City of Kent

Stormwater Management Program (SWMP) Plan

2016

City of Kent

Public Works Department

400 West Gowe Street.

Kent, WA 98032

Stormwater Management Program Plan 2016

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Introduction

The city of Kent (city) is an owner and operator of a regulated municipal separate storm sewer system (MS4) and is therefore required to obtain and maintain a Western Washington Phase II Municipal Stormwater Permit, a National Pollutant Discharge Elimination System permit, issued by the Washington State Department of Ecology. Under the terms of S5 of the Western Washington Phase II Municipal Stormwater Permit (permit), the city is required to develop and implement a Stormwater Management Program (SWMP) and report on planned SWMP actions and activities for the upcoming calendar year through a SWMP Plan document. Presented here is the city's SWMP Plan for 2016, which is organized to generally follow and address all of the subsections of S5 of the permit, which are denoted when appropriate.

Permit background is included in this introduction for context and historical reference.

The city encourages public input in the ongoing development and implementation of this document. Please submit comments or concerns regarding this SWMP Plan by:

Telephone: (253) 856-5500
Email: npdes@kentwa.gov
Mail posted to: City of Kent, Public Works Department, Environmental Engineering, 400 West Gowe, Kent, WA 98032

National Pollutant Discharge Elimination System Permit

The National Pollutant Discharge Elimination System (NPDES) is a permit based water quality program implemented under the authority of the Federal Clean Water Act, and administered by the United States Environmental Protection Agency (EPA). The NPDES program is intended to reduce the discharge of pollution to waters of the United States in order to protect and restore waters for "beneficial uses" such as swimming and fishing. Waters of the United States, or waters of the State, when referred to locally in Western Washington, includes streams, lakes, wetlands, Puget Sound, and groundwater. In the State of Washington, NPDES permits are administered by the Washington State Department of Ecology (DOE), the state's water pollution control agency, delegated by the EPA to be responsible for implementing all federal and state water pollution control laws and regulations. The NPDES permit program covers many different types of discharges; including industrial, construction project runoff, and municipal stormwater.

NPDES Phase II Municipal Stormwater Permit

Under the NPDES municipal stormwater general permit program in Washington State, cities and counties that own or operate MS4's serving a population of more than 100,000 (based on the 1990 Census) are required to be covered under the Phase I permit; and MS4 owners and operators serving populations of 1,000 to 100,000 (based on the 1990 Census) are required to be covered under the Phase II Permit.

Kent is currently covered under a five year Western Washington Phase II Municipal Stormwater permit, effective August 1, 2013 to July 31, 2018. The current permit period requires the city to continue its compliance obligations and efforts implemented under the city's original permit, issued in 2007, with some additional and enhanced requirements.

Principally, the permit requires the city to comply with standards to protect water quality, reduce the discharge of pollutants from the city's stormwater system to the maximum extent practicable, and meet Washington State's All Known and Reasonable Treatment requirements. S5 of the permit requires the city develop and implement a Stormwater Management Program for its jurisdiction's geographic area which must be documented and updated annually (no later than March 31st of each year beginning in 2015) as the Stormwater Management Program Plan, and made available to the public through the city's website no later than May 31st each year.

In addition to the SWMP Plan, the city prepares an annual report that documents the city's compliance with the permit. Compliance as demonstrated by the annual report will constitute successful implementation of this SWMP Plan. The annual report required for the current permit will be available to the public through the city's website no later than May 31st, 2016 and will cover the reporting period of January 1, 2015 through December 31, 2015.

S5: STORMWATER MANAGEMENT PROGRAM PLAN

The city is intent and creative, while complying with standards and law, in preparing and executing the Stormwater Management Program (SWMP) Plan that is utilized as guidance and reporting both internally and externally. The city also collaborates and coordinates within and throughout city management departments, as well as with other permittees to accomplish the SWMP Plan.

This SWMP plan is generally organized to follow and address the five required components outlined in S5 of the permit.

1. Public Education and Outreach (S5.C.1)
2. Public Involvement and Participation (S5.C.2)
3. Illicit Discharge Detection and Elimination (S5.C.3)
4. Controlling Runoff from New Development, Redevelopment and Construction Sites (S5.C.4)
5. Municipal Operations and Maintenance (S5.C.5)

S5.C.1: Public Education and Outreach

The city's stormwater public education and outreach program strives to build awareness and affect change that will ultimately reduce pollutants in stormwater and improve water quality in waters of the state. To accomplish this, the program focuses on providing accessible resources for information, services, and activities that may help people in Kent better understand and cooperate in stormwater best management practices. By promoting understanding and cooperation through this program, the city hopes that a more knowledgeable and engaged community will adopt more desirable attitudes and behaviors that decrease detrimental influences on stormwater.

This program is generally organized to follow and address the minimum performance measures outlined in permit subsection S5.C.1, with subparts denoted when appropriate:

- Educate and Engage Target Audiences (S5.C.1.a)
- Build General Awareness with the General Public and Businesses (S5.C.1.b)
- Measure Understanding and Adoption of Targeted Behaviors (S5.C.1.c)

S5.C.1.a – **Educate and Engage Target Audiences**

It is Kent's goal to continue improving awareness and involvement in stormwater management with the general public, businesses, engineers, contractors, developers, land use planners, residents, landscapers, and property managers and owners. The city utilizes local and regional resources, campaigns and programs to provide opportunities for education and stewardship for these target audiences in Kent. The following measures are intended to support information sharing and

compel desired action from each audience in the various subject areas surrounding stormwater.

S5.C.1.a.i.a – **Build General Awareness with the General Public and Businesses**

The city supports building general awareness with the general public and businesses in the following five subject areas outlined in the permit:

1. General impacts of stormwater on surface waters.
2. Impacts from impervious surfaces.
3. Impacts of illicit discharges and how to report them.
4. Low impact development (LID) principles and LID best management practices (BMPs).
5. Opportunities to become involved in stewardship activities.

The city achieves compliance with these five subject areas by making available and advertising publically the services, activities, and publications listed below:

- *City of Kent 2015 Stormwater Management Program Plan*
- *City of Kent Drainage Master Plan*
- *City of Kent Surface Water Design Manual*
- Personal interactions (via phone, email, and face-to-face)
- Kent's city website: www.kentwa.gov
- Kent's recycling website: www.kentrecycles.com
- Kent's spill hotline: (253) 856-5600
- Storm sewer inspections
- Fats, oil, and grease (FOG) inspections
- Hazardous Waste Facility Inspections
- Response to private drainage concerns
- Operations and Maintenance activities
- Kent TV21
- Scene Newsletter
- Kent Reporter
- Direct mailings
- City envelopes with "Only rain down the drain" and "spill hotline" messaging
- Puget Sound Starts Here campaigns
- Social media through Kent's Facebook and Twitter accounts
- Interpretive signs in Parks
- Community volunteer groups
- Green Kent Partnership
- Neighborhood Grant Program
- King County Wastemobile program
- Recycling and hazardous waste collection events

- Water Festival event for school-aged children
- Public Works Appreciation Week Event
- Puget Sound Spill Kit Program
- City Council and Committee Meetings
- Kent Adopt–A-Street Program
- Public Land Use Notices
- Neighborhood meetings
- Educational brochures
- Posters and stickers
- Signs posted at ponds, wetlands, and for "No Dumping"
- Storm drain markers
- Vehicle bumper stickers and signage

S5.C.1.a.i.b – **Build General Awareness with Engineers, Contractors, Developers and Land Use Planners**

The city fosters building general awareness with engineers, contractors, developers and land use planners in the three following subject areas in the permit:

1. Technical standards for stormwater site and erosion control plans
2. LID principles and LID BMPs
3. Stormwater treatment and flow control BMPs/facilities

The city achieves compliance with these three subject areas, through the services, activities, and publications listed below.

- *City of Kent Stormwater Management Program Plan*
- *City of Kent Drainage Master Plan*
- *City of Kent Surface Water Design Manual*
- *City of Kent Design and Construction Standards*
- Personal interactions (via phone, email, and face-to-face)
- Kent's city website: www.kentwa.gov
- Direct mailings
- Kent permit Center
- Project plan development and review
- Pre and post-construction meetings
- Construction inspections
- Building inspections
- Erosion and sediment control inspections
- Certified Erosion and Sediment Control Lead (CESCL) training
- WA Department of Ecology LID training courses
- Professional Conferences

S5.C.1.a.ii.a – **Effect Behavior Change with the General Public**

The city strives to affect behavior change with the general public regarding the use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials. Specifically, the behavior change the city aims to influence is the proper management and disposal of hazardous materials. Kent promotes and facilitates this desired behavior with the following ongoing opportunities and special events that the city hosts, publicizes, and partners with regional initiatives to accomplish.

- Kent Recycling and Hazardous Waste Collection Day
- Kent Police Prescription Drug Take-Back Day
- Car wash kits provided for use at car wash fundraisers in Kent
- King County Wastemobile Program
- Home hazardous waste collection service for eligible seniors and residents with disabilities
- Enforcement of state, county and city laws/codes
- Hazardous Waste Facility Inspections

S5.C.1.a.ii.b – **Effect Behavior Change with Residents, Landscapers and Property Managers/Owners**

The city endeavors to affect behavior change with residents, landscapers, property managers and owners regarding the use and storage of pesticides and fertilizers and other household chemicals. Particularly, the behavior change the city aims to influence is the proper management and disposal of hazardous materials. Kent promotes and facilitates this desired behavior through the following ongoing opportunities and special events that the city hosts, publicizes, and partners with regional initiatives to accomplish.

- Kent Recycling and Hazardous Waste Collection Day
- Kent Police Prescription Drug Take-Back Day
- Car wash kits provided for use at car wash fundraisers in Kent
- Spill kits and spill prevention and preparedness education delivered to local businesses
- King County Wastemobile Program
- Home hazardous waste collection service for eligible seniors and residents with disabilities
- Enforcement of state, county and city laws/codes
- Requiring permits and business licensing
- Public Works Week Open House Day
- Kent Green Apartment/Condominium Program
- Storm Sewer Inspections

S5.C.1.b – **Create Stewardship Opportunities**

The city encourages stormwater stewardship; and works to promote stewardship opportunities through local and regional initiatives. Below is a list of ongoing opportunities and special events that the city supports and invites the public to take part in.

- Puget Sound Starts Here campaign
- Community volunteer groups
- Green Kent Partnership
- Kent Adopt-A-Street Program
- Neighborhood Grant Program
- King County Wastemobile program
- Recycling and hazardous waste collection events
- Public Works Week Open House Day
- Kent Green Apartment/Condominium Program

S5.C.1.c – **Measure Understanding and Adoption of Targeted Behaviors**

The city continues to examine and reflect on its efforts in public education and outreach, and is dedicated to revising and improving programming through adaptive management. To achieve greater awareness of the effectiveness of the city's public education and outreach program, the city utilizes methods of measurement, such as questionnaires, quizzes, and contests. Results are used to evaluate environmental understanding and measure behaviors adopted by individuals and groups. The city uses the valuable information obtained through methods of measurement to review and formulate successful resources for education and outreach. The city then incorporates this into each section of the program.

As part of this effort the City of Kent has partnered with the Environmental Coalition of South Seattle, (ECCOS). ECOSS helps businesses implement environmentally sustainable practices by providing education, resources and technical assistance to diverse businesses. They then return to the businesses to evaluate the environmental understanding of the personnel and measure the results of the outreach through the behavioral changes observed.

S5.C.2: Public Involvement and Participation

The city encourages and values public engagement in the SWMP Plan. Public involvement and participation in the SWMP will be facilitated through the various means listed below. Furthermore, the city will continue to comply with applicable state and local public notice requirements when developing and updating components of the city's SWMP plan.

This section is generally organized to follow and address the minimum performance measures outlined in permit subsection S5.C.2, with subparts respectfully denoted when appropriate:

- Create Opportunities for Public Participation in SWMP (S5.C.2.a)
- SWMP Plan and Annual Report on Kent Website (S5.C.2.b)

S5.C.2.a – **Create Opportunities for Public Participation in SWMP**

The city creates opportunities for public involvement and participation in the development and implementation of the SWMP Plan primarily by posting documentation online through the city's website and soliciting feedback through public notice. The following are specific ways the public may review and provide comment on Kent SWMP documents and activities:

- The city NPDES Program webpage: www.kentwa.gov/npdes
- In person, during normal business hours, or by appointment
- City Council and Public Works Committee Meetings
- Telephone and Kent's spill hotline: (253) 856-5600
- Mail posted to: City of Kent, Public Works Department, Environmental Engineering, 400 West Gowe, Kent, WA 98032
- Email: npdes@kentwa.gov

S5.C.2.b – **SWMP Plan and Annual Report on Kent Website**

The city will make the 2016 SWMP Plan and Annual Report available to the public on Kent's website, www.kentwa.gov/npdes, no later than May 31, 2016, as required under the permit. The 2015 SWMP Plan will remain available on the website until the 2016 SWMP is available. Public notice shall be given when the SWMP Plan is online and available for review and comments. A hard copy of the SWMP Plan is also available from the Kent public works department upon request.

S5.C.3: Illicit Discharge Detection and Elimination

The city has developed and implemented a program for illicit discharge detection and elimination (IDDE) to effectively prevent, detect, characterize, trace and eliminate illicit connections and illicit discharges into the MS4. The program includes the activities described in this section which is generally organized to follow and address the minimum performance measures outlined in permit subsection S5.C.3, with subparts respectfully denoted when appropriate:

- Mapping the MS4 (S5.C.3.a)
- Illicit Discharges Ordinance (S5.C.3.b)
- Detection Program (S5.C.3.c)
- Addressing Illicit Discharges (S5.C.3.d)
- Training (S5.C.3.e)
- Recordkeeping (S5.C.3.f)

S5.C.3.a – **Mapping the MS4**

Maps of the city's municipal separate storm sewer system (MS4) assure that illicit discharges and spills can be traced upstream for source detection. Maps also aid in identifying downstream fate of non-stormwater discharges. This information can aid in isolating, diverting, and remediating non-stormwater discharges.

The city’s Geographic Information System (GIS) Department maintains an electronic stormwater system database as a visible map layer that depicts all city-owned stormwater system conveyance, stormwater facilities, outfalls, treatment and flow control best management practices (BMPs), and non-groundwater receiving waters. This database is updated monthly to reflect new and altered stormwater infrastructure based upon submittals of map update requests by field and inspection staff and as-built plans received from all approved construction projects. Associated drainage basin layers and land use information layers have been developed, and can be viewed in conjunction with the other stormwater system elements. In addition, the city’s GIS department is in the process of mapping all privately-owned stormwater systems in the city.

Current city of Kent maps are available to DOE, secondary permittees, and neighboring jurisdictions upon request.

S5.C.3.b – **Illicit Discharges Ordinance**

The regulatory mechanism used to prohibit non-stormwater, illicit connections, and discharges into the city’s MS4 to the maximum extent allowable is the Illicit Discharges Ordinance. This ordinance was codified in Kent City Code (KCC) Chapter 7.14 – Illicit Discharges, and went into effect July 2, 2009. The ordinance was

updated in 2014 and is currently undergoing an amendment process to enhance the city's enforcement ability by allowing criminal charges for egregious cases of contaminants and pollutants being discharged into the MS4. The updated ordinance will be going into effect in mid-2016.

The ordinance is very specific about what can and cannot be discharged into the city's stormwater system, as described under allowable discharges and conditional discharges. The ordinance also supports actions for compliance through inspections, monitoring, and required use of BMPs to prevent pollutants and non-stormwater from entering the MS4 and waters of the state. A copy of the Illicit Discharges Ordinance is always available to the public online through code publishing, and upon request.

S5.C.3.b.i – **Allowable Discharges**

According to the ordinance, the following types of discharges shall not be considered illicit discharges for the purposes of the code chapter unless the director determines that the type of discharge, whether singly or in combination with others, is causing or is likely to cause pollution of surface water or groundwater.

- Diverted stream flows;
- Rising groundwaters;
- Uncontaminated groundwater infiltration as defined by U.S. Code of Federal Regulations 40 CFR 35.2005(20);
- Uncontaminated pumped groundwater;
- Footing and foundation drains discharging clean stormwater only;
- Air conditioning condensation;
- Irrigation water from agricultural sources that is commingled with urban stormwater;
- Springs;
- Water from crawl space pumps discharging clean stormwater only;
- Flows from riparian habitats and wetlands;
- Non-stormwater discharges covered by another NPDES permit;
- Discharges from emergency firefighting activities; or
- Dye testing using environmental friendly products for the purpose of testing or tracing source pollution is allowable but requires verbal notification to the city prior to the time of testing.

S5.C.3.b.ii – **Conditionally Allowable Discharges**

According to the ordinance, the following types of discharges shall not be considered illicit discharges for the purposes of the code chapter if they meet the stated conditions, unless the director determines that the type of discharge, whether singly or in combination with others, is causing or is likely to cause pollution of surface water or groundwater:

- Potable water, including water from water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary, and in volumes and velocities controlled to prevent re-suspension of sediments in the MS4;
- Lawn watering and other irrigation runoff are permitted but shall be minimized;
- Dechlorinated swimming pool discharges. These discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary, and in volumes and velocities controlled to prevent re-suspension of sediments in the MS4;
- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents are permitted if the amount of street wash and dust control water used is minimized; or
- Other non-stormwater discharges. The discharges shall be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the city which addresses such discharges.

S5.C.3.b.iii – **Other Discharges**

The city shall further address any category of the aforementioned discharges if the discharge is identified as a significant source of pollutants to the waters of the State.

S5.C.3.b.iv and v – **Escalating Enforcement Procedures & Compliance Strategy**

The city's compliance strategy for IDDE may be informal and/or formal depending on the risk level and cooperation of the responsible party.

In many cases, illicit connections and discharges are accidental, and the responsible parties are willing to work with the city to resolve the issue as efficiently as possible. In these cases, the city uses an informal approach to facilitate the abatement of the illicit discharge while providing education and technical assistance to prevent future illicit discharges.

In cases where a responsible party intentionally discharged pollutants or is uncooperative with the city's efforts to abate the illicit connection or discharge the city will employ a formal approach through the escalating enforcement procedures outlined below:

1. Education of responsible party
2. Reporting to DOE (if warranted)
3. Notice of correction
4. Notice of violation

5. Stop-use Order on offending property ("red tag")
6. Misdemeanor pursuant to KCC 1.01.140
7. Cost recovery

S5.C.3.c – **Detection Program**

The city's detection program for non-stormwater discharges and illicit connections relies heavily on city staff, the public, and those doing business in the city to recognize and report suspected illicit discharges, connections, and spills. Detection is achieved by training staff, having an informed and attentive public using a spill hotline, and through field screening.

S5.C.3.c.i – **Field Screening**

MS4 field screening is implemented by city staff utilizing a methodology that is linked to the operations and maintenance inspections of catch basins, and the inspections of flow control and water quality treatment BMPs; and is comparable to the method recommended in the permit: *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual*. Prepared for Washington State Department of Ecology. Herrera Environmental Consultants. May 2013. For additional information regarding the city's field screening method associated with scheduled inspections, refer to chapter S5.C.5 of this document regarding Municipal Operations and Maintenance.

Field screening of the private storm sewer systems of all commercial, industrial and multi-family properties in Kent is completed on at least a biennial schedule. This field screening methodology is identical to the method used for the MS4 referred to above.

Pursuant the obligations of the permit, the city has an anticipated goal of conducting field screening on at least 40% of the MS4 no later than December 31, 2017, and an average of 12% per year thereafter.

S5.C.3.c.ii – **Spill Reporting Hotline**

The city has developed and publicized a spill hotline, telephone number: (253) 856-5600, that is maintained for the public to report suspected spills and illicit discharges. All phone calls received through public works environmental engineering and the spill hotline are logged and documented.

S5.C.3.c.iii and iv – **Detection and Response Education and Outreach**

The city provides ongoing training for illicit discharge and/or illicit connection detection and response to staff, businesses, and general public. All staff, who, as part of their normal job responsibilities, might come into contact with, or observe an illicit discharge/connection are trained semiannually on the proper procedures for reporting and responding to suspected and found illicit discharges/connections. Staff members also receive follow-up training as needed to address changes in procedures, techniques, requirements, or staffing. Furthermore, these trainings are documented in relation to S5.C.3.e and f.

City staff meets with members of the public, property owners, and business managers often while completing field screening to educate on general hazards associated with illicit discharges and improper waste disposal. These meetings may also be documented as part of the public education and outreach program described in S5.C.1: Public Education and Outreach.

Further efforts made by the city toward detection and response education and outreach for the general public include:

- A spill kit incentive education program has been established to promote pollution preparedness and spill prevention among local businesses.
- A website has been developed to inform the public about stormwater pollution: www.kentwa.gov/cleanwaterproject
- Public events are held each year to educate the public about the risks of stormwater pollution.
- The city is a partner in the 'Puget Sound Starts Here' stormwater educational campaign; an initiative to reduce pollution in the Puget Sound, and greater Puget Sound area.

S5.C.3.d – **Addressing Illicit Discharges**

The city utilizes the DOE recommended manual, *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual*, May 2013, in developing its ongoing program designed to address illicit discharges, including spills and illicit connections.

The response to illicit discharges depends on many factors, including location, magnitude, and type of spill or discharge. Kent has developed and implemented a plan to respond to all suspected spills and illicit discharges; the city's Spill and Illicit Discharge Response Plan (Appendix I). The city trains staff to use this plan and use the following procedures and timelines as required by the permit:

- Procedures for the characterization and abatement of any public or environmental threat posed by any illicit connections/discharges (S5.C.3.d.i)
- Procedures and methods for tracing the source of an illicit discharge (S5.C.3.d.ii)
- Procedures for eliminating spills and illicit discharges (S5.C.3.d.iii)
- Minimum response timelines (S5.C.3.d.iv)

S5.C.3.d.i – **Characterizing Threats to the MS4 and Environment**

City staff has developed response procedures for characterizing a threat to the MS4, human health, and the environment in the Illicit Discharge and Spill Response Plan (Appendix I). The plan describes whether the discharge must be immediately contained, precautions to take, mitigation measures, and it describes the steps that must be taken for the containment of the discharge.

S5.C.3.d.ii – **Source Tracing Methods**

Source tracing is often necessary to identify the origin of a spill or illicit discharge, understand the impact on the city's MS4, determine responsibility for cleanup costs, and prioritize procedural actions.

Below is a list of common source tracing methods used in the city of Kent. This is not a comprehensive list, but a list of the most frequently used techniques. This list is not in any particular order, but is intended to be used as guidance. It is understood that each incident is unique, and may require the use of different source tracing methods. Dye testing, video inspection, and smoke testing are more advanced methods, and may be used once a determination is made about their appropriateness at each specific site.

Field Exploration

In some cases the source of a spill can be found in close proximity to the discharge point. A brief examination of the area may help to identify the potential source of the discharge.

Maps and GIS

The city has extensive GIS layers depicting the sanitary and storm sewer systems, as well as inventoried wetlands, other sensitive areas, drainage basins, and past spills within the city. This information will aid in the inspection and abatement of illicit discharges.

Manhole Linking

Manholes can be opened for visual inspection to trace discharge sources, working up the 'trunk,' from the discharge detection point, up to the next upstream manhole, analogous to 'connecting the dots.'

Dye Testing

When a sanitary sewage conveyance is suspected of being illegally connected to the storm sewer system, dye can be used to tint water color. For example; when a toilet is flushed with dye added, and it is connected to the storm sewer, the dyed water is visible as it runs into and through the storm system if there is an illicit connection. Contact public works environmental engineering staff before dye testing for illicit connections.

Video Inspection

The city has a video-inspection team that is equipped to specifically inspect city storm and sanitary sewer systems for cracks, leaks, misconnections, and blockages. This service can be used when there are inspection issues (private property, inaccessible conveyance, etc.).

Smoke Testing

If an illicit connection or a crack in the storm sewer system is suspected, smoke testing can be used to trace the location of the crack or connection. This source-detection procedure often requires the temporary blockage of the storm system (to cause smoke to exit cracks rather than the storm system), and should not be employed when there is risk of smoke entering an enclosed structure. Contact public works environmental engineering staff before smoke testing for illicit connections.

S5.C.3.d.iii – **Elimination of Spills and Illicit Discharges**

Kent's IDDE Program and Illicit Discharge and Spill Response Plan address how to appropriately respond and eliminate discharges, procedures for notification of authority and involved parties, and escalating enforcement. Refer to Appendix I and subsection S5.C.3.b.iv and v of this document.

S5.C.3.d.iv – **Minimum Response Timelines**

Compliance with the previous three sections (S5.C.3.d.i, S5.C.3.d.ii, and S5.C.3.d.iii) will be achieved by meeting the following timelines as outlined in permit section S5.C.3.d.iv:

- Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment, consistent with General Condition G3.
- Investigate (or refer to the appropriate agency with the authority to act) within 7 days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge.
- Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.
- Upon confirmation of an illicit connection, use the compliance strategy in a documented effort to eliminate the illicit connection within 6 months. All known illicit connections to the MS4 shall be eliminated.

S5.C.3.e – **Training**

Similar to subsection S5.C3.C.iii and iv, the city provides ongoing training for identification, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, and to conduct these activities to staff, businesses, and general public. Follow-up training is provided as needed to address changes in procedures, techniques, requirements, or staffing. All training is documented.

S5.C.3.f – **Record Keeping**

City staff document, track, and maintain records of all activities associated with IDDE in Kent.

S5.C.4: Controlling Runoff from New Development, Redevelopment, and Construction Sites

Kent has an ongoing development review and inspection program to reduce pollutants discharged to the stormwater system from new development, redevelopment, and construction site activities. The program applies to all private and public development, including roads.

The program is generally organized to follow and address the minimum performance measures outlined in permit subsection S5.C.4, with subparts denoted when appropriate:

- Enforceable Mechanisms Addressing Runoff (S5.C.4.a)
- Permitting Process with Site Plan Review (S5.C.4.b)
- Long-term Operation and Maintenance (S5.C.4.c)
- Notice of Intent (NOIs) (S5.4.d)
- Training (S5.4.e)
- Low Impact Development (LID) (S5.C.4.f)
- Watershed-scale Stormwater Planning (S5.C.4.g)

S5.C.4.a – **Enforceable Mechanisms Addressing Runoff**

Kent utilizes a combination of city codes, city standards, and adopted standards to establish authority and administer requirements for standards to control runoff. These different components for standards and authority are outlined below. Copies of these codes and standards are always available to the public online and upon request.

S5.C.4.a.i – **Minimum Requirements**

Kent requires all new development and redevelopment in the city to meet stormwater management standards that are substantively equivalent to the "Minimum Technical Requirements for New Development and Redevelopment" in Appendix 1 of the permit. These standards apply, at a minimum, to all new development and redevelopment projects disturbing a land area of one acre or greater, including projects less than one acre that are part of a larger common plan of development or sale.

S5.C.4.a.ii – **Local Requirements**

The following local requirements include limitations, and criteria that, when used to implement the minimum requirements in Appendix 1 of the permit will protect water quality, reduce the discharge of pollutants to the maximum extent practicable and satisfy the State requirement under Chapter 90.48 RCW to apply all known, available and reasonable methods of prevention, control and treatment prior to discharge.

Surface Water and Drainage Code

The city council finds that the Surface Water and Drainage Code, KCC 7.07, is necessary in order to:

1. Promote sound development policies and construction procedures which respect and preserve the city's watercourses;
2. Minimize water quality degradation and control the sedimentation of creeks, streams, ponds, lakes, and other water bodies;
3. Protect property owners adjacent to developing and developed land from increased run-off rates which could cause erosion of abutting property;
4. Protect downstream owners;
5. Preserve and enhance the suitability of waters for contact recreation and fishing;
6. Preserve and enhance the aesthetic quality of the waters;
7. Maintain and protect valuable groundwater resources;
8. Minimize adverse effects of alterations in groundwater quantities, locations, and flow patterns;
9. Ensure the safety of city and King County roads and rights-of-way; and
10. Decrease drainage related damage to public and private property.

Design and Construction Standards

Kent City Code Chapter 6.02, Required Infrastructure Improvements, establishes that all construction projects within the city adhere to the *2009 City of Kent Design and Construction Standards.*

The city has adopted the *2009 City of Kent Design and Construction Standards* for two primary reasons:

1. To the extent practicable, to set forth the minimum requirements for specific and consistent requirements for construction of, and improvements to: public and private streets, water utilities, sewer utilities, and storm water utilities; placement and operation of any utilities in rights-of-way; and all excavation and grading in the city. These Standards include procedures for inspection, acceptance, warranty and deviations.
2. To establish uniform criteria to guide the city's own design, construction and improvement of city streets and utilities.

The *2009 City of Kent Design and Construction Standards* require the use of the *City of Kent Surface Water Design Manual*.

Surface Water Design Manual

The city's current *City of Kent Surface Water Design Manual* (SWDM) requires construction projects within the city to adhere to specific stormwater management standards during all phases; planning and design, construction, and operations and maintenance. The SWDM requires the following:

- Site planning requirements
- BMP selection criteria
- BMP design criteria
- BMP infeasibility criteria
- LID competing needs criteria
- BMP limitations

The SWDM adopts, by reference, the 1998 *King County, Washington Surface Water Design Manual* (KCSWDM). Kent's SWDM includes city-specific requirements, many of which are more stringent than those outlined in the KCSWDM. Kent's SWDM also includes several addenda known as blanket adjustments. The blanket adjustments require all development within the city of Kent to utilize additional stormwater management techniques to achieve a measure of protection equivalent to Appendix 1 of the permit. Kent is currently in the process of adoption the new 2016 *King County Surface Water Design Manual. The planned adoption date of the new stormwater standards is January 1, 2017.*

Critical Areas Code and Flood Hazard Regulation Code

Kent's Critical Areas Code (KCC 11.06) and Flood Hazard Regulation Code (KCC 14.09) address the restrictions related to wetlands, flood hazard areas, and other critical areas within the city. These restrictions include stormwater discharge limitations.

S5.C.4.a.iii – **Legal Authority**

Kent has established the legal authority to inspect and enforce maintenance standards for private stormwater facilities through the above codes and standards, and permitting process.

S5.C.4.b – **Permitting Process with Site Plan Review**

Kent's permitting process includes site plan review, inspection, and enforcement-capability provisions to ensure projects meet all the minimum and local requirements outlined in S5.C.4.a. The permitting process includes:

- Review of all stormwater site plans for proposed development activities. (S5.C.4.b.i)
- Inspection, prior to clearing and construction, of all known development sites that have a high potential for sediment transport based on definitions and minimum requirements in thresholds found in Appendix 1 of the permit, and enforcement as necessary based on inspection. (S5.C.4.b.ii)
- Inspection of all known permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls; and enforcement as necessary based on inspection. (S5.C.4.b.iii)

- Inspection of all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls such as stormwater facilities and structural BMPs; and enforcement as necessary based on inspection.
- (S5.C.4.b.iv)
- Development of a maintenance plan which assigns responsibility for the maintenance for stormwater facilities and infrastructure, commonly documented through legal documents (e.g.: Performance Bonds, Easements, Plats, or Declaration of Stormwater Facility Maintenance Covenants). (S5.C.4.b.iv)

All inspection visits and outcomes are documented and recorded. In accordance with permit obligations, no less than 80% of scheduled compliance inspections shall be completed during this permit period. (S5.C.4.b.v)

An enforcement strategy is in place to respond to issues of non-compliance. (S5.C.4.b.vi) Enforcement actions may include:

- Stop-work orders;
- Denial or revocation of engineering plan approvals and permits;
- Withholding of release of financial guarantees;
- Delay of final inspection;
- Delay or denial of final approval;
- Denial of occupancy certificates (temporary and permanent);
- Notice to surety or other financial institution and/or legal action for forfeiture of financial guarantees;
- Code enforcement and/or other penalties as provided by law

S5.C.4.c – **Long-term Operation and Maintenance**

Kent verifies long-term operation and maintenance (O&M) of permanent stormwater treatment and flow control BMP's/facilities through enforceable mechanism and standards.

S5.C.4.c.i – **Enforceable Mechanism to Identify Responsible Parties**

The city utilizes code and standards (refer to S5.C.4.a) as enforceable mechanisms to identify responsible parties for maintenance of constructed stormwater treatment and flow control BMP's/facilities, and establish enforcement procedures.

Per the *City of Kent Surface Water Design Manual,* an executed declaration of stormwater facility maintenance covenant shall exist for all privately owned and maintained stormwater treatment and flow control BMP's/facilities. The covenant identifies the party responsible for maintenance and inspection of stormwater facilities, and also allows right-of-entry for city inspectors. In the absence of a

covenant, the city may establish maintenance responsibilities through other legal documentation and means.

S5.C.4.c.ii – **Maintenance Standards**

Kent's maintenance standards (refer to S5.C.4.a) are equivalent to or exceed those specified in Chapter 4 of Volume V of the *2012 Stormwater Management Manual for Western Washington*. For facilities for which no maintenance standards exist, the city shall develop maintenance standards.

S5.C.4.c.iii; iv; and v – **Maintenance Inspection Frequency**

Annual inspections will be completed for all stormwater treatment and flow control BMPs/facilities that discharge into the MS4 and were permitted according to the permitting process (refer to S5.C.4.b). Inspection frequency will be performed annually unless there are maintenance records to justify a different frequency.

Furthermore, inspections of all new permanent stormwater treatment and flow control BMPs/facilities and catch basins in new residential developments shall be inspected every 6 months until 90% of the lots are constructed (or when construction is stopped and the site is fully stabilized) to identify maintenance needs and enforce compliance with maintenance standards as needed.

All inspection visits and outcomes are documented and recorded. Pursuant to permit obligations, no less than 80% of scheduled compliance inspections shall be completed during this permit period.

S5.C.4.c.vi – **Maintenance Performance Timelines**

When an inspection identifies an exceedance of the maintenance standard, maintenance will 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.

Maintenance inspection frequency will be performed according to the schedules above unless there are maintenance records to justify a different frequency. For each exceedance of the above time frames for maintenance Kent will document the circumstances and remedy.

S5.C.4.c.vii – **Record Keeping**

All inspections, maintenance activities, and enforcement actions by staff will be documented, recorded, and maintained.

S5.C.4.d – **Availability of Notices of Intent**

Kent makes available copies of the "Notice of Intent for Construction Activity" and copies of the "Notice of Intent for Industrial Activity" to representatives of proposed new development and redevelopment.

The city will continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.

S5.C.4.e – **Training**

City staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training will be provided as needed to address changes in procedures, techniques or staffing. The city maintains records of the training provided and the staff trained.

S5.C.4.f – **Low Impact Development Code-Related Requirements**

Currently, section 5.8 of the *2009 City of Kent Design and Construction Standards* encourages the use of non-structural preventive actions and source reduction approaches such as Low Impact Development (LID) techniques, measures to minimize the creation of impervious surfaces, and measures to minimize the disturbance of native soils and vegetation. Kent recognizes that LID techniques are not practical for all locations, depending on site suitability. Approval for LID techniques will be on a case-by-case basis.

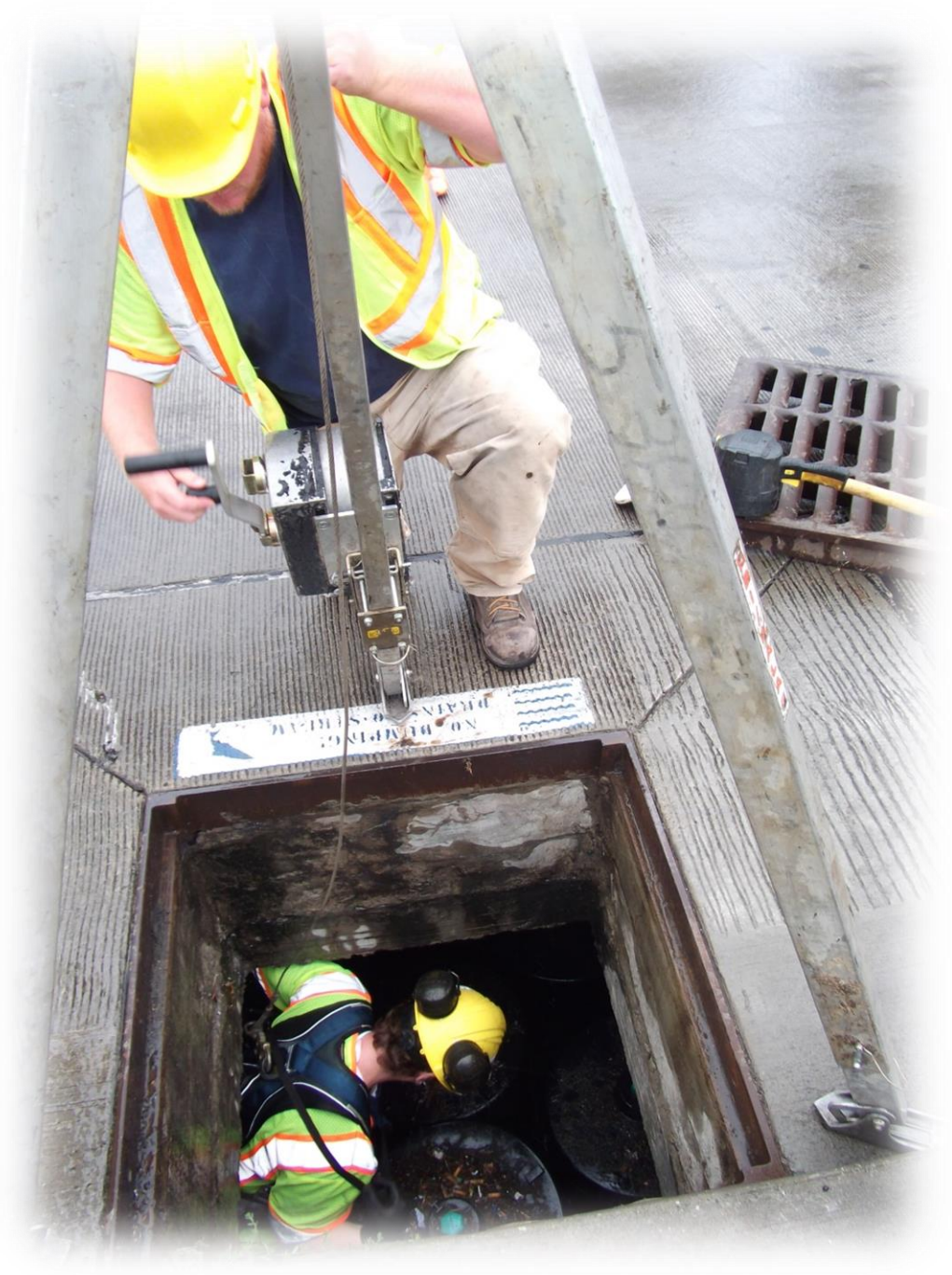
The city is actively working to review and revise local development codes, rules, standards, and other enforceable mechanisms to incorporate and require LID principles and LID BMPs no later than December 31, 2016. The intended revisions will make LID the preferred approach to site development. A summary of the review and revision process will be made available in the annual report for 2016, due no later than March 31, 2017. The summary shall include:

- Measures to minimize impervious surfaces
- Measures to minimize loss of native vegetation
- Other measures to minimize stormwater runoff

S5.C.4.g – **Watershed-scale Stormwater Planning**

While the city was not selected by a Phase I permittee to participate in watershed-scale stormwater basin planning, Kent continues to collaborate regionally with other permittees on issues and programs involving stormwater quality, including:

- Wellhead Protection Program
- Total Maximum Daily Load (TMDL) water quality improvement assessments
- Regional Stormwater Monitoring Program



S5.C.5: Municipal Operations and Maintenance

The city works diligently to operate and maintain its MS4 for efficient conveyance, storage, and, in some cases, treatment of stormwater before it is discharged to surface or ground waters, to reduce localized flooding, decrease instances of erosion, and allow treatment processes to function properly. As a result, the city continues to ensure a full-functioning and properly maintained MS4 that will prevent and/or reduce pollution from municipal operations.

This section is generally organized to follow and address the minimum performance measures outlined in permit subsection S5.C.5, with subparts respectfully denoted when appropriate:

- Maintenance Standards (S5.C.5.a)
- Inspections of Flow Control and Treatment Facilities (S5.C.5.b)
- Spot Inspections (S5.C.5.c)
- Catch Basin Inspections, Maintenance and Cleaning (S5.C.5.d)
- 95% Minimum Compliance (S5.C.5.e)
- Best Management Practices (S5.C.5.f)
- Stormwater Management Training Program (S5.C.5.g)
- Stormwater Pollution Prevention Plan (S5.C.5.h)
- Maintain Records of Activities (S5.C.5.i)

The information in this section is also used as a training guide to inform public works operations staff and management of the requirements of the permit and how the city fulfills those requirements.

S5.C.5.a – **Maintenance Standards**

For all municipally owned stormwater treatment and flow control BMPs/facilities, catch basins, and inlets, the city adheres to maintenance standards specified in the *2009 City of Kent Design and Construction Standards* and *City of Kent Surface Water Design Manual*. These standards establish criteria for identifying maintenance deficiencies and needs. Maintenance deficiencies are discovered through an inspection process. When an inspection identifies maintenance is needed, the city makes every effort to perform the work and return the facility to standard within the following timelines:

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

For each exceedance of the above timeline for maintenance, Kent will document the circumstances and remedy.

S5.C.5.b – **Inspections and Maintenance of Stormwater Treatment and Flow Control BMPs/Facilities**

In accordance with permit requirements S5.C.5.b and S5.C.5.e, the city will annually inspect at least 95% of all municipally owned permanent stormwater treatment and flow control BMPs/facilities, other than catch basins. Inspection frequency will continue to be performed annually unless there are maintenance records to justify a different frequency. All inspection visits are documented and recorded utilizing the inspection checklists (Appendix II) and/or electronic database entry methods.

The city addresses the maintenance deficiencies discovered during the inspection process within the timelines stated in S5.C.5.a. The most common and routine maintenance, such as vegetative maintenance and inlet and outlet structure maintenance, is completed by public works operations staff. However, for facilities that require excessive maintenance, the city may hire contractors to complete the work.

S5.C.5.c – **Spot Check Inspections**

In the event of a storm with 1.87 inches or more rainfall in 24 hours (known as a 2-year 24-hour event), public works staff perform spot checks of public stormwater infrastructure that have a history of drainage problems, commonly called hotspots. These hotspots are inspected for structural damage and/or localized flooding. Spot checks may be performed for lesser storm events at the discretion of the stormwater utility superintendent or engineering staff. If spot checks indicate widespread damage or maintenance needs, all treatment and flow control facilities in the area that may have been affected will be inspected and maintenance performed where necessary. Blockages and debris may be immediately removed if it is safe to do so. This work is done in accordance with all relevant safety and environmental requirements.

The current hotspot inventory includes more than 60 stormwater facility locations within Kent. A map of the hotspot inventory is included in Appendix III for reference purposes only. A fully descriptive list of hotspots is available from public works. For each hotspot, identified deficiencies, defects, or blockages are documented and a maintenance schedule is developed.

S5.C.5.d – **Catch Basin and Inlet Inspection, Maintenance, and Cleaning**

Pursuant to permit requirements S5.C.5.d and S5.C.5.e, inspections of at least 95% of all publically owned catch basins and inlets in the city shall occur at least once

between August 1, 2013 and August 1, 2017. All inspection visits are documented and recorded utilizing the inspection checklists (Appendix II) and/or electronic database entry methods.

The city addresses cleaning needs and maintenance deficiencies discovered during the inspection process within the timelines stated in S5.C.5.a. The most common and routine maintenance and cleaning is completed by public works operations staff. However, for facilities that require excessive maintenance or cleaning, the city may hire contractors to complete the work.

Catch basins contain a sump that allows sediments to settle out as stormwater passes through. Catch basins must be cleaned of sediments when levels in the sump exceed 60% of sump holding capacity (pursuant to the established maintenance standards (refer to S5.C.5.a)). Public works operations staff cleans catch basin sumps either by hand or more commonly using a Vactor truck, a vacuum eductor truck. Decanted water from the Vactor truck is disposed of in accordance with Appendix 6 of the permit, Street Waste Disposal, at permitted sites within Kent.

S5.C.5.e – **95% Minimum Compliance**

Compliance with the requirements in three previous sections, S5.C.5.b, S5.C.5.c, and S5.C.5.d, shall be achieved with an inspection rate of at least 95%. Weekly inspection reports are generated and sent to all employees responsible for completing inspections. This report helps monitor the inspection achievement rate and prepare work-plans allowing for adequate time and effort toward fulfilling a 95% minimum compliance within the permit timeframe.

S5.C.5.f – **Best Management Practices**

The city makes all known and reasonable efforts through policy, procedure and practices to reduce stormwater impacts associated with runoff from all lands owned and/or maintained by the city, such as parking lots, streets, roads, highways, buildings, parks, open space, and maintenance yards. While performing maintenance activities, Best Management Practices (BMPs) are utilized to prevent stormwater runoff.

Kent is a part of a Regional Road Maintenance Endangered Species Act Program (RRM/ESA Program). The guidelines of this program provide a set of road maintenance policies and practices that will meet the dual goals of contributing to the conservation of Endangered Species Act listed species, while meeting critical roadway safety and maintenance needs. The RRM/ESA Program guidelines provide detailed information on specific BMPs required during maintenance operations.

Training on these guidelines is provided regularly to public works operations staff. Documentation of these activities is maintained when the maintenance activities result in the use of physical BMPs as outlined in the RRM/ESA Program guidelines. Technical assistance on these guidelines is available by calling public works environmental engineering at (253) 856-5500.

The following is a list of maintenance activities that must be addressed pursuant to the permit. A brief description is given of the maintenance activity and typical items of concern during the activity. The activities listed below are all part of routine public works operations intended to ensure a well-maintained and functional infrastructure.

Pipe Cleaning and Maintenance

Storm sewer pipes convey stormwater downstream to alleviate flooding issues. The stormwater discharges to ponds or other stormwater facilities, or often directly to streams, rivers or other water bodies. Storm pipes must be clear of obstructions and breaks to prevent localized flooding, and to minimize the addition of pollutants to water bodies.

Storm pipes are maintained on an as-needed basis; maintenance triggers include localized flooding or inspection reports that document a maintenance need. All sediment, debris, and dirty water are disposed of in a manner protective of the environment and surface water.

Culvert Cleaning and Ditch Maintenance

Ditches are open conveyance systems that collect and convey stormwater from roads and impervious surfaces where a storm pipe is not necessary or feasible (i.e. rural roads). Culverts are relatively short, closed-pipe systems used in a ditch to convey stormwater-runoff under roads and driveways. Culverts may also be used to allow perennial streams to flow unimpeded under roads. It is important to keep ditches and culverts clear of obstructions to prevent localized flooding, minimize the addition of pollutants to water bodies, and prevent damage to culverts, roadways, and the environment.

The city maintains ditches and culverts on an as-needed basis, or as a result of inspection reports that document the need for maintenance. All sediment, debris, and dirty water are disposed of in a manner protective of the environment and surface water.

Road Repair and Resurfacing

Roadways are not only important to transportation, but also convey stormwater. Roadways free of potholes or other deficiencies are important to safe

transportation, but also keep sediment and other debris from being washed into the stormwater system and downstream to local waterways and other sensitive areas. The city maintains roadway surfaces on an as-needed basis, or as part of regularly scheduled roadway improvement projects. For roadway improvement projects, BMPs are a required part of the planning process and are consistent with the requirements of Appendix 1 of the permit. For roadway maintenance spot repair or emergency work, BMPs are utilized to ensure sediment or sediment-laden water is not discharged into catch basins or to surface waters.

Snow and Ice Control

Snow and ice control and removal are important to city operations. Snow and ice accumulation can be controlled by using de-icer. Kent currently uses calcium chloride, as necessary, in concentrations which are approved by DOE and EPA, and with an application technique that won't result in pooling or runoff. Sand is applied to improve traction in areas where snow or ice has already accumulated. Sand is removed as soon as weather and road conditions permit to minimize the transport of sediments to the stormwater system.

Street Cleaning

A street sweeping service provider is contracted to perform street sweeping in the city. The contract agreement stipulates sweeper types, a sweeping schedule, and BMPs that must be implemented when sweeping is performed. Swept material is handled by the street sweeping contractor at a permitted facility. The city trains street sweeper drivers on identifying and reporting spills. Water trucks are not used to clean streets.

Utility Installation

Utility installation is often conducted by public works staff, either as planned improvements or repairs, or as part of emergency repair and replacement. City staff utilize RRM/ESA Program guidelines to select BMPs to ensure that utility installation work does not impact water quality.

Contractors performing utility installation in the city must adhere to Kent standards, which require the use of BMPs for all work that has the potential to impact water quality.

Pavement Striping Maintenance

Pavement striping and striping maintenance are performed so that water quality is not adversely impacted. This includes applying paint striping during dry conditions and ensuring debris from grindings is contained and disposed of properly.

Maintenance of Roadside Areas

Roadway shoulders are maintained for safety reasons and to protect roadway and related infrastructure. Public works operations staff maintains roadway shoulders using means that prevent further damage, such as excessive vegetation removal or activities that could cause erosion. Soil stabilization BMPs are utilized on exposed dirt. For vegetation management, application of fertilizers, pesticides, and herbicides is performed consistent with state law and integrated pest management principles.

Dust Control

Dust from maintenance activities can degrade air quality and, when it settles, dust can reduce the quality of water courses and sensitive areas. Thus, for sites that have the potential to create dust, BMPs must be implemented to reduce the potential of airborne pollution, and must be carefully selected so as not to further cause environmental harm. Urban sources of dust include exposed soils from construction activities and unpaved roads and alleys. BMPs include applying water to exposed soils, encouraging the use of vegetative cover where applicable, and minimizing the amount of soil disturbance.

Application of fertilizer, pesticides, and herbicides

The application of fertilizers, pesticides, and herbicides is performed consistent with state law and integrated pest management principles. The city implemented an Integrated Pest Management (IPM) plan for maintenance operations pertaining to the application of pesticides and herbicides. The IPM plan identifies standard operating procedures for the application of pesticides or herbicides by maintenance crews in both the public works and parks departments. A copy of the IPM is available from public works.

The city is covered as a limited agent under the Washington State Department of Agriculture's Noxious Weed Control NPDES Permit. Under the guidelines, and with reporting requirements, this permit allows for the responsible application of herbicides and pesticides in the vicinity of local water bodies.

Kent is also permitted under the DOE's Aquatic Mosquito Control General Permit; this permit includes requirements for the application of mosquito-targeted pesticides. Application of mosquito larvicide will only occur when specific parameters are met, and with adherence to aquatic mosquito control permit.

Sediment and Erosion Control

Kent requires all maintenance activities and construction sites employ erosion and sediment controls. For projects that disturb soil or maintenance activities that have the potential to pollute, Kent requires the implementation of stormwater pollution

prevention BMPs as outlined in the *City of Kent Surface Water Design Manual* and RRM/ESA Program guidelines.

Landscape Maintenance and Vegetation Disposal

Landscaping is performed in such a way as to minimize exposed soils, to reduce sediment laden runoff, and to encourage infiltration. Vegetation from maintenance activities is collected, and recycled into compost through a contracted waste handler. The IPM plan provides guidance to effectively manage the use of vegetation and pest treatments and controls.

Trash Management

A solid waste service provider is contracted to collect garbage in Kent. The contract requires all solid waste trucks to carry spill kits, and training for drivers on how to respond to and report spills. The contractor must also replace fleet vehicles upon discovery of leaks. The garbage contractor is also required to replace leaking dumpsters within 24 hours.

Kent has full-time staff to collect trash within city right-of-way and mitigate illegal dumping.

Kent also maximizes recycling in the city through a ½ time Conservation Coordinator who implements the solid waste program and promotes recycling education.

Building Exterior Cleaning and Maintenance

Cleaning and maintenance activities and requirements for buildings owned and operated by the city of Kent have been outlined in the Operations Facility Stormwater Pollution Prevention Plan. Parks and Recreation staff will continue to receive annual training on proper methods of cleaning and maintaining parks facilities. City-building maintenance activities must comply with the requirements of KCC chapter 7.14, Illicit Discharges.

S5.C.5.g – **Stormwater Management Training Program**

Kent implements an on-going training program for employees whose construction, operations, or maintenance job-functions may impact stormwater quality. The training program addresses the importance of protecting water quality, the requirements of applicable NPDES permits, operation and maintenance standards, inspection procedures, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns, including potential illicit discharges. Follow-up training is provided as-needed to address changes in procedures, techniques or

requirements. Currently, training is held at least twice annually. Kent documents and maintains records of training provided.

S5.C.5.h – **Stormwater Pollution Prevention Plan**

Kent has developed and implemented a Stormwater Pollution Prevention Plan (SWPPP) for its Operations, Vactor-solids, and East Hill facilities. All structural and operational BMPs listed in the SWPPP are currently being implemented or are scheduled for implementation as soon as practicable. This SWPPP shall be modified and applied at any other sites that meet the need for a SWPPP in the future. The SWPPP includes periodic visual observation of discharges from the facility to evaluate the effectiveness of the BMPs. These facilities are also inspected annually to ensure proper functioning of stormwater infrastructure and implementation of the SWPPP. A copy of the SWPPP is available from the public works department, and on-site at all three locations.

S5.C.5.i – **Maintain Records of Activities**

Records of inspections and maintenance or repair activities conducted by the city are maintained in accordance with S9, reporting requirements, of the permit.

Appendix I: Spill and Illicit Discharge Response Plan

Introduction

This document outlines actions city staff will take should they encounter a spill or illicit discharge to road surfaces and other city-owned property. Often, city staff may be the first to respond to spills or illicit discharges of potentially hazardous materials. Such incidents can pose a danger to human health and the environment, and must be contained with prompt, decisive actions to minimize the potential danger.

Response to illicit discharges and spills will depend on many factors including quantity, location, and type of pollutant discharged. Spills and illicit discharges are classified accordingly into the following three risk categories: Low; Minor; and Major.

Specific procedures are provided for low and minor spills, and general procedures for major spills. Specific procedures for major hazardous spills are addressed in the *Kent Comprehensive Emergency Management Plan*. As a general rule, major spills and illicit discharges dictate that the Fire Department is immediately called to take the lead in implementing the appropriate spill response procedures.

The Illicit Discharge and Spill Response Plan will be made accessible at all times. When it comes to spills or discharges of all sizes, every second counts.

Spill Response Procedures

Follow these steps when responding to a spill:

1. Assess the Situation/Secure the Area
2. Contain the Spill/Illicit Discharge
3. Clean-up the Material
4. Report the Spill/Illicit Discharge
5. Identify Responsible Party
6. Document the Response for City Records

These steps are detailed as follows and are also outlined in the Spill Response Quick Action Guide & Checklist (Appendix I (a))

1. Assess the Situation/Secure the Area

Utilize the Risk Characterization Chart (Appendix I (b)) to help assess the level of risk associated with a spill or illicit discharge then proceed appropriately.

- City employees should only approach a spill or illicit discharge of *known* materials (example: paint, motor oil, diesel or antifreeze). Ensure that the location is safe to enter before approaching, especially if on a roadway open to traffic.
- Ensure safety of city staff and the public by keeping the public and other city staff at a safe distance from the spill/illicit discharge area.

- If the spill/illicit discharge is "Major", immediately call 911. Remain on site to assist Fire Department Hazardous Materials staff with operational issues.
- Apply personal safety equipment including goggles and nitrile gloves. If working in the right-of-way, a reflective safety vest and hard hat will be worn.
- Isolate any ongoing spills or leaks if it is safe to do so. If not, wait for emergency personnel and maintain a safe perimeter.
- Implement traffic control as necessary.
- Call the spill hotline at (253) 856-5600.
- Call your supervisor.
- Call public works, environmental engineering, at (253) 856-5500.

Attempt to stop an ongoing discharge *only* if it is safe to do so.

Example 1

When a container of known material has fallen over, the responder could stop the spilling of material by righting the container.

Example 2

Simply turning a valve to stop further release of material.

2. Contain the Spill/Illicit Discharge

- Protect yourself first. Wear personal protective equipment (PPE). At a minimum, work boots, eye protection and work/rubber gloves are necessary. If working in the right-of-way, a reflective safety vest will be worn.
- Set up a work zone to safely work within the right-of-way. Consider the location of the spill, traffic volume, time of day, spilled material and quantity, length of time needed to clean up the spill, and employee/public safety.
- If the material is known and non-toxic; place booms, pipe plugs, or other impermeable barriers to prevent the spread of spilled material into the stormwater system, waters of the state, and to pervious surfaces such as soil, grass, or bioswales.

3. Clean-up the Material

- Clean-up normally involves the use of granular absorbents, vermiculite, floor sweep, peat moss, absorbent pads and booms.
- Use absorbent materials to clean up the spilled substance. If the first application of absorbent becomes saturated and will not soak up all of the spilled liquid, a second application may be necessary.
- Used absorbent materials should be collected and double bagged, and if in the right of way, moved out of the travel lanes and stored at the roadside, preferably well off the shoulder.
- Absorbent material may be double bagged in heavy-duty trash bags, wrapped or 'diapered' in plastic sheeting, or contained in pails or barrels.
- The containers used to hold the material should be tagged with the time and date of the spill, and clearly marked to indicate the type of absorbent used

and the material that was spilled. It is also desirable to indicate the responsible party if known.

- Care should be taken not to overload the containers used to store the absorbents. If trash bags are used, double bag and limit each bag to about 15 pounds.
- If traffic has been stopped to allow the spill response to occur in a safe manner, traffic may resume once spill cleanup has been completed and the travel lanes are safe (i.e. sanded if necessary to provide traction). Before restoring traffic flow, ensure that it will not endanger any remaining cleanup efforts.
- Spills which have soaked into soil will require cleanup but may be completed at a later date by the responsible party. This process will be initiated after public works environmental engineering staff is notified.
- Contact public works environmental engineering staff for the appropriate disposal method of spent absorbent materials or contaminated soil.
- If the spill is too large to be handled by public works operations staff, or if the material is hazardous and needs to be removed from the roadway, ditch, or stormwater system with a vacuum eductor truck, an outside spill response contractor will need to be utilized.

4. Report the Spill/Illicit Discharge

Spill type	Report to (in this order)
Low risk	Supervisor
	Public Works Environmental Engineering – (253) 856-5500
Minor risk	Supervisor
	Spill Hotline – (253) 856-5600
	Public Works Environmental Engineering – (253) 856-5500
	Washington State Department of Ecology - ***only if you are unable to contact Public Works Environmental Engineering*** - (425) 649-7000
	For hazardous waste contact the fire department – (253) 856-4440
Major risk	911
	Spill Hotline – (253) 856-5600
	Supervisor
	Public Works Environmental Engineering – (253) 856-5500
	Washington State Department of Ecology - ***only if you are unable to contact Public Works Environmental Engineering*** - (425) 649-7000
	Washington Emergency Management Division - ***only if you are unable to contact Public Works Environmental Engineering*** - (800) 258-5990
	National Response Center - ***only if you are unable to contact Public Works Environmental Engineering***- (800) 424-8802

For all of the above, please report the following information:

- Date, time, and location of spill
- Type of material spilled
- Type of absorbent used
- Name and contact information of the responsible party
- Current status of incident (e.g. contained, cleaned up, in process etc…)

5. Identify Responsible Party

- Attempt to identify the party responsible for the spill or illicit discharge through source tracing methods.
- Collect contact information from the responsible party using the Spill Or Illicit Discharge Incident Response Form (Appendix I (c))
- The Responsible Party [RP] is responsible for spilled materials, including the final removal and proper disposal of materials and if needed the subsequent site remediation. If the RP does not or cannot handle this responsibility in a timely manner, the city may initiate disposal and the responsible party may be billed. **Clean-up actions taken by early responders do not affect or limit the RP responsibilities.**

6. Document the Response for City Records

Public works staff will record the following in the Spill and Illicit Discharge Database:

- Time, location, pollutant and absorbent material type and quantity
- Description of the spill and if it has entered into the storm system and/or natural waterways
- Responsible Party
- Spill/Illicit discharge respondent
- Who disposed of the materials

Definitions

For the purposes of this plan, the following definitions apply:

Absorbent materials: any materials, manufactured or natural that may be used to absorb spilled fluid, and may include commercial absorbents, saw dust, floor sweep, peat moss, absorbent pads, clay or even topsoil.

Illicit discharge: means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Low risk spills and illicit discharges: meet all of the following conditions:

1. The spilled material is known.
2. The material spilled is not highly toxic.
3. The quantity spilled is small enough that it can be safely cleaned up using public works spill kits.
4. There is no fire hazard present.
5. The spill can be completely contained and the material has little or no potential to reach the stormwater system or surface waters of the state.

6. If material enters Waters of the State, it is **NOT low risk**, treat as minor or major.

Major spills and illicit discharges: hazardous or unknown materials, or spills of a known non-hazardous material larger than can be safely contained and cleaned up by the public works staff. These pose a risk to the responder, the public, or the environment.

Minor spills and illicit discharges: do not pose a risk to human health or the environment and have not entered Waters of the State.
Responders: include the fire department, contractors, King County employees, Department of Ecology, or trained city personnel.

Responsible Party (RP): the entity having dominion over the product prior to the spill, not necessarily the party responsible for the accident.

Spill: the expulsion of any fluids or solids upon the roadway itself or the abutting areas that cause an immediate threat to traffic by hindering its normal operation in any way (covering surfaces causing slicks, dripping onto traffic below, etc.) or that may enter the storm drainage system or Waters of the State.

Waters of the State: Those waters as defined as "Waters of the United States" in 40 CFR 122.2 within the geographic boundaries of the state of Washington and "waters of the state" as defined in Chapter 90.48 RCW, which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Spill Response - Quick Action Guide & Checklist

1. Assess the situation/Secure the area

- ☐ For a Major Spill of Unknown or Hazardous Material – Call 911
- ☐ Set up a perimeter to keep the public and non-essential personnel at a safe distance from the spill/illicit discharge
- ☐ Establish traffic control, as necessary
- ☐ For a Minor or Incidental Spill, proceed with step 2

2. Contain the Spill/Illicit Discharge

- ☐ Wear personal protective equipment
- ☐ Set up work zone to safely work within the right-of-way
- ☐ If the material is known and non-toxic, stop the source of the spill
- ☐ Place booms, pipe plugs, or other impermeable barriers to prevent the spread of spilled material into the stormwater system, Waters of the State, and pervious surfaces such as soil, grass, or bioswales. Proceed with step 3.

3. Clean up the material

- ☐ Contact an outside spill response contractor if the spill is too large to be handled by city operations staff, or if the material is hazardous and needs to be removed from the roadway, ditch, or stormwater system with a vacuum eductor truck.
- ☐ Use granular absorbents, vermiculite, floor sweep, peat moss, absorbent pads and/or booms to absorb the material
- ☐ If the first application of absorbent becomes saturated and will not soak up all of the spilled liquid, a second application may be necessary
- ☐ Double bag used materials and place outside the right of way
- ☐ Contact Public Works Environmental Engineering for methods to dispose of spent absorbent materials or contaminated soils. Proceed with step 4.

4. Report the Spill/Illicit Discharge

Spill type	Report to (in this order)
Incidental Spill / Illicit Discharge	Supervisor
	Environmental Engineering – (253) 856-5500
Minor Spill / Illicit Discharge	Supervisor
	Spill Hotline - (253) 856-5600
	Environmental Engineering - (253) 856-5500
	Washington State Department of Ecology - ***only if you are unable to contact Environmental Engineering*** - (425) 649-7000
	For hazardous waste contact the fire department –(253) 856-4440
Major Spill / Illicit Discharge	911
	Spill Hotline - (253) 856-5600
	Supervisor
	Environmental Engineering - (253) 856-5500
	Washington State Department of Ecology - ***only if you are unable to contact Environmental Engineering*** - (425) 649-7000
	Washington Emergency Management Division - ***only if you are unable to contact Environmental Engineering*** - (800) 258-5990
	National Response Center - ***only if you are unable to contact Environmental Engineering***- (800) 424-8802

5. Document the Response

- Using the Spill Or Illicit Discharge Incident Response Form, record the following:
  - The time, date, weather, location, material type and quantity
  - Whether the spill has entered into storm drains and/or waterways
  - The responsible party
  - Who responded to the spill
  - Who disposed of the materials

Appendix I (b): Risk Characterization Risk Chart

The following chart should be used by Public Works first responders to help assess the level of risk associated with a spill or illicit discharge.

Risk Characterization Chart

Risk:	None	Low	Minor	Major
Indicators	*Water quality is up to standard*	• Visible Color • Moderate turbidity • Foam	• Light sheen • Gas/diesel odor • Considerable turbidity • Stressed or dead vegetation • Fungi growth • Bleach/chemical odor • Oil spill (< ¼ gal.) • Paint spill • High turbidity	• Heavy chemical discharge • Substantial oil/petroleum spill (> ¼ gallon) • Sewage-gray water leachate • Biohazard
City Response	*No Investigation*	• Preliminary Investigation	• Trace Source • Remediation Probable • Responsible party may have the option to do own cleanup depending on nature of spill/discharge	• Call 911 • Remediation Imminent • Trace Source/Isolate • No responsible party cleanup option, call for cleanup immediately

Appendix I (c): Spill or Illicit Discharge Incident Report Form

SPILL OR ILLICIT DISCHARGE INCIDENT REPORT FORM

This document should be filled out in the event of city staff encountering a spill or illicit discharge. Collecting this information will result in more efficient response and cleanup time.

Who initially responded to call or spill?
Date, time, and weather conditions at time of response:
Spill location:
Spill material (if known):
Quantity of spill material (estimate):
Has the spill entered any storm drains?
Has the spill entered any waterways?
Who is the responsible party? Name(s) and contact information including telephone and address:
Who responded to the spill?
Who disposed of the materials?

Once completed, forward this incident report to:

Public Works - Environmental Engineering
Laura Haren
Email: lharen@kentwa.gov
Phone: (253) 856-5537
Fax: (253) 856-6500

Appendix II: Inspection Checklists

STMHPI – Inspection WO#:_____

Public Works Department – Stormwater Flow Control/Treatment Facility

Pond Assessment Checklist

Date: _____ Asset ID: _____

Assessor(s): _____ Location: _____

Maintenance Component	Condition When Maintenance Is Needed	Maintenance Standard	Meets Standard? No* or Yes or N/A	Notes and/or Corrective Maintenance WO#
Site	Sign is missing, damaged, or displaying incorrect information	In good condition and info is correct		
	Existing fence is damaged and/or cannot be locked	In good repair and can be locked		
	Debris/trash accumulation	No debris or trash		
Hazardous Insects	Bees, wasps, hornets, etc…	No nests		
	Mosquito larva dip test count exceeds standard (West Nile Virus monitoring)	Less than 3 larva		
Vegetation	Overgrown grass/groundcover and/or noxious weeds present	Less than 18" height and no noxious weeds		
	Trees interfering with access or maintenance, or located in spillway	No problem trees or trees in spillway		
Pond Cell(s)/ Slopes/ Berms/ Overflows	Sediment accumulation in pond cell(s)	Less than 10% of designated pond depth		
	Erosion on slopes/berms or evidence of piping	Less than 2" deep and no piping		
	Noticeable slumping/settling of berms	Less than 4" of slumping/settling		
	Spillway/overflow blocked or not up to specifications	Not blocked and up to specifications		
	Rodents and/or rodent holes	No rodents or holes		
Inlet/Outlet Pipes	Blocked or damaged	No blocking or damage		
	Sediment/debris/trash accumulation in pipe	Less than 20%		
IDDE Screening	Illicit discharge and/or connection evident (pollution)	No illicit discharge or connection		
Other	Other defects *(insert notes/comments)*			

**No indicates a corrective maintenance work order must be created and completed.*

Comments:_____

Pond Assessment Checklist 2015.docx

STMBSI – Inspection WO#:_____

Public Works Department – Stormwater Flow Control/Treatment Facility

Bioswale Assessment Checklist

Date: _____

Asset ID: _____
(If bioswale is associated with a pond then use the pond asset ID, but enter assessment as a bioswale inspection)

Assessor(s): _____

Location: _____

Maintenance Component	Condition When Maintenance Is Needed	Maintenance Standard	Meets Standard? No* or Yes or N/A	Notes and/or Corrective Maintenance WO#
Site	Sign is missing, damaged, or displaying incorrect information	In good condition and info is correct		
	Existing fence is damaged and/or cannot be locked	In good repair and can be locked		
Sediment/ Debris/Trash	Debris/trash accumulation	No debris or trash		
	Sediment accumulation in swale	Less than 2" deep		
Vegetation	Poor groundcover, bare or eroded patches	Less than 10% of swale bare or uncovered by veg		
	Overgrown grass/groundcover and/or noxious weeds present	Less than 10" height *(no grass clippings left)* and no noxious weeds		
	Excessive shading - veg. growth poor due to lack of sunlight	Growth not hindered by shade		
Standing Water	Standing water between storms	No standing water		
Flow Spreader	Flow spread is uneven	Flow spread is even		
Erosion	Erosion or scouring in swale bottom or slopes	No erosion or scouring		
Inlet/Outlet Pipes	Blocked or damaged	No blocking or damage		
	Sediment/debris/trash accumulation in pipe	Less than 20%		
IDDE Screening	Illicit discharge and/or connection evident (pollution)	No illicit discharge or connection		
Other	Other defects *(insert notes/comments)*			

**No indicates a corrective maintenance work order must be created and completed.*

Comments:_____

_____

Bioswale Assessment Checklist 2015.docx

STMMHI - Inspection WO#:_____

Public Works Department – Stormwater

Catch Basin Assessment Checklist

Date: _____ Asset ID: _____

Assessor(s): _____ Location: _____

Structure Type:

INLET **CBTY1** **CBTY2** **MH** **ACCESS** ~~CNTRL~~ *[use Control Struct. (STMXI) Checklist]*

[If the structure type or location is different than what is identified on the NPDES map – submit an update request]

Maintenance Component	Condition When Maintenance Is Needed	Maintenance Standard	Meets Standard? No* or Yes or N/A	Notes and/or Corrective Maintenance WO#
Access *(may be multiple)*	Access and/or opening is blocked	Less than 10% blocked		
	Lid/grate/frame missing, damaged, or stuck; and/or locking mechanism missing or not working	No defects and locks properly		
	Ladder rungs missing or unsafe	Safe and sound		
Structure	Frame to top slab gap	Less than 3/4"gap		
	Cracks/holes in walls, bottom, or top slab	Cracks less than 1/4" wide/holes less than 2 sq-inches		
	Sediment accumulation in structure sump	Less than 60% of sump		
	Debris/trash (large sticks, rocks, etc...) in structure sump	Less than 33% of sump		
Inlet/Outlet Pipes	Blocked or damaged	No blocking or damage		
	Sediment/debris/trash accumulation in pipe	Less than 20%		
IDDE Screening	Illicit discharge and/or connection evident (pollution)	No illicit discharge or connection		
Other	Other defects *(insert notes/comments)*			

**No indicates a corrective maintenance work order must be created and completed.*

Comments:_____

_____

CB Assessment Checklist 2015.docx

STMXI – Inspection WO#:_____

Public Works Department – Stormwater Flow Control/Treatment Facility

Control Structure Assessment Checklist

Date: _____ Asset ID: _____

Assessor(s): _____ Location: _____

Maintenance Component	Condition When Maintenance Is Needed	Maintenance Standard	Meets Standard? No* or Yes or N/A	Notes and/or Corrective Maintenance WO#
Access *(may be multiple)*	Blocked access and/or opening	Less than 10% blocked		
	Lid/grate/frame missing, damaged, or stuck; and/or locking mechanism missing or not working	No defects and locks properly		
	Ladder rungs missing or unsafe	Safe and sound		
Structure	Frame to top slab gap	Less than 3/4"gap		
	Cracks/holes in walls, bottom, or top slab	Cracks less than 1/4" wide/holes less than 2 sq-inches		
	Sediment/debris/trash accumulation in structure sump or near bottom of FROP-T or elbow	Less than 25% of sump or more than 6" from bottom of FROP-T or elbow		
Control/Flow Restrictor (incl. elbows)	FROP-T not upright, or not secure to wall, or outlet connection not watertight	FROP-T is upright, secure, and outlet is watertight		
	Orifice plate missing, damaged, or blocked	Plate is intact and not blocked		
	Overflow pipe blocked or damaged	No blocking or damage		
	Rod/chain to cleanout gate is not attached or accessible, is damaged	Rod/chain is attached, accessible and intact		
	Cleanout gate does not open or close, is missing, damaged, blocked, or not watertight	Gate opens/closes, is intact and watertight		
Inlet/Outlet Pipes	Blocked or damaged	No blocking or damage		
	Sediment/debris/trash accumulation in pipe	Less than 20%		
IDDE Screening	Illicit discharge and/or connection evident (pollution)	No illicit discharge or connection		
Other	Other defects *(insert notes/comments)*			

**No indicates a corrective maintenance work order must be created and completed.*

Comments:_____

Control Structure Assessment Checklist 2015.docx

STMVI – Inspection WO#:_____

Public Works Department – Stormwater Flow Control/Treatment Facility

Baffle or Coalescing Plate Oil/Water Separator Assessment Checklist

Date: _____ Asset ID: _____

Assessor(s): _____ Location: _____

Maintenance Component	Condition When Maintenance Is Needed	Maintenance Standard	Meets Standard? No* or Yes or N/A	Notes and/or Corrective Maintenance WO#
Access *(may be multiple)*	Blocked access and/or opening	Less than 10% blocked		
	Lid/grate/frame missing, damaged, or stuck; and/or locking mechanism missing or not working	No defects and locks properly		
	Ladder rungs missing or unsafe	Safe and sound		
Structure	Frame to top slab gap	Less than 3/4" gap		
	Cracks/holes in walls, bottom, or top slab	Cracks less than 1/2" wide/holes less than 2 sq-inches		
	Sediment/debris/trash accumulation in sump or on coalescing plates	Less than 6" in sump and none on plates		
	Oil accumulation at water surface	Less than 1"		
	Ventilation pipes plugged/blocked	Less than 50%		
	Baffles corroded, cracking, warping, and/or signs of failure	Baffles are up to specifications		
	Coalescing plates broken, deformed, cracked and/or signs of failure	Plates are up to specifications		
	Shutoff valve damaged or inoperable	No defects		
	Gravity drain valve, damaged, not sealed, or inoperable	No defects		
Inlet/Outlet Pipes	Blocked or damaged	No blocking or damage		
	Sediment/debris/trash accumulation in pipe	Less than 20%		
Discharge Water	Evidence of poor water quality in effluent discharge	Water is clear with no visible sheen		
IDDE Screening	Illicit discharge and/or connection evident (pollution)	No illicit discharge or connection		
Other	Other defects *(insert notes/comments)*			

**No indicates a corrective maintenance work order must be created and completed.*

Comments:_____

_____

Oil Water Separator Assessment Checklist 2015.docx

STMVI – Inspection WO#:_____

Public Works Department – Stormwater Flow Control/Treatment Facility

Vault/Detention Tank Assessment Checklist

Date: _____ Asset ID: _____

Assessor(s): _____ Location: _____

Maintenance Component	Condition When Maintenance Is Needed	Maintenance Standard	Meets Standard? No* or Yes or N/A	Notes and/or Corrective Maintenance WO#
Site	Overgrown grass/groundcover and/or noxious weeds present	Less than 18" height and no noxious weeds		
	Debris/trash accumulation	No debris or trash		
Access *(may be multiple)*	Access or opening is blocked	Less than 10% blocked		
	Lid/grate/frame missing, damaged, or stuck; and/or locking mechanism missing or not working	No defects and locks properly		
	Ladder rungs missing or unsafe	Safe and sound		
Structure	Frame to top slab gap	Less than 3/4"gap		
	Cracks/holes in walls, bottom, or top slab	Cracks less than 1/2" wide/holes less than 2 sq-inches		
	Sediment/debris/trash accumulation in any area of vault sump	Less than 10% of sump OR more than 6" from bottom of FROP-T or elbow		
	Air vents plugged/blocked	Less than 50% blocked		
Control/ Flow Restrictor (incl. elbows)	FROP-T not upright, or not secure to wall, or outlet connection not watertight	FROP-T is upright, secure, and outlet is watertight		
	Orifice plate missing, damaged, or blocked	Plate is intact and not blocked		
	Overflow pipe blocked or damaged	No blocking or damage		
	Rod/chain to cleanout gate is not attached or accessible, is damaged	Rod/chain is attached, accessible and intact		
	Cleanout gate does not open or close, is missing, damaged, blocked, or not watertight	Gate opens/closes, is intact and watertight		
Inlet/Outlet Pipes	Blocked or damaged	No blocking or damage		
	Sediment/debris/trash accumulation in pipe	Less than 20%		

**No indicates a corrective maintenance work order must be created and completed.*

Checklist continued on page 2

STMMVI – Inspection WO#:_____

Public Works Department – Stormwater Flow Control/Treatment Facility

Media Filter Vault Assessment Checklist

Date: _____ Asset ID: _____

Assessor(s): _____ Location: _____

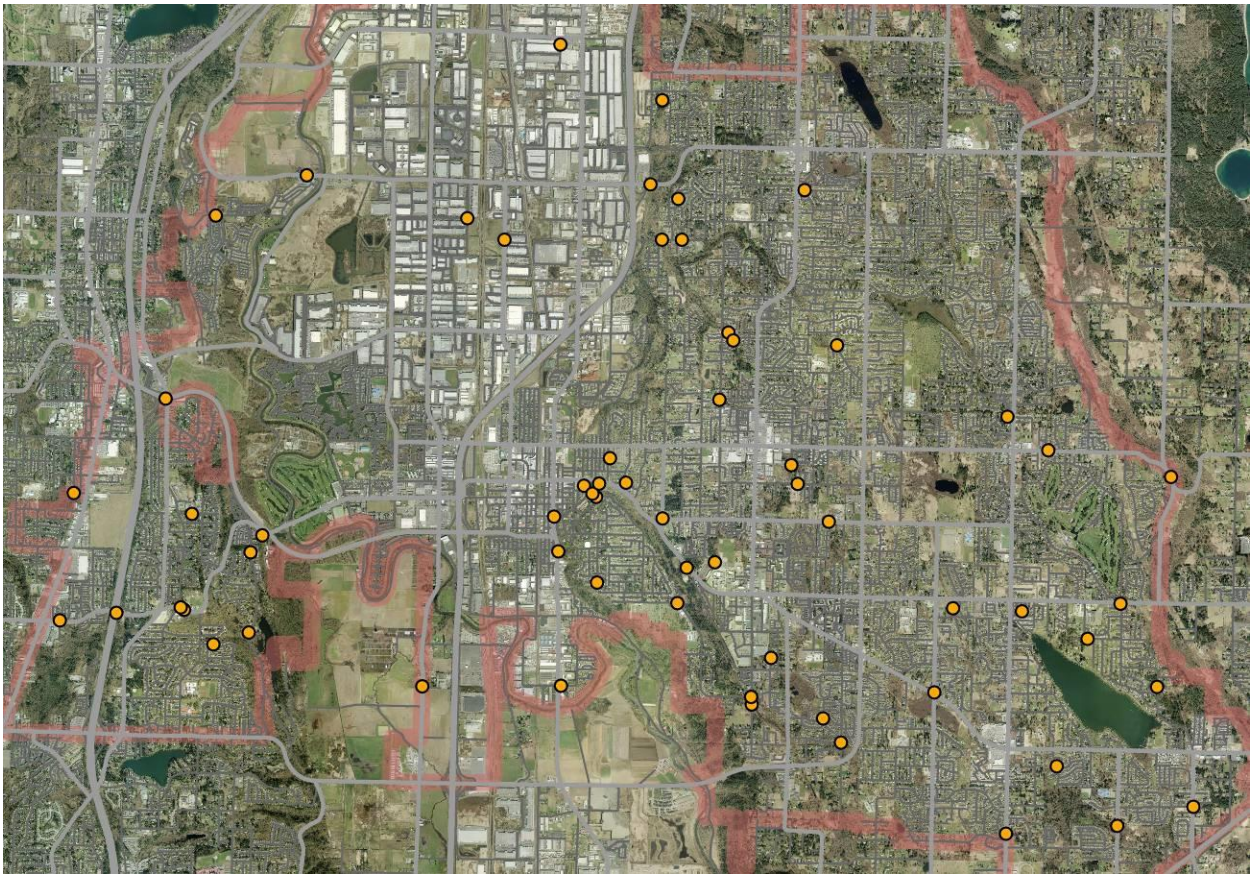
Maintenance Component	Condition When Maintenance Is Needed	Maintenance Standard	Meets Standard? No* or Yes or N/A	Notes and/or Corrective Maintenance WO#
Site	Overgrown grass/groundcover and/or noxious weeds present	Less than 18" height and no noxious weeds		
	Debris/trash accumulation	No debris or trash		
Access *(may be multiple)*	Blocked access and/or opening	Less than 10% blocked		
	Lid/grate/frame missing, damaged, or stuck; and/or locking mechanism missing or not working	No defects and locks properly		
	Ladder rungs missing or unsafe	Safe and sound		
Structure	Frame to top slab gap	Less than 3/4"gap		
	Cracks/holes in walls, bottom, or top slab	Cracks less than 1/2" wide/holes less than 2 sq-inches		
	Baffles damaged (corroded, cracked, warped) or other signs of failure	No damage or failure		
	Sediment/debris/trash accumulation in vault sump	Less than 2" average in sump		
Filter Media Cartridges (indicators of defective cartridges or pipes)	Sediment on top of cartridges	Less than 1/2"		
	Thick or multiple scum-lines on top of cartridges	No thick scum-lines		
	Submerged cartridges and/or static water in vault for more than 24 hrs after rain event	Less than 9" static water		
	Bypass condition present after avg. rainfall event	No bypass condition present		
Inlet/Outlet Pipes	Blocked or damaged	No blocking or damage		
	Sediment/debris/trash accumulation in pipe	Less than 20%		
IDDE Screening	Illicit discharge and/or connection evident (pollution)	No illicit discharge or connection		
Other	Other defects *(insert notes/comments)*			

**No indicates a corrective maintenance work order must be created and completed.*

Comments:_____

Media Filter Vault Assessment Checklist 2015.docx

Appendix III: Stormwater Hotspots Map



This map is an approximate representation of city-wide stormwater hotspots. A detailed list of hotspots is available from the public works department.

Appendix IV: Definitions and Acronyms

The following words, terms, and phrases will have the meanings ascribed to them in this section, unless a different meaning is plainly required.

303 (d) waterbody means any body of water that does not meet water quality standards as defined by section 303 (d) of the Clean Water Act.

AKART is an acronym meaning all known, available and reasonable methods of prevention, control and treatment. AKART shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge. The concept of AKART applies to both point and nonpoint sources of pollution.

BMPs or Best management practices means schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or the MS4. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act (CWA) means the federal Water Pollution Control Act (33 U.S.C. 1251, et seq.), and any subsequent amendments thereto.

Construction activity means land-disturbing operations including clearing, grading or excavation which disturbs the surface of the land. Such activities may include road construction, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Director means the city of Kent public works department director.

Groundwater means water in a saturated zone or stratum beneath the surface of the land or below a surface water body.

Hazardous material means any material; including any substance, waste, or combination thereof; which because of its quantity, concentration, or physical, chemical, or infectious characteristics; may cause or significantly contribute to a substantial present or potential hazard to human, health, safety, property, or the environment; when improperly treated, stored, transported, disposed of, or otherwise managed.

Hyperchlorinated means water that contains more than ten (10) mg/liter chlorine. Disinfection of water mains and appurtenances requires a chlorine residual of ten (10) mg/liter at the end of the disinfection period.

Illicit connection means any conveyance that is connected to the MS4 without a permit, excluding roof drains and foundation drains. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the MS4. Illicit connections allow an illicit discharge to enter the MS4 and include, but are not limited to, any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the MS4; any connections to the MS4 from indoor drains and sinks, regardless of whether such drain or connection was previously allowed, permitted, or approved by an authorized enforcement agency; or any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the city or another agency of government duly authorized to give such approvals.

Illicit discharge means any discharge to a MS4 that is not composed entirely of stormwater or of allowed non-stormwater discharges as specified in the permit.

Incidental spills and illicit discharges meet all of the following conditions:

1. The spilled material is known.
2. The material spilled is not highly toxic.
3. The quantity spilled is small enough that it can be safely cleaned up using public works spill kits.
4. There is no fire hazard present.
5. The spill can be completely contained and the material has little or no potential to reach the stormwater system or surface Waters of the State.
6. If material enters Waters of the State, it is **NOT** an incidental release.

Industrial activity means activities subject to NPDES industrial permits as defined in 40 CFR 122.26(b)(14).

Major spills and illicit discharges mean any hazardous or unknown materials, or spills of a known non-hazardous material larger than can be safely contained and cleaned up by the public Works staff. These pose a risk to the responder, the public, or the environment.

Minor spills and illicit discharges do not pose a risk to human health or the environment **and** have not entered Waters of the State.

MS4 or Municipal separate storm sewer system means a conveyance, or system of conveyances; including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains:

1. Owned or operated by a state, city, town, county, district, port, or other public body created by or pursuant to state law having jurisdiction over disposal of wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to Waters of the State;
2. Designed or used for collecting or conveying stormwater;
3. Which is not a combined sewer; and
4. Which is not part of a publicly owned treatment works ("POTW") as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit means a permit issued by the U.S. Environmental Protection Agency, or by the Washington Department of Ecology under authority delegated pursuant to 33 U.S.C. 1342(b), that authorizes the discharge of pollutants to Waters of the State, whether the permit is applicable to an individual, group, or general area-wide basis.

Non-stormwater discharge means any discharge to the MS4 that is not composed entirely of stormwater.

Outfall means point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to Waters of the State and does not include open conveyances connecting two municipal separate storm sewer systems, or pipes, tunnels, or other conveyances which connect segments of the same stream or other Waters of the State and are used to convey Waters of the State.

Owner/operator means any person or entity with an ownership interest or control over real property on which a violation of this chapter occurs, any person or entity participating in any activity regulated by this chapter, and any person or entity participating in any violation of this chapter.

Pollutant means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, and accumulations, so that the same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous materials and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Premise means any real property or interest in real property and any improvement upon real property.

RCW means the state Revised Code of Washington. It is the compilation of all permanent state laws now in force.

Sanitary *sewage* means domestic wastewater including flushed toilet water, water from dishwashers, clothes washing machines, and any other used water that generally is disposed of down interior household drains.

Sanitary sewer system means a conveyance, or system of conveyances, which is designed to convey domestic wastewater.

Stormwater means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater Management Program (SWMP) means a set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 or S6 of the Western Washington Phase II Municipal Permit and any additional actions necessary to meet the requirements of applicable.

Stormwater Pollution Prevention Plan (SWPPP) means a document which describes the BMPs and activities to be implemented by an owner/operator or business to identify sources of pollution or contamination at a site, and the actions to eliminate or reduce pollutant discharges to stormwater, the MS4, and/or receiving waters.

Wastewater means any water or other liquid, other than uncontaminated stormwater, discharged from any premises.

Water quality standards means the Water Pollution Control Act, as defined herein; Surface Water Quality Standards – Chapter 173-201A WAC; Ground Water Quality Standards – Chapter 173-200 WAC; and Sediment Management Standards – Chapter 173-204 WAC. The water quality standards are established to sustain public health and public enjoyment of the waters and the propagation and protection of fish, shellfish, and wildlife.

Waters of the State means those waters as defined as "waters of the United States" in 40 CFR 122.2 within the geographic boundaries of the state of Washington and "Waters of the State" as defined in Chapter 90.48 RCW, which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Western Washington Phase II Municipal Stormwater Permit means a program that applies to all regulated small municipal separate storm sewer systems located west of the eastern boundaries of the following counties: Whatcom, Skagit, King, Pierce, Lewis, and Skamania.