BMPs) apply to both permanent and temporary sites. Contact between outside bulk materials and stormwater can cause leaching and erosion of stored materials.

Potential pollutants can include but are not limited to fecal coliform bacteria, metals, nutrients, oxygen demanding substances, and sediment.

BMPs are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Cover and contain the stockpiled materials unless the material cannot wash into the stormwater drainage system or surface waters and cannot be blown away by the wind.
- Covers must be in place at all times when the stockpile is not in active use.
- Do not hose down the contained stockpile area to the stormwater drainage system.
- For stockpiles greater than 5 cubic yards of erodible or water-soluble materials—such as soil, road deicing salts, compost, unwashed sand and gravel, sawdust, and bark—and for outside storage areas for solid leachable materials—such as freshly treated lumber and metal products (excluding aluminum)—choose one or more of the following BMPs:
    - Store in a building or paved and bermed covered area;
    - Place temporary plastic sheeting (e.g., polyethylene, polypropylene, Hypalon, or equivalent) over the material;
    - Pave the area and install a drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey all the runoff to treatment. Slope the paved area in a manner that minimizes the contact between stormwater and leachable materials (e.g., compost, logs, bark, wood chips);
    - For large uncovered stockpiles, implement containment practices at the perimeter of the site and at any storm drains as needed to prevent erosion and discharge from the stockpiled material off-site or to a storm drain. Ensure that no direct discharge of contaminated stormwater to storm drains exists without conveying runoff through an appropriate treatment BMP. Catch basin inserts are not appropriate treatment for compost or road de-icing salts.

Required Routine Maintenance

- Sweep paved surfaces to collect solid materials. Do not hose down area to the stormwater drainage system.
- Check covers over the stockpiles to ensure they are still functioning properly.
- Inspect and maintain catch basin inserts.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Catch Basin Insert
    - Containment
    - Covering
- *King County Surface Water Design Manual*, Appendix D: Construction Stormwater Pollution Prevention Standards (Erosion Control Practices)

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-5: Storage and Use of Pesticides and Fertilizers

The following best management practices (BMPs) apply to the storage and use of pesticides and fertilizers. Pesticides include herbicides, rodenticides, insecticides, and fungicides. Washington pesticide law requires most businesses that commercially apply pesticides to the property of another to be licensed as a Commercial Applicator from the Washington State Department of Agriculture.

For irrigation, landscaping, and vegetation maintenance, please refer to activity sheet A-26: Landscaping Activities, Vegetation Maintenance, and Irrigation.

Potential pollutants can include but are not limited to fecal coliform bacteria, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, sediment, and other pollutants.

BMPs are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs: Storage

- Store pesticides and fertilizers in impervious containment areas that prevent water from coming into contact with the product.
- Containment areas must be secured to prevent unauthorized personnel from coming into contact with the materials.
- Containers and bags must be covered, intact, and off the ground. If a container or bag has been opened (including tears and punctures) or is showing signs of leakage, secondary containment is also required.
- Immediately clean up any spilled fertilizer or pesticides. Sweep paved storage areas as needed. Collect and dispose of spilled materials. Do not hose down the area.
- Keep pesticide and fertilizer contaminated waste materials in designated covered and contained areas.
- Dispose of contaminated pesticide and fertilizer waste materials properly.
- Store and maintain spill cleanup materials near the storage area.
- Do not discharge spills, leaks or stormwater containing pesticides or fertilizers to the stormwater drainage systems or to the sanitary sewer. Unused product, stormwater contaminated with pesticides and/or fertilizers, and spilled material must be collected and disposed of properly, according to the product label.

Required BMPs: Fertilizer Application

- Never apply fertilizers if it is raining or about to rain. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
- Determine the proper fertilizer application for the types of soil and vegetation involved.

- Follow manufacturers' recommendations and label directions.
- Train employees on the proper use and application of fertilizers.
- Keep fertilizer granules off of impervious surfaces. Clean up any spills immediately. Do not hose down any spilled pesticide or fertilizer to a storm drain, conveyance ditch, or surface waters.
- If possible, do not fertilize areas within 100 feet of water bodies including wetlands, ponds, and streams.
- Avoid fertilizer applications in stormwater drainage systems, including ditches ponds and swales.
- Unless approved by the local jurisdiction, do not apply fertilizer at commercial and industrial facilities, to grass swales, buffer areas or filter strips if the area drains to sensitive water bodies.
- Apply fertilizers in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters.

Supplemental BMPs: Fertilizer Application

- Apply the minimum amount of slow-release fertilizer necessary to achieve successful plant establishment.
- Do not fertilize when the soil is dry or during a drought.
- Test soils to determine the correct fertilizer application rates.
- Evaluation of soil nutrient levels through regular testing ensures the best possible efficiency and economy of fertilization.
- Fertilization needs vary by site depending on plant, soil, and climatic conditions.
- Choose organic fertilizers when possible.
- Use slow-release fertilizers such as methylene urea, isobutylidene, or resin coated fertilizers when appropriate, generally in the spring. Use of slow-release fertilizers is especially important in areas with sandy or gravelly soils.
- Time the fertilizer application to periods of maximum plant uptake. Washington State Department of Ecology generally recommends application in the fall and spring, although Washington State University turf specialists recommend four fertilizer applications per year.
- Do not use turf fertilizers containing phosphorous unless a soil sample analysis taken within the past 36 months that indicates the soil of the established lawn is deficient in phosphorus. For more information about restrictions on turf fertilizers containing phosphorus, visit the Washington State Department of Agriculture's website https://agr.wa.gov/departments/pesticides-and-fertilizers/fertilizers/fertilizers-containing-phosphorus

Required BMPs: Pesticide Application

- All procedures shall conform to the requirements of Chapter 17.21 RCW and Chapter 16-228 WAC.

- Train employees on proper application of pesticides and disposal practices.
- Follow manufacturers' application guidelines and label requirements.
- Avoid excessive application of chemicals. Do not apply pesticides in quantities that exceed the limits on the product's Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) label.
- Conduct spray applications during weather conditions as specified on the label requirements and applicable local and state regulations. Do not apply during rain or immediately before expected rain (unless the label directs such timing).
- Clean up any spilled pesticides immediately. Do not hose down to a storm drain, conveyance ditch, or surface water.
- Flag all sensitive areas including wells, creeks, and wetlands prior to spraying.
- Post notices and delineate the spray area prior to the application, as required by the local jurisdiction, or by the Washington State Department of Ecology.
- Mix pesticides and clean the application equipment under cover in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.
- Follow the FIFRA label requirements for disposal. If the FIFRA label does not have disposal requirements, the rinseate from equipment cleaning and/or triple-rinsing of pesticide containers should be used as product or recycled into product.
- Collect the equipment wash water (rinseate) and store it in a labelled leakproof container with a lid. Reuse the wash water when making another spray mixture of the same pesticide. Do not mix different pesticide wash waters. Do not dump the wash water down a storm drain, to a conveyance ditch, surface water or to the ground. Unused wash water will most likely be a regulated hazardous waste, requiring special disposal.
- The pesticide application equipment must be capable of immediate shutoff in the event of an emergency.

Supplemental BMPs: Pesticide Application

- Use manual pest control strategies, such as physically scraping moss from rooftops and using rodent traps.
- Remove weeds/vegetation in stormwater ditches, detention ponds and drainage swales by hand or other mechanical means.
- Use pesticides only as a last resort. Consider alternatives to the use of pesticides such as:
    - Covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.
    - Soil amendments, such as compost, that are known to control some common diseases in plants, such as Pythium root rot, ashy stem blight, and parasitic nematodes.
- Implement a pest-use plan which should include at a minimum:

    - A list of selected pesticides and their specific uses.
    - Brands and formulations of the pesticides.
    - Application methods and quantities to be used.
    - Equipment use and maintenance procedures.
    - Safety, storage, and disposal methods.
    - Monitoring, record keeping, and public notice procedures.
- Develop and implement an Integrated Pest Management (IPM) program if pests are present. The following steps are adapted from *Least Toxic Pest Management for Lawns*, written by Sheila Daar.
    - Step One: Correctly identify problem pests and understand their life cycle.
        - Learn more about the pest.
        - Observe it and pay attention to any damage that may be occurring.
        - Learn about the life cycle.
        - Many pests are only a problem during certain seasons, or can only be treated effectively in certain phases of the life cycle.
    - Step Two: Establish tolerance thresholds for pests.
        - Decide on the level of infestation that must be exceeded before treatment needs to be considered. Pest populations under this threshold should be monitored but don't need treatment.
    - Step Three: Monitor to detect and prevent pest problems.
        - Monitor regularly to anticipate and prevent major pest outbreaks.
        - Conduct a visual evaluation of the lawn or landscape's condition. Take a few minutes before mowing to walk around and look for problems.
        - Keep a notebook, record when and where a problem occurs, then monitor for it at about the same time in future years.
        - Specific monitoring techniques can be used in the appropriate season for some potential problem pests, such as European crane fly.
    - Step Four: Modify the maintenance program to promote healthy plants and dis-courage pests.
        - Review your landscape maintenance practices to see if they can be modified to prevent or reduce the problem.
        - A healthy landscape is resistant to most pest problems. Lawn aeration and over-seeding along with proper mowing height, fertilization, and irrigation will help the grass out-compete weeds.
        - Correcting drainage problems and letting soil dry out between waterings in the summer may reduce the number of crane-fly larvae that survive.
    - Step Five: If pests exceed the tolerance thresholds:

        - Consider the most effective management options concurrent with reducing impacts to the environment. This may mean chemical pesticides are the best option in some circumstances.
        - Consider the use of physical, mechanical, or biological controls.
        - Study to determine what products are available and choose a product that is the least toxic and has the least non-target impact.
    - Step Six: Evaluate and record the effectiveness of the control, and modify maintenance practices to support lawn or landscape recovery and prevent recurrence.
        - Keep records!
        - Note when, where, and what symptoms occurred, or when monitoring revealed a potential pest problem.
        - Note what controls were applied and when, and the effectiveness of the control.
        - Monitor next year for the same problems.
- Conduct any pest control activity at the life stage when the pest is most vulnerable. For example, if it is necessary to use a Bacillus thuringiens application to control tent caterpillars, apply it to the material before the caterpillars cocoon or it will be ineffective. Any method used should be site-specific and not used wholesale over a wide area.
- Choose pesticides categorized by the EPA as reduced risk, such as the herbicide imazamox, and choose the least toxic pesticide available that is capable of reducing the infestation to acceptable levels. The pesticide should readily degrade in the environment and/or have properties that strongly bind it to the soil.
- When possible, apply pesticides during the dry season so that the pesticide residue is degraded prior to the next rain event.
- If possible, do not spray pesticides within 100 feet of water bodies. Spraying pesticides within 100 feet of water bodies including any drainage ditch or channel that leads to open water may have additional regulatory requirements beyond just following the pesticide product label. Additional requirements may include:
    - Obtaining a discharge permit from the Washington State Department of Ecology.
    - Obtaining a permit from the local jurisdiction.
    - Using an aquatic labeled pesticide and adjuvant.
- Once a pesticide is applied, evaluate its effectiveness for possible improvement. Records should be kept showing the effectiveness of the pesticides applied.
- Develop an adaptive management plan and annual evaluation procedure including: (adapted from Daar's *Least Toxic Pest Management for Lawns*)
    - A review of the effectiveness of pesticide applications.

- Impact on buffers and sensitive areas, including potable wells. If individual or public potable wells are located in the proximity of commercial pesticide applications, contact the regional Ecology hydrogeologist to determine if additional pesticide application control measures are necessary.
- Public concerns.
- Recent toxicological information on pesticides used/proposed for use.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
  - A-2: Outdoor Storage of Liquid Materials in Stationary Tanks
  - A-3: Storage of Liquid Materials in Portable Containers
  - A-26: Landscaping Activities, Vegetation Management, and Irrigation
- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
  - Containment
  - Covering
  - Disposal
- For soils testing, contact the King Conservation District (425-282-1900 or district@kingcd.org, a soils testing professional, or a Washington State University Extension office, 206-205-3100.
- Comply with WAC 16-228 (General Pesticide Rules) and WAC 16-229 (Secondary and Operational Area Containment for Bulk Pesticides).
- For more information, refer to the Pesticide Information Center Online (PICOL) Databases at https://picol.cahnrs.wsu.edu/

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-8: Storage of Solid Waste and Food Wastes (Including Cooking Grease)

The following best management practices (BMPs) apply to garbage dumpsters, trash compactors and outdoor waste containers (e.g., cooking oil/grease receptacles).

Potential pollutants include but are not limited to fecal coliform bacteria, hydrocarbons, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, sediment, and other pollutants.

BMPs are required by King County Water Quality Code 9.12. If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Store wastes in leak-proof containers with solid lids (e.g., dumpsters and trash compactors). No rainwater should be able to enter the container and no fluids should be leaking out.
- Keep all waste receptacles (e.g., dumpsters, garbage cans, used cooking oil/grease containers) closed except when adding waste.
- Leaking outdoor waste containers must be repaired or replaced. Contact your waste hauler for replacements if the container is leased.
- Trash compactor wastewater must be discharged to the sanitary sewer, septic system or collected and hauled off-site for proper disposal. It must not be discharged to ground, stormwater drainage systems, surface waters or groundwater.
- Trash compactor drain lines should be connected to the sanitary sewer or septic system. If a connection is not possible, collect the wastewater in a dead-end sump or similar device. The wastewater containment must be easily inspected, maintained, and pumped out for proper disposal.
- Used cooking oil/grease containers should be labeled with their contents and have a secured lid.
- While oil/grease containers are not required to have secondary containment, they should be located and/or secured such that they can't be tipped over.
- Clean up any spills immediately using absorbent material or scraping it up. Grease cannot be left on the ground.
- Have spill cleanup materials nearby.
- Use a lid or cover when transporting cooking oil/grease containers from kitchens to outside grease containers to prevent contents from spilling.
- Ensure that drip pans or absorbent materials are used whenever grease containers are emptied by vacuum trucks or other means.

- Dispose of collected cooking oil/grease as garbage if it is not being recycled. Do not dispose of fats, oils, or grease (FOG) into the sanitary sewer, septic system, or stormwater drainage system.

Required Routine Maintenance

- Keep the area around the grease container clean and free of debris.
- Check storage containers frequently for leaks and to ensure that lids are secure.
- Regularly check for loose debris in the waste container storage area and sweep if the area is paved. After sweeping, the waste storage area may be hosed down—without the use of soaps, detergents, or other chemicals—if there are no accumulations of oil and grease present and the rinse water is not discharged to a stormwater drainage system or surface water. The rinse water can infiltrate to ground or be discharged to a sanitary sewer.
- Do not hose down or apply soaps, detergents, or other chemicals to waste storage areas with accumulated oil and grease. Oily wastewater can clog stormwater drainage systems and sanitary sewer lines. Contact a service provider to remove and properly dispose of oil and grease accumulations.
- If cleaning or rinsing waste containers, dispose of all wastewater into the sanitary sewer. If sanitary sewer is not available, then store the wastewater in a holding tank, dead-end sump, or truck it off-site to an approved disposal location.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
    - A-31: Parking Lots, Driveways and Outside Storage Areas
- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Disposal
    - Drainage Maintenance Contractors

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-11: Cleaning or Washing of Tools and Equipment

The following best management practices (BMPs) apply to the cleaning of tools and equipment such as lawn mowers, edgers and grass trimmers, tools used at equipment repair shops, and manufacturing equipment such as saws, grinders, and screens.

Potential pollutants include but are not limited to hydrocarbons, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, sediment, and other pollutants.

BMPs are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Discharge tool and equipment wash water to the sanitary sewer (with approval from the sewer authority) or a holding tank for offsite disposal. The discharge of wash water to the stormwater drain system is not allowed without treatment and an Individual Wastewater Discharge permit from the Washington State Department of Ecology.
- Rinse lawnmowers with water only on a lawn or similar area where grass clippings will not get into the stormwater drainage system or surface waters when it rains.
- Oily, soapy, or otherwise dirty water is not allowed to discharge to any stormwater drainage system or surface water.

Supplemental BMPs

- Recycle your wash water with an enclosed loop system or use self-contained parts washers. Numerous products are commercially available that recycle and contain wash water and cleaning solvents.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
    - A-13: Vehicle Washing and Steam Cleaning
    - A-18: Vehicle and Equipment Repair and Maintenance
- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Containment
    - Disposal
    - Oil/Water Separator
    - Water Quality Treatment BMP
- Washington State Department of Ecology's Vehicle and Equipment Washwater Discharges/Best Management Practices Manual https://fortress.wa.gov/ecy/publications/summarypages/95056.html

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-13: Vehicle Washing and Steam Cleaning

The following best management practices (BMPs) apply to all vehicle washing including mobile vehicle washing and detailing services, firefighting equipment, and fleet maintenance. For exterior vessel washing refer to activity sheet A-30: Marine Activities.

Potential pollutants can include but are not limited to hydrocarbons, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, sediment, and other pollutants.

BMPs are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Commercial and fleet car washing and detailing must be done in a contained area where all water is collected and either recycled or discharged to the sanitary sewer.
- Occasional vehicle washing (less than 5 vehicles, 1-2 times a month) with a mild (pH neutral) soap or detergent on gravel, grass, or loose soil is allowed as long as all the water soaks into the ground (with no possibility of the wash water getting into the stormwater drainage system) and you only wash the exterior (not the engine compartment or undercarriage) of the vehicle.
- The use of “environmentally friendly”, "nontoxic" or “biodegradable” soaps and detergents does NOT make it acceptable to discharge vehicle wash water to any stormwater drain system or surface waters. All soaps and detergents are harmful to aquatic organisms.
- If your business is located in an area designated as a critical aquifer recharge area (CARA), infiltration may not be allowed. For additional information on critical aquifer recharge areas in King County, refer to King County Code 21A.24.311-316.
- Do not wash or rinse vehicles on permeable pavement or pavers.
- Do not wash vehicles on impermeable (conventional) paved areas or wash or rinse the engine compartment or the underside of vehicles, unless you do one of the following:
    - Designate a wash area for all vehicles where the wash water is collected and discharged to the sanitary sewer or is processed through an enclosed recycling system;
    - Use a portable collection system that captures all the wash water for proper disposal; or
    - For the occasional washing of the exterior (not the engine compartment or undercarriage) of vehicles (less than 5 vehicles, 1-2 times a month), ensure that the paved area drains directly to grass, gravel or loose soil and there is no possibility of the wash water getting into the stormwater drainage system
- Do not conduct oil changes or other engine maintenance in the designated washing area.

- Rinsing the outside of a vehicle with water and without any soaps or detergents is allowed as long as the water is filtered prior to discharge to the stormwater drainage system.
- At multifamily properties it may be necessary to post signs at the designated wash areas, indicating where and how vehicle washing must be done.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
    - A-30: Marine Activities
- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Catch Basin Inserts
    - Disposal
- Washington State Department of Ecology's Vehicle and Equipment Wash Water Discharges/Best Management Practices Manual https://fortress.wa.gov/ecy/publications/summarypages/95056.html

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For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-16: Truck or Rail Loading and Unloading of Liquid or Solid Material

Potential pollutants can include but are not limited to hydrocarbons, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, and other pollutants.

Best management practices (BMPs) are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Place drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections.
- Immediately clean up any material that has spilled during transfer operations.
- Have a current spill control plan.
- Train employees to follow proper loading and unloading procedures. Ensure that employees are familiar with the site's spill response and cleanup plans and/or proper spill cleanup procedures.
- Store and maintain appropriate spill cleanup materials in a location known to all.
- Conduct loading and unloading operations under cover if possible.

Required Routine Maintenance BMPs

- Clean drip pans as needed and dispose of contents properly.
- Check equipment for leaks on a regular basis and repair if needed.
- Sweep loading/unloading areas as needed. Never wash anything to the stormwater drainage system or the street.

Supplemental BMPs

- Pave areas where liquids are transferred to and from tanker trucks. Use Portland cement concrete for fuels that react with asphalt, such as gasoline.
- Install a curb or dike, or slope the area to prevent stormwater from running on to the loading/unloading area and washing away spilled material.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Disposal
    - Spill Response and Cleanup Plan

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-26: Landscaping Activities, Vegetation Management, and Irrigation

The following best management practices (BMPs) apply to landscaping, vegetation management and irrigation activities which include grading, soil transfer, vegetation planning, and vegetation removal. For storage and use of pesticides and fertilizers see activity sheet A-5: Storage and Use of Pesticides and Fertilizers.

Potential pollutants can include but are not limited to fecal coliform bacteria, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, and sediment.

BMPs are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs – Landscaping and Vegetation Management

- Do not dispose of collected vegetation into surface waters or stormwater drainage systems.
- Do not blow vegetation or other debris into the stormwater drainage system, sidewalks, or street. Dispose of collected vegetation by recycling or composting.
- Use mulch or other erosion control measures when soils are exposed for more than one week during the dry season (May 1 to September 30) or two days during the rainy season (October 1 to April 30).
- Ensure sprinkler systems do not "overspray" vegetated areas resulting in the excess water discharging into the stormwater drainage system.
- Ensure that plants selected for planting are not on the noxious weed list. Remove, bag, and dispose of class A and B noxious weeds in the garbage immediately. Make reasonable attempts to remove and dispose of class C noxious weeds. Do not compost noxious weeds as it may lead to spreading through seed or fragment if the composting process is not hot enough.
- New and expanding golf courses must have a Golf Course Management Plan as described in addressed in the King County Golf Course BMP Manual

Required BMPs - Irrigation

- Ensure sprinkler systems do not overspray vegetated areas resulting in runoff discharging into surface waters or stormwater drainage systems. Adjust watering times and schedules to ensure that the appropriate amount of water is being used to minimize runoff. Consider factors such as soil structure, grade, time of year, and type of plant material in determining the proper amounts of water for a specific area.
- Inspect irrigated areas regularly for signs of erosion and/or discharge.

- Do not irrigate plants during or immediately after fertilizer application. The longer the period between fertilizer application and irrigation, the less fertilizer runoff occurs.
- Do not irrigate plants during or immediately after pesticide application (unless the pesticide label directs such timing).
- Reduce frequency and/or intensity of watering as appropriate for the wet season (October 1 to April 30).

Supplemental BMPs - Landscaping and Vegetation Management

- Select the right plants for the planting location based on proposed use, available maintenance, soil conditions, sun exposure, water availability, height, sight factors, and space available.
- Use native plants in landscaping. Native plants do not require extensive fertilizer or pesticide applications.
- Install engineered soil/landscape systems to improve the infiltration and regulation of stormwater in landscaped areas.
- Use at least an eight-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium.
    - Organic matter is the least water-soluble form of nutrients that can be added to the soil. Composted organic matter generally releases only between 2 and 10 percent of its total nitrogen annually, and this release corresponds closely to the plant growth cycle. Return natural plant debris and mulch to the soil, to continue recycling nutrients indefinitely.
- Select the appropriate turfgrass mixture for the climate and soil type.
    - Certain tall fescues and rye grasses resist insect attack because the symbiotic endophytic fungi found naturally in their tissues repel or kill common leaf and stem-eating lawn insects.
        - The fungus causes no known adverse effects to the host plant or to humans.
        - Tall fescues and rye grass do not repel root-feeding lawn pests such as Crane Fly larvae.
        - Tall fescues and rye grass are toxic to ruminants such as cattle and sheep.
    - Endophytic grasses are commercially available; use them in areas such as parks or golf courses where grazing does not occur.
    - Local agricultural or gardening resources such as Washington State University Extension office can offer advice on which types of grass are best suited to the area and soil type.
- Adjusting the soil properties of the subject site can assist in selection of desired plant species. Consult a soil restoration specialist for site-specific conditions.

- Remove weeds/vegetation in stormwater ditches by hand or other mechanical means and only use chemicals as a last resort. If herbicides are used, refer to activity sheet A-5: Storage and Use of Pesticides and Fertilizers for required BMPs.
- Conduct mulch-mowing whenever practicable.
- Till a topsoil mix or composted organic material into the soil to create a well-mixed transition layer that encourages deeper root systems and drought-resistant plants.
- Apply an annual topdressing application of 3/8" compost. Amending existing landscapes and turf systems by increasing the percent organic matter and depth of topsoil can:
    - Substantially improve the permeability of the soil.
    - Increase the disease and drought resistance of the vegetation.
    - Reduces the demand for fertilizers and pesticides.
- Disinfect gardening tools after pruning diseased plants to prevent the spread of disease.
- Prune trees and shrubs in a manner appropriate for each species.
- If specific plants have a high mortality rate, assess the cause, and replace with another more appropriate species.
- When working around and below mature trees, follow the most current American National Standards Institute (ANSI) ANSI A300 standards, http://www.tcia.org/TCIA/BUSINESS/ANSI_A300_Standards_/TCIA/BUSINESS/A300_Standards/A300_Standards.aspx?hkey=202ff566-4364-4686-b7c1-2a365af59669, and International Society of Arboriculture BMPs to the extent practicable (e.g., take care to minimize any damage to tree roots and avoid compaction of soil).
- Monitor tree support systems (stakes, guys, etc.).
    - Repair and adjust as needed to provide support and prevent tree damage.
    - Remove tree supports after one growing season or maximum of 1 year.
    - Backfill stake holes after removal.
- When continued, regular pruning (more than one time during the growing season) is required to maintain visual sight lines for safety or clearance along a walk or drive, consider relocating the plant to a more appropriate location.
- Re-seed bare turf areas until the vegetation fully covers the ground surface.
- Watch for and respond to new occurrences of especially aggressive weeds such as Himalayan blackberry, Japanese knotweed, morning glory, English ivy, and reed canary grass to avoid invasions.
- Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Con-duct aeration while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¾-inch deep.

- Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.
    - Mowing is a stress-creating activity for turfgrass.
    - Grass decreases its productivity when mowed too short and there is less growth of roots and rhizomes. The turf becomes less tolerant of environmental stresses, more dis-ease prone and more reliant on outside means such as pesticides, fertilizers, and irrigation to remain healthy.

Supplemental BMPs - Irrigation

- Repair broken or leaking sprinkler nozzles as soon as possible.
- Water deeply, but infrequently, so that the top 6 to 12 inches of the root zone is moist. Appropriately irrigate lawns based on the species planted, the available water holding capacity of the soil, and the efficiency of the irrigation system.
    - The depth from which a plant normally extracts water depends on the rooting depth of the plant. Appropriately irrigated lawn grasses normally root in the top 6 to 12 inches of soil; lawns irrigated on a daily basis often root only in the top 1 inch of soil.
- Irrigate with the minimum amount of water needed. Never water at rates that exceed the infiltration rate of the soil.
- Maintain all irrigation systems so that irrigation water is applied evenly and where it is needed.
- Place sprinkler systems appropriately so that water is not being sprayed on impervious surfaces instead of vegetation.
- Place irrigation systems to ensure that plants receive water where they need it. For example, do not place irrigation systems downgradient of plant's root zones on hillsides.
- Use soaker hoses or spot water with a shower type wand when an irrigation system is not present.
    - Pulse water to enhance soil absorption, when feasible.
    - Pre-moisten soil to break surface tension of dry or hydrophobic soils/mulch, followed by several more passes. With this method, each pass increases soil absorption and allows more water to infiltrate prior to runoff.
- Add a tree bag or slow-release watering device (e.g., bucket with a perforated bottom) for watering newly installed trees when irrigation system is not present.
- Identify trigger mechanisms for drought-stress (e.g., leaf wilt, leaf senescence, etc.) of different species and water immediately after initial signs of stress appear.
- Water during drought conditions or more often if necessary, to maintain plant cover.
- Adjust irrigation frequency / intensity as appropriate after plant establishment.
- Annually inspect irrigation systems to ensure:

    - That there are no blockages of sprayer nozzles.
    - Sprayer nozzles are rotating as appropriate.
    - Sprayer systems are still aligned with the plant locations and root zones.
- Consult with the local water utility, King Conservation District, or Cooperative Extension office to help determine optimum irrigation practices.
- Do not use chemigation and fertigation in irrigation systems. This will help avoid over application of pesticides and fertilizers.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
    - A-5: Storage and Use of Pesticides and Fertilizers
- Natural Yard Care Program: http://your.kingcounty.gov/solidwaste/naturalyardcare/watering.asp
- The King County *Best Management Practices for Golf Course Development and Operation* https://your.kingcounty.gov/dnrp/library/water-and-land/stormwater/stormwater-pollution-prevention-manual/Best%20Manangement%20Practices%20for%20Golf%20Course.pdf
- The King County Noxious Weed List can be found at https://www.kingcounty.gov/services/environment/animals-and-plants/noxious-weeds/laws.aspx. Additional information on the Washington State Noxious Weed List can be found at https://www.nwcb.wa.gov/printable-noxious-weed-list
- The King County Noxious Weed Control Program provides best management practices for the removal of typical noxious weeds such as blackberry and purple loosestrife. Call 206-296-0290 or see: http://www.kingcounty.gov/environment/animalsandplants/noxious-weeds/weed-control-practices.aspx for more information

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For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-31: Parking Lots, Driveways and Outside Storage Areas

Potential pollutants can include but are not limited to hydrocarbons, metals, oil and grease, sediment, and other pollutants.

Best management practices (BMPs) are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of surface water and stormwater, you will be required to take additional measures.

Required BMPs

- Sweep areas as needed to collect dirt, waste, debris, and spilled material. Do not hose down areas to the stormwater drainage system or surface waters.
- Clean up vehicle and equipment fluid drips and spills immediately using absorbent materials.
- Place drip pans under leaking vehicles and equipment, including employee vehicles, until the vehicle/equipment no longer leaks. Properly dispose of accumulated leaked fluids.
- Pressure wash water from paved areas must be collected and disposed of to the sanitary sewer or hauled for offsite disposal, even if soaps, detergents, or cleaners are not used. If the surface to be pressure washed is not utilized by automotive equipment or machinery, see activity sheet A-15: Washing of Building, Rooftops and Other Large Surfaces.
- There are businesses that will clean parking lots and collect water for off-site disposal. Never drain wash water to the stormwater drainage system.
- Follow basic sediment controls as outlined in Appendix D ("Erosion and Sediment Control Standards") of the *King County Surface Water Design Manual* for gravel and dirt lots. These types of parking lots may require additional BMPs to prevent sediment-laden water from leaving your site.

Supplemental BMPs

- Encourage employees to repair leaking personal vehicles.
- Install catch basin inserts to collect excess sediment and oil, if necessary. Inspect and maintain catch basin inserts regularly to ensure they are working correctly.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
    - A-3: Storage of Liquid Materials in Portable Containers
    - A-15: Washing of Buildings, Rooftops, and Other Large Surfaces
- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Catch Basin Insert
    - Disposal

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

A-40: Street Deicing Operations

The following best management practices (BMPs) apply to deicing and anti-icing operations on streets and highways to control ice and snow.

Potential pollutants can include but are not limited to oxygen demanding substances, pH, sediment, and other pollutants.

BMPs are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Select deicers and anti-icing materials such as sand, calcium chloride, magnesium acetate, potassium acetate, or similar materials that cause less adverse environmental impact than urea, and sodium chloride.
- Apply de/anti-icing materials only as needed, using minimum quantities. Adhere to manufacturer and industry standards of use and application.
- Store de/anti-icing materials (except for sand) in an impervious containment area to keep the material from entering stormwater drainage systems or surface waters. Maintain sand piles so that sand cannot wash into the stormwater drainage system or surface waters.
- Transfer liquid de/anti-icing materials in the containment area or use a drip pan under the hose connection.
- Sweep/clean up accumulated de/anti-icing materials and grit from roads as soon as possible.
- Minimize use of de/anti-icing materials in areas where runoff or spray from the roadway immediately enters sensitive areas such as fish-bearing streams.

Supplemental BMPs

- Intensify roadway cleaning in early spring to help remove particulates from road surfaces.
- When feasible, use de/anti-icing materials with low amounts of metals.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
    - A-4: Outdoor Storage of Soil, Sand and Other Erodible Materials

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For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.

Appendix B – Wet & Dry Weather Inspection Form

Semi-Annual Visual Inspection Form

Each of the four catch basins located in the Public Works Yard shall be inspected twice a year, once during dry weather and once during a storm runoff event.

Inspection Information

Inspector Name(s): _____
Date of Inspection: _____
Time of Inspection: _____
Inspection Conditions: _____

Is the inspection occurring:

☐ Before a predicted storm? ☐ After a storm? (<24 hours) ☐ **Dry season?**
☐ During a storm? ☐ Due to a spill? ☐ **Wet season?**

Visual Inspection Criteria:

Weather **Inspect the storm drain system that collects runoff from the site**

Weather Conditions	Inspection Task	Pass?
All	• Ensure inlet protection is functioning properly. • Look for track out of any materials including sediment, oil, wash water, etc. • Look for evidence of spills that were not cleaned up properly • Ensure vehicles and equipment are not leaking. • Ensure washing is occurring offsite unless wash water can be contained and does not enter storm system. • Ensure dumpster lids are closed and secured. • Stockpiles are contained and managed properly according to season and BMP guidelines Check water quality indicators in all four catch basins: • *Floatables*: Floatables indicate if obvious trash or other controllable debris, such as landscaping material, leaf litter, etc. has entered into the storm drain. • *Foam*: Foam indicates that potentially soap or other cleaning products have entered in to the storm system. • *Sheen*: Sheen, which also looks like a rainbow hue on the water surface, is commonly indicative of petroleum products, often present from parking lot runoff. • *Staining*: Staining on surface areas around catch basins may indicate that an illicit material was present at some point.	☐ Yes ☐ Action required ☐ N/A

	• *Turbidity*: Turbidity, which makes the water appear cloudy, is usually an indication of dirt or sediment in the water. • *Odor*: Certain contaminants in stormwater can give off specific odors, which should be described as accurately as possible. Odors can include those similar to eggs, solvent, fuel/oil, cleaning agent, etc. When noting odors, the inspector should make sure that the odor is not related to sources other than beyond the runoff being inspected. • *Discoloration*: A red/orange color can indicate rust from iron pipes or iron bacteria. Other colors such as white could indicate paint or cleaning agent emulsions. • *Flow*: Flow during dry weather may indicate an illicit discharge or possibly groundwater.	
Wet-Specific	• Sediment is caught by inlet protection, but silt bag is still draining at an appropriate rate. • Check for ponding or areas that do not drain well accumulating sediment/turbid water. • Stockpiles are covered if not in active use. • Stockpiles are contained with erosion control measure if they cannot feasibly be covered. • There is no evidence of wash-out from stockpiles. • There is no silty material or turbid water leaving the site. • Watch for sedimentation or other pollutants washing off vehicles and equipment when exposed to precipitation.	☐ Yes ☐ Action required ☐ N/A
Dry-Specific	• Ensure there is no unexpected flow which could indicate an illicit connection. • Check the sediment in the structure for any excessive deposits and settled pollutants. • Clean and maintain catch basins annually.	☐ Yes ☐ Action required ☐ N/A

Notes/Comments:

Summary of Corrective Actions

Are corrective actions needed? ☐ Yes, see following table ☐ No, none required

Item#	Description and Location	Action Required	Completion Date	Initials

Attach additional page(s) if needed.

Appendix C – Annual BMP Evaluation Form

Annual BMP Evaluation Form

Inspections conducted annually to ensure that required BMP's are functioning properly, if additional BMP's are needed, or if current BMPs should be modified.

Inspection Information

Inspector Name(s): _____
Date of Inspection: _____
Time of Inspection: _____
Inspection Conditions: _____

Is the inspection occurring:

☐ Before a predicted storm? ☐ After a storm? (<24 hours)
☐ During a storm? ☐ Dry season?

BMP Evaluation

BMP	Requirement	BMP's Used	Satisfactory?
A-1	Required BMPs for all Properties with Commercial Activities	• Clean and maintain storm drainage system • Label or mark all storm drain inlets • Eliminate illicit connections to the storm drainage system • Install and maintain CB inlet protection inserts	☐ Yes ☐ Action required ☐ N/A
A-2	Storage of Liquid Materials in Stationary Tanks	• Store and contain liquid materials (secondary containment) • Place tanks on secure bases, stable ground, and not directly upstream of drainage inlets. • Install spill control device in CB's that collect oil-ridden runoff • Place drip pans and/or absorbent material under high-risk equipment during use. • Have spill control materials/spill kit near high-risk locations • Have a spill control plan posted with up-to-date information • Train all employees on required spill response procedures. • Sweep and clean paved areas as needed. Do not hose down area into storm drain. • Check for leaks, compromised containment, and refill spill kits as needed.	☐ Yes ☐ Action required ☐ N/A

BMP	Requirement	BMP's Used	Satisfactory?
A-3	Storage of Liquid Materials in Portable Containers	• Place tight-fitting lids on all containers. Enclose or cover the containers. • Raise containers off the ground to contain potential spills • Place drip pans and/or absorbent material under high-risk equipment during use. • Label all containers with produce name and hazards • Place drip pans and/or absorbent material under high-risk equipment during use. • Have spill control materials/spill kit near high-risk locations • Have a spill control plan posted with up-to-date information • Train all employees on required spill response procedures. • Sweep and clean paved areas as needed. Do not hose down area into storm drain. • Check for leaks, compromised containment, and refill spill kits as needed.	☐ Yes ☐ Action required ☐ N/A
A-4	Storage of Soil, Sand, and Other Erodible Materials	• Cover and contain stockpiled materials • Covers must be in place when the stockpile is not in active use. Check regularly to ensure they function properly. • Do not hose down the contained stockpile to the storm drain • Implement erosion control practices if the piles cannot be feasibly covered. • Install, inspect, and maintain CB inserts to collect excess sediment and debris • Sweep and clean paved areas as needed. Do not hose down area into storm drain.	☐ Yes ☐ Action required ☐ N/A
A-5	Storage of Dry Pesticides & Fertilizers	• Store all materials so that it cannot come into contact with water • Containers and bags must be covered, intact, and off the ground • Immediate clean up spills if/when they occur • Store and maintain spill cleanup materials near storage area • Sweep paved storage area as needed. Do not hose down.	☐ Yes ☐ Action required ☐ N/A

BMP	Requirement	BMP's Used	Satisfactory?
A-8	Storage of Solid Wastes	• Store waste in leak-proof containers with solid lids • Keep dumpsters closed except when in use • Have spill cleanup materials nearby and clean up spills immediately. • Keep area around container clean and free of debris • Check storage containers for leaks and ensure lids are on securely. Replace leaking or damaged containers. • Sweep paved storage area as needed. Do not hose down. • Portable toilet is monitored for maintenance and operation per manufacturer's recommendations.	☐ Yes ☐ Action required ☐ N/A
A-11	Cleaning and Washing of Tools and Equipment	• Discharge tool and equipment wash water to sanitary sewer, holding tank, or offsite disposal. • Rinse lawnmower on lawn or similar area • Oily, soapy or otherwise dirty water is not allowed to discharge to the stormwater system.	☐ Yes ☐ Action required ☐ N/A
A-13	Vehicle Washing and Steam Cleaning	• Commercial and fleet car washing and detailing must be done in a contained area where all water is collected and either recycled or discharged to the sanitary sewer.	☐ Yes ☐ Action required ☐ N/A
A-16	Unloading of Liquid Materials	• Place drip-pans under leak-prone spots during liquid transfer operations. Dispose of properly. • Immediately clean up any spills during transfer operations. • Train employees to follow proper loading and unloading procedures/spill plans and procedures. • Conduct loading and unloading under cover if possible • Check equipment for leaks regularly. • Sweep paved storage area as needed. Do not hose down.	☐ Yes ☐ Action required ☐ N/A
A-26	Landscaping Activities and Vegetation Management	• Train employees on the proper use of fertilizers and pesticides. • Clean up any spills immediately. • Do not blow vegetation or debris into the storm drain system, recycle or compost vegetation. • Use mulch or other erosion control measures when soils are exposed. • See BMP A-5.	☐ Yes ☐ Action required ☐ N/A

BMP	Requirement	BMP's Used	Satisfactory?
A-31	Parking Lots, Driveways and Outside Storage Areas	• Sweep areas as needed. Do not hose down areas to the drainage system. Clean up any spills immediately. • Clean up vehicle and equipment fluid drips and spills immediately using absorbent materials. Dispose properly • Place drip pans under leaking vehicles and equipment until the vehicle/equipment no longer leaks. Properly dispose of accumulated leaked fluids. • Follow basic sediment controls as outlined in the SWDM	☐ Yes ☐ Action required ☐ N/A
A-40	Street Deicing Operations	• Select deicers that cause less adverse environmental impact • Apply only as needed using minimum quantitates. • Store deicing materials (except for sand) in an impervious containment area. Maintain sand piles so that sand cannot wash into storm system. • Transfer liquid deicing materials in the containment area or use drip pan under the hose connection. • Sweep/clean up accumulated materials from roads as soon as surface clears. • Minimize use in environmentally sensitive areas.	☐ Yes ☐ Action required ☐ N/A

Notes/Comments:

Summary of Corrective Actions

Are corrective actions needed? ☐ Yes, see following table ☐ No, none required

Item#	Description and Location	Action Required	Completion Date	Initials

Attach additional page(s) if needed.

APPENDIX F – SWPPP SWEEPING GREEN WASTE STORAGE TRANSFER FACILITY

CITY OF KENMORE

STORMWATER POLLUTION PREVENTION PLAN

SWEEPING & GREEN WASTE STORAGE AND TRANSFER FACILITY

Permit # WAR 04-5519

City of Kenmore, WA

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Contents

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INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) for the City's Sweeping & Green Waste Storage and Transfer Facility was developed to document compliance with the National Pollutant Discharge Elimination System (NPDES) Western Washington Phase II Municipal Stormwater Permit (Permit) Section S5.C.7.f. The Permit was issued July 1, 2019 by the Washington State Department of Ecology (Ecology) and became effective August 1, 2019 and expires on July 31, 2024. The Permit complies with the provisions of the State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of Washington (RCW) and the Federal Water Pollution Control Act (The Clean Water Act or CWA) Title 33 United States Code, Section 1251 et seq. The Permit is available on Ecology's website at: https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Western-Washington-Phase-II-Municipal-Stormwater.

A SWPPP is required for heavy equipment maintenance or storage yards and material storage facilities owned or operated by the City. Heavy equipment maintenance or storage yards are defined as an uncovered area where any heavy equipment (e.g., mowing equipment, excavators, dump trucks, backhoes, bulldozers) are washed or maintained, or where at least five pieces of heavy equipment are stored on a long term basis. Material storage facilities are defined as an uncovered area where bulk materials (e.g., liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means. The City's Sweeping & Green Waste Storage and Transfer Facility requires a SWPPP under this definition.

SWPPP ORGANIZATION

The objectives of this SWPPP, as defined by the Permit, will be organized into the following sections within the SWPPP:

Facility Best Management Practices
A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed (S5.C.7.f.i).

Annual Facility Inspections
Conduct annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine if additional or different BMPs are needed (S5.C.7.f.ii).

Facility Inventory
Provide an inventory of the materials and equipment stored on-site, and the activities conducted at the facility which may be exposed to precipitation or runoff and could result in stormwater pollution (S5.C.7.iii).

Facility Site Map
Provide a site map showing the facility's stormwater drainage, discharge points, and areas of potential pollutant exposure (S5.C.7.f.iv).

FACILITY BEST MANAGEMENT PRACTICES

The City implements the 2021 King County Stormwater Pollution Prevention Manual (SPPM). The SPPM provides best management practices (BMPs) for commercial, multi-family and residential properties.

The following table identifies SPPM BMPs applicable to this SWPPP. Full BMP documentation is provided in Appendix A.

BMP Table

BMP	Description	Additional
General BMPs	• Only sweeping and green waste material allowed • No storage of hazardous materials • No storage of materials outside designated storage area • Maintain site perimeter vegetation/berm • Site is signed for City access only	
BMP A-16	Truck or Rail Loading and Unloading of Liquid or Solid Material	

FACILITY INSPECTIONS

The Permit requires, at a minimum, annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of BMPs, identify maintenance needs, and determine if additional or different BMPs are needed.

Inspection results shall be documented and recorded using forms provided in Appendix B and C of the SWPPP. Hardcopies of inspection results shall be kept with the Yard copy of the SWPPP and additional copies provided to Environmental Services.

Wet and Dry Weather Visual Inspections

Check the perimeter of the site to confirm that runoff is not leaving the area. Check the site for indicators of spills or presence of prohibited materials. Check for indicators of track out or other erosion/sediment issues. Appendix B contains the inspection forms.

An Environmental Services staff person will conduct the dry weather inspection during normally scheduled annual citywide catch basin inspections. Any qualified Public Works staff person may conduct the wet weather inspection.

Note that a visual inspection shall occur following any significant spill to confirm that no spilled material has contaminated the City's drainage system.

Annual BMP Evaluation

Once each year, BMPs shall be evaluated at the Yard to determine if additional BMPs are needed or if current BMPs should be modified. The evaluation shall be conducted using the Annual BMP Evaluation Form in Appendix C.

The staff person conducting the BMP evaluation should be looking for indicators such as:

- No indicators that runoff is leaving the site
- Erodible materials are stored appropriately with no track out
- Solid waste containers are in good condition and covered, if necessary
- No surface indicators of spills or leaks

SWPPP Revisions

The SWPPP should be revisited once per year and revised if needed to reflect any updates to Permit requirements, codes, annual inspection results or identified BMP modifications.

FACILITY INVENTORY

Vehicles

No vehicles are stored on site.

Large Equipment

One portable 25-yard container is kept on site for sweeping and green waste. No other equipment is stored on site.

Materials/Tools/Small Equipment

Materials include sweeping and green waste, which is temporarily stored in a two-bayed ecology block walled containment area before it is loaded into a 25-yard transport container. No tools or small equipment are stored on site.

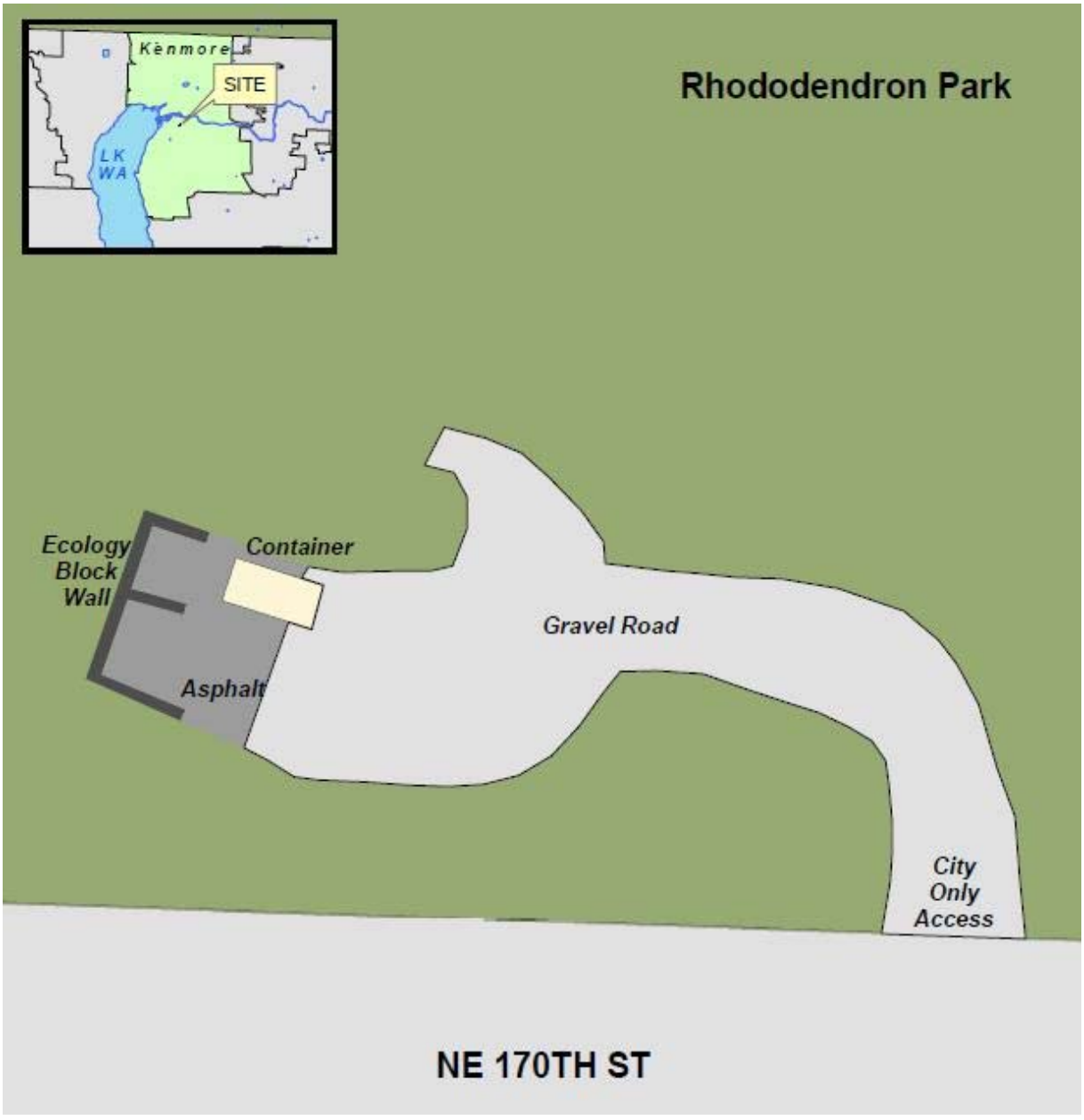
Activities With Pollutant Potential If Exposed to Precipitation

Activity	Description	BMP
Loading/Unloading of material	Sweeping and green waste material is unloaded onto the site via a sweeper or truck. Material is loaded into an on-site 25-yard container using a backhoe.	Refer to BMP A-16 Truck or Rail Loading and Unloading of Liquid or Solid Material

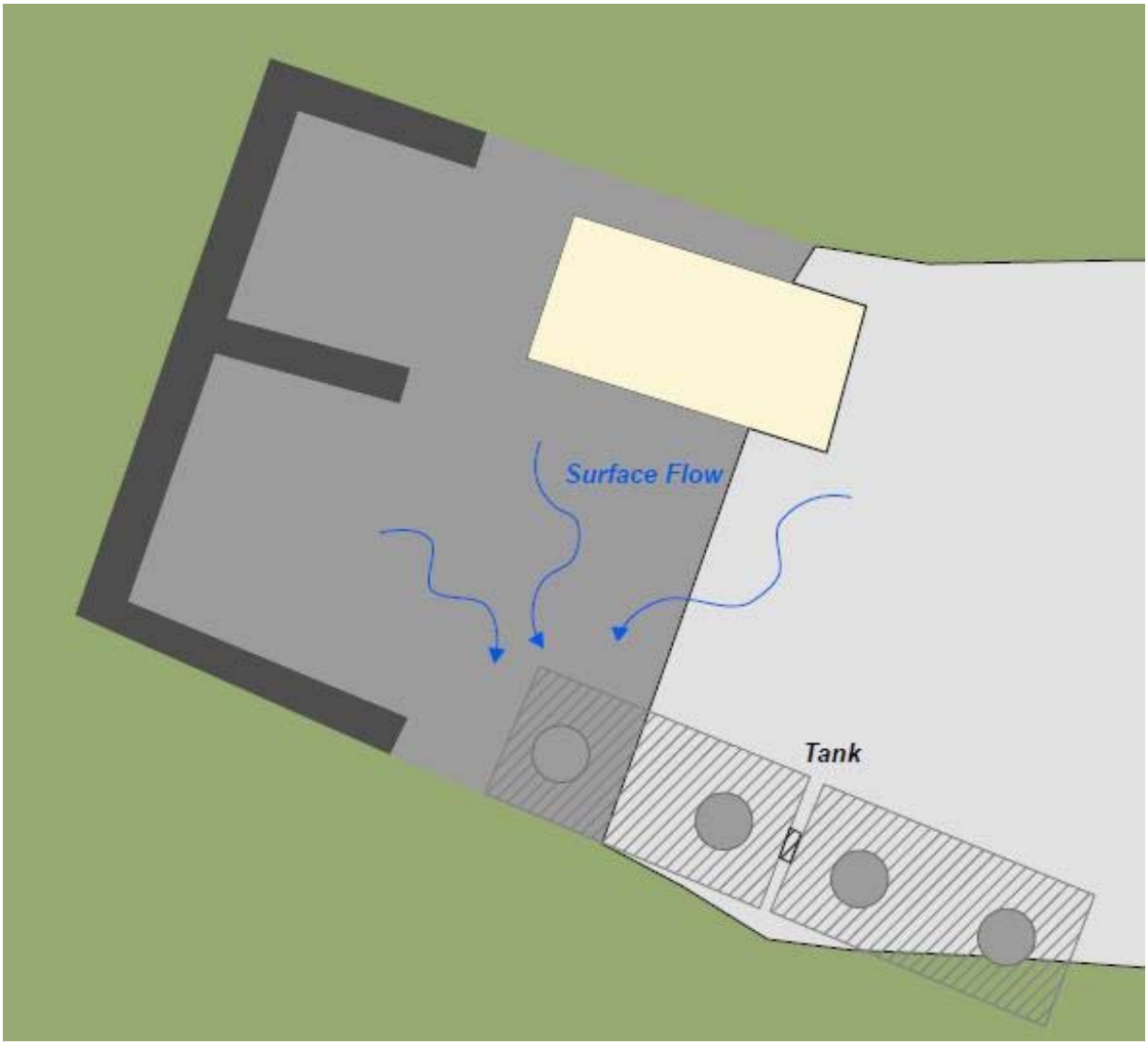
FACILITY SITE MAP

General Site Map

The facility is located in the southwestern corner of Rhododendron Park at 6910 NE 170TH ST in Kenmore, WA. A City only access driveway is located off of NE 170TH ST separate from the general public park access driveway.



Site Drainage Map



The site is relatively flat but generally flows to the south side of the site. Runoff created on the site flows into the surrounding landscaping and vegetation and does not leave the site. Two interconnected 1700-gallon cisterns also collect runoff from the area but are not connected to a drainage system.

Site Photos

View of Facility looking west from entrance.

View of facility from north looking south. All surface runoff is collected in drain.

Entrance to facility from NE 170TH ST.

FACILITY SPILL PREVENTION AND RESPONSE PLAN

This section describes the Spill Prevention and Response Plan. Spill prevention is primarily achieved through the implementation of previously described BMPs. When spills do occur, the main objective of the response is to contain and remove the spill to minimize detrimental impacts to the environment and life safety.

In response to a spill, City staff should take the following steps:

1) Known Substance Contained Within Site:
    a. The employee has determined that they are prepared and trained to respond, and
    b. The employee has determined that responding does not jeopardize safety, and
    c. Appropriate spill response materials are available, then
    d. The employee may conduct spill containment and cleanup, and
    e. Report to supervisor and Environmental Services Division staff person.
2) Known Substance Not Contained Within Site:
    a. Contact supervisor and available staff person with Environmental Services Division, and
    b. Mobilize vactor response, if appropriate, and
    c. Mobilize sweeper response, if appropriate, and
    d. The employee has determined that they are prepared and trained to respond, and
    e. The employee has determined that responding does not jeopardize safety, and
    f. Appropriate spill response materials are available, then
    g. The employee may conduct spill containment and cleanup.
3) Known or Perceived as a Hazardous Substance (i.e. flammable, corrosive, explosive or dangerous in nature):
    a. Leave the immediate area of the spill, and
    b. Prevent others from approaching the spill, and
    c. Call emergency services at 911, and
    d. Contact supervisor and available staff person with Environmental Services Division.

In the event of a spill, the topography of the site will generally convey material to the south side of the site. Surface runoff enters an enclosed tank that is not connected to the City's drainage system and disperses throughout the perimeter vegetation. In the event of a spill, the enclosed tank system can be cleaned out and any contaminated surface area on the site should be cleaned.

Spill Response Kits and Materials

Spill response kits are located in all Public Works vehicles and in the Temporary Yard storage container.

Staff shall be trained to utilize the correct product types (i.e. particulates, pads, socks or booms) with the appropriate sorbent for the pollutant (i.e. universal or petroleum).

Appendix A – BMP Documentation

A-16: Truck or Rail Loading and Unloading of Liquid or Solid Material

Potential pollutants can include but are not limited to hydrocarbons, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, and other pollutants.

Best management practices (BMPs) are required by King County Water Quality Code (KCC 9.12). If the BMPs included here are not enough to prevent contamination of stormwater, you will be required to take additional measures.

Required BMPs

- Place drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections.
- Immediately clean up any material that has spilled during transfer operations.
- Have a current spill control plan.
- Train employees to follow proper loading and unloading procedures. Ensure that employees are familiar with the site's spill response and cleanup plans and/or proper spill cleanup procedures.
- Store and maintain appropriate spill cleanup materials in a location known to all.
- Conduct loading and unloading operations under cover if possible.

Required Routine Maintenance BMPs

- Clean drip pans as needed and dispose of contents properly.
- Check equipment for leaks on a regular basis and repair if needed.
- Sweep loading/unloading areas as needed. Never wash anything to the stormwater drainage system or the street.

Supplemental BMPs

- Pave areas where liquids are transferred to and from tanker trucks. Use Portland cement concrete for fuels that react with asphalt, such as gasoline.
- Install a curb or dike, or slope the area to prevent stormwater from running on to the loading/unloading area and washing away spilled material.

Additional Information

- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Disposal
    - Spill Response and Cleanup Plan

Appendix B – Wet & Dry Weather Inspection Form

Semi-Annual Visual Inspection Form

Each of the four catch basins located in the Public Works Yard shall be inspected twice a year, once during dry weather and once during a storm runoff event.

Inspection Information

Inspector Name(s): _____
Date of Inspection: _____
Time of Inspection: _____
Inspection Conditions: _____

Is the inspection occurring:

☐ Before a predicted storm? ☐ After a storm? (<24 hours) ☐ **Dry season?**
☐ During a storm? ☐ Due to a spill? ☐ **Wet season?**

Visual Inspection Criteria:

Weather Inspect the storm drain system that collects runoff from the site

Weather Conditions	Inspection Task	Pass?
All	• Look for track out of any materials including sediment, oil, wash water, etc. • Look for evidence of spills that were not cleaned up properly • Ensure vehicles and equipment are not leaking. • Stockpiles are contained and managed properly	☐ Yes ☐ Action required ☐ N/A
Wet-Specific	• There is no evidence of wash-out from stockpiles. • There is no silty material or turbid water leaving the site.	☐ Yes ☐ Action required ☐ N/A
Dry-Specific	• Ensure there is no unexpected flow which could indicate an illicit discharge. • Check for spill indicators such as staining, discolored surfaces	☐ Yes ☐ Action required ☐ N/A

Notes/Comments:

Summary of Corrective Actions

Are corrective actions needed? ☐ Yes, see following table ☐ No, none required

Item#	Description and Location	Action Required	Completion Date	Initials

Attach additional page(s) if needed.

Appendix C – Annual BMP Evaluation Form

Annual BMP Evaluation Form

Inspections conducted annually to ensure that required BMP's are functioning properly, if additional BMP's are needed, or if current BMPs should be modified.

Inspection Information

Inspector Name(s): _____
Date of Inspection: _____
Time of Inspection: _____
Inspection Conditions: _____

Is the inspection occurring:

☐ Before a predicted storm? ☐ After a storm? (<24 hours)
☐ During a storm? ☐ Dry season?

BMP Evaluation

BMP	Requirement	BMP's Used	Satisfactory?
	General BMPs	• Only sweeping and green waste is stored on site and is located in designated areas • No storage of hazardous materials • Perimeter vegetation/berm is maintained • Site is signed for City access only	☐ Yes ☐ Action required ☐ N/A
A-16	Unloading of Liquid Materials	• Place drip-pans under leak-prone spots during liquid transfer operations. Dispose of properly. • Immediately clean up any spills during transfer operations. • Train employees to follow proper loading and unloading procedures/spill plans and procedures. • Check equipment for leaks regularly. • Sweep paved storage area as needed. Do not hose down.	☐ Yes ☐ Action required ☐ N/A

Notes/Comments:

Summary of Corrective Actions

Are corrective actions needed? ☐ Yes, see following table ☐ No, none required

Item#	Description and Location	Action Required	Completion Date	Initials