

Number	Permit Section	Question
1	S5.A.2	Attach updated annual Stormwater Management Program Plan (SWMP Plan). (S5.A.2) Saved Document Name: Kelso_SWMP_2017_1_03292017044357
2	S9.D.5	Attach a copy of any annexations, incorporations or boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period per S9.D.5. Not Applicable
3	S5.A.3	Implemented an ongoing program to gather, track, and maintain information per S5.A.3, including costs or estimated costs of implementing the SWMP. Yes
4	S5.A.5.b	Coordinated among departments within the jurisdiction to eliminate barriers to permit compliance. (S5.A.5.b) Yes
5	S5.C.1.a.i and ii	Attach description of public education and outreach efforts conducted per S5.C.1.a.i and ii. Saved Document Name: Educational Outreach Efforts - _5_01062017022427
6	S5.C.1.b	Created stewardship opportunities (or partnered with others) to encourage resident participation in activities such as those described in S5.C.1.b. Yes
7	S5.C.1.b	Used results of measuring the understanding and adoption of targeted behaviors among at least one audience in at least one subject area to direct education and outreach resources and evaluate changes in adoption of targeted behaviors. (Required no later than February 2, 2016, S5.C.1.b) Yes

Number	Permit Section	Question
7b	S5.C.1.b	Attach description of how this requirement was met. Saved Document Name: 2016 NPDES MS4 Permit Educatio_7b_03292017035354
8	S5.C.2.a	Describe the opportunities created for the public to participate in the decision making processes involving the development, implementation and updates of the Permittee's SWMP. (S5.C.2.a) Kelso held six public meetings of the Kelso Stormwater Advisory Committee whose purpose is to guide the development, implementation and updates to the City's SWMP. These meetings are advertised on the City's website and the public is invited to attend.
9	S5.C.2.b	Posted the updated SWMP Plan and latest annual report on your website no later than May 31. (S5.C.2.b) Yes
9b	S5.C.2.b	List the website address. http://stormwater.kelso.gov
10	S5.C.3.a.i - vi	Maintained a map of the MS4 including the requirements listed in S5.C.3.a.i.-vi. Yes
11	S5.C.3.b.v	Implemented a compliance strategy, including informal compliance actions as well as enforcement provisions of the regulatory mechanism described in S5.C.3.b. (S5.C.3.b.v) Yes
12	S5.C.3.b.vi	Updated, if necessary, the regulatory mechanism to effectively prohibit illicit discharges into the MS4 per S5.C.3.b.vi. (Required no later than February 2, 2018) Not Applicable

Number	Permit Section	Question
13	S5.C.3.c.i	Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.3.c.i. Yes
13b	S5.C.3.c.i	Cite methodology Implemented the City's Municipal Stormwater IDDE Program that incorporates methods outlined in the "IDDE: A Guidance Manual for Program Development and Technical Assessments" and in the "Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual."
14	S5.C.3.c.i	Percentage of MS4 coverage area screened in reporting year per S5.C.3.c.i. (Required to screen 40% of MS4 no later than December 31, 2017 (except no later than June 30, 2018 for the City of Aberdeen) and 12% on average each year thereafter. (S5.C.3) 0
15	S5.C.3.c.ii	List the hotline telephone number for public reporting of spills and other illicit discharges. (S5.C.3.c.ii) 360-423-6590
15b	S5.C.3.c.ii	Number of hotline calls received. 10
16	S5.C.3.c.iii	Implemented an ongoing illicit discharge training program for all municipal field staff per S5.C.3.c.iii. Yes
17	S5.C.3.c.iv	Informed public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste. (S5.C.3.c.iv) Yes
17b	S5.C.3.c.iv	Describe the information sharing actions. (S5.C.3.c.iv)

Number	Permit Section	Question
		<p>The City mailed educational materials on wastewater disposal to mobile interior cleaning businesses based in the regional area. The City mailed letters to over 1600 residents that contained the Solution to Pollution brochure describing the hazards of stormwater pollution and specific habits to reduce stormwater pollution. The City provided educational materials on stormwater pollution to local charities who use the City's car wash kit.</p>
18	S5.C.3.d	<p>Implemented an ongoing program to characterize, trace, and eliminate illicit discharges into the MS4 per S5.C.3.d.</p> <p>Yes</p>
19	S5.C.3.d.iv	<p>Number of illicit discharges, including illicit connections, eliminated during the reporting year. (S5.C.3.d.iv)</p> <p>5</p>
20	S5.C.3.d.iv	<p>Attach a summary of actions taken to characterize, trace and eliminate each illicit discharge found by or reported to the permittee. For each illicit discharge, include a description of actions according to required timeline per S5.C.3.d.iv</p> <p>Saved Document Name: Kelso IDDE Log-2016_20_01032017042226</p>
21	S5.C.3.e	<p>Municipal illicit discharge detection staff are trained to conduct illicit discharge detection and elimination activities as described in S5.C.3.e.</p> <p>Yes</p>
22	S5.C.4.a	<p>Implemented an ordinance or other enforceable mechanism to address runoff from new development, redevelopment and construction sites per the requirements of S5.C.4.a.</p> <p>Yes</p>
23b	S5.C.4.a.i-iii	<p>Cite code reference for revised ordinance or other enforceable mechanism to address runoff from new development, redevelopment and construction sites.</p>

Number	Permit Section	Question
		Not Applicable
24	S5.C.4.a.i	Number of exceptions granted to the minimum requirements in Appendix 1. (S5.C.4.a.i., and Section 6 of Appendix 1)
		0
25	S5.C.4.a.i	Number of variances granted to the minimum requirements in Appendix 1. (S5.C.4.a.i., and Section 6 of Appendix 1)
		0
26	S5.C.4.b.i	Reviewed Stormwater Site Plans for all proposed development activities that meet the thresholds adopted pursuant to S5.C.4.a.i. (S5.C.4.b.i)
		Yes
26b	S5.C.4.b.i	Number of site plans reviewed during the reporting period.
		2
27	S5.C.4.b.ii	Inspected, prior to clearing and construction, permitted development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 Determining Construction Site Sediment Damage Potential, or alternatively, inspected all construction sites meeting the minimum thresholds adopted pursuant to S5.C.4.a.i. (S5.C.4.b.ii)
		Yes
27b	S5.C.4.b.ii	Number of construction sites inspected per S5.C.4.b.ii.
		2
28	S5.C.4.b.iii	Inspected permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. (S5.C.4.b.iii)
		Yes
28b	S5.C.4.b.iii	Number of construction sites inspected per S5.C.4.b.iii.

Number	Permit Section	Question
		2
29	S5.C.4.b.ii, iii and	Number of enforcement actions taken during the reporting period (based on construction phase inspections at new development and redevelopment projects). (S5.C.4.b.ii, iii and v)
		0
30	S5.C.4.b.iv	Inspected all permitted development sites that meet the thresholds in S5.C.4.a.i upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. (S5.C.4.b.iv)
		Yes
31	S5.C.4.b.ii-iv	Achieved at least 80% of scheduled construction-related inspections. (S5.C.4.b.ii-iv)
		Yes
32	S5.C.4.b.iv	Verified a maintenance plan is completed and responsibility for maintenance is assigned for projects. (S5.C.4.b.iv)
		Yes
33	S5.C.4.c	Implemented provisions to verify adequate long-term operation and maintenance (O&M) of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S5.C.4. a and b. (S5.C.4.c)
		Yes
35	S5.C.4.c.iii	Annually inspected stormwater treatment and flow control BMPs/facilities per S5.C.4.c.iii.
		Yes
35b	S5.C.4.c.iii	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.4.c.iii
		Not Applicable

Number	Permit Section	Question
36	S5.C.4.c.iv	Inspected new residential stormwater treatment and flow control BMPs/facilities and catch basins every 6 months per S5.C.4.c.iv to identify maintenance needs and enforce compliance with maintenance standards.
		Not Applicable
37	S5.C.4.c.v	Achieved at least 80% of scheduled inspections to verify adequate long-term O&M. (S5.C4.c.v)
		Yes
38	S4.C.4.c.vi	Verified that maintenance was performed per the schedule in S5.C.4.c.vi when an inspection identified an exceedance of the maintenance standard.
		Not Applicable
38b	S5.C.4.c.vi	Attach documentation of any maintenance delays. (S5.C.4.c.vi)
		Not Applicable
39	S5.C.4.d	Provided copies of the Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity to representatives of proposed new development and redevelopment. (S5.C.4.d)
		Yes
40	S5.C.4.e	All 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. (S5.C.4.e)
		Yes
42	S5.C.4.g	Participated and cooperated with the watershed-scale stormwater planning process led by a Phase I county. (S5.C.4.g)
		Not Applicable

Number	Permit Section	Question
43	S5.C.5.a	Implemented maintenance standards as protective, or more protective, of facility function as those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington.
		Yes
44	S5.C.5.a	Applied a maintenance standard that is not specified in the Stormwater Management Manual for Western Washington.
		Not Applicable
45	S5.C.5.a.ii	Performed timely maintenance per S5.C.5.a.ii.
		Yes
46	S5.C.5.b	Annually inspected all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities. (S5.C.5.b)
		Yes
46b	S5.C.5.b	Number of known municipally owned or operated stormwater treatment and flow control BMPs/facilities. (S5.C.5.b)
		8
46c	S5.C.5.b	Number of facilities inspected during the reporting period. (S5.C.5.b)
		8
46d	S5.C.5.b	Number of facilities for which maintenance was performed during the reporting period. (S5.C.5.b)
		2
47	S5.C.5.b	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.5.b.
		Not Applicable

Number	Permit Section	Question
48	S5.C.5.c	Conducted spot checks and inspections (if necessary) of potentially damaged stormwater facilities after major storms as per S5.C.5.c. Not Applicable
49b	S5.C.5.d	Number of known catch basins. 1484
49c	S5.C.5.d	Number of catch basins inspected during the reporting period. 663
49d	S5.C.5.d	Number of catch basins cleaned during the reporting period. 149
50	S5.C.5.d.i-ii	Attach documentation of alternative catch basin cleaning approach, if used. (S5.C.5.d.i or ii) Not Applicable
51	S5.C.5.f	Implemented practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. (S5.C.5.f) Yes
52	S5.C.5.g	Implemented an ongoing training program for Permittee employees whose primary construction, operations or maintenance job functions may impact stormwater quality. (S5.C.5.g.) Yes

Number	Permit Section	Question
53	S5.C.5.h	Implemented a Stormwater Pollution Prevention Plan for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under an NPDES permit that covers stormwater discharges associated with the activity. (S5.C.5.h)
Yes		
54	S7.A	Complied with the Total Maximum Daily Load (TMDL)-specific requirements identified in Appendix 2. (S7.A)
Not Applicable		
55	S7.A	For TMDLs listed in Appendix 2: Attach a summary of relevant SWMP and Appendix 2 activities to address the applicable TMDL parameter(s). (S7.A)
Not Applicable		
56	S8.A	Attach a description of any stormwater monitoring or stormwater-related studies as described in S8.A.
Not Applicable		
57	S8.B.1	Participated in cost-sharing for the regional stormwater monitoring program (RSMP) for status and trends monitoring. (S8.B.1)
Not Applicable		
58	S8.C.1	Participated in cost-sharing for the regional stormwater monitoring program (RSMP) for effectiveness studies. (S8.C.1) (Required to begin no later than August 15, 2014)
Yes		
59	S8.D.1	Contributed to the RSMP for source identification and diagnostic monitoring information repository in accordance with S8.D.1. (Required to begin no later than August 15, 2014)
Yes		

Number	Permit Section	Question
60	G3	Notified Ecology in accordance with G3 of any discharge into or from the Permittees MS4 which could constitute a threat to human health, welfare or the environment. (G3) Not Applicable
61	G3	Number of G3 notifications provided to Ecology. 0
62	G3.A	Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A. Not Applicable
63	S4.F.1	Notified Ecology within 30 days of becoming aware that a discharge from the Permittee's MS4 caused or contributed to a known or likely violation of water quality standards in the receiving water. (S4.F.1) Not Applicable
64	S4.F.3.a	If requested, submitted an Adaptive Management Response report in accordance with S4.F.3.a. Not Applicable
65	S4.F.3.d	Attach a summary of the status of implementation of any actions taken pursuant to S4.F.3 and the status of any monitoring, assessment, or evaluation efforts conducted during the reporting period. (S4.F.3.d) Not Applicable
66	G20	Notified Ecology of the failure to comply with the permit terms and conditions within 30 days of becoming aware of the non-compliance. (G20) Not Applicable
67	G20	Number of non-compliance notifications (G20) provided in reporting year.

Number	Permit Section	Question
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0

67b	G20	List the permit conditions described in non-compliance notification(s).
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Not Applicable

*This SWMP is an attachment to the City's 2016 Annual Report to the Department of Ecology for its
Phase II NPDES Permit*

*

*In compliance with the provisions of
The State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of
Washington*

and

*The Federal Water Pollution Control Act (The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.*

Stormwater Management Program Plan 2017 for

City of Kelso

Prepared for:
City of Kelso, Washington

Prepared by:
Otak, Inc.
700 Washington Street, Suite 401
Vancouver, WA 98660
Otak Project No. 17258



January 2015

Updated January 2017 by Van McKay, P.E., City of Kelso

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Abbreviation and Acronyms

AKART	All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment
BMP	Best Management Practice
CESCL	Certified Erosion and Sediment Control Lead
City / Kelso	City of Kelso
Ecology	Washington State Department of Ecology
IDDE	Illicit Discharge Detection and Elimination
KEDM	Kelso Engineering Design Manual
KMC	Kelso Municipal Code
KSAC	Kelso Stormwater Advisory Committee
LID	Low Impact Development
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
Permit	Phase II Western Washington NPDES Municipal Stormwater Permit
SIDIR	Source Identification Information Repository
SWMMWW	Stormwater Management Manual for Western Washington
SWMP	Stormwater Management Program Plan
SWPPP	Stormwater Pollution Prevention Plan

CITY OF KELSO STORMWATER MANAGEMENT PROGRAM 2017

I. INTRODUCTION

I.1 Overview and Background

The City of Kelso (City) operates a municipal separate storm sewer system (MS4) which collects and conveys stormwater runoff from developed areas of the City to surface waters. Discharge of runoff from the MS4 is regulated by the Washington State Department of Ecology (Ecology), and the City is required to obtain a permit to operate the system.

The Phase II Western Washington Phase II Municipal Stormwater Permit (Permit) outlines stormwater program activities and implementation milestones that the City must follow to comply with federal Clean Water Act. As a general Permit, it applies to more than 80 MS4s in western Washington. Each Phase II community is required to develop a Stormwater Management Program Plan (SWMP) that includes a description of the required activities, implement those activities within the required timeframes of the Permit term, and submit annual reports to Ecology by March 31st each year to document progress toward Permit compliance.

Kelso was first issued a Permit in 2007 and has been implementing a SWMP since that time.

Ecology issued the current Permit in 2012, and it became effective on August 1, 2013. Ecology subsequently issued a Permit modification on December 17, 2014, which became effective January 16, 2015. The Permit modification includes minor changes to correct inconsistencies and scrivener's errors, changes to definitions to clarify the intent of some Permit language, and substantial changes to the watershed-scale stormwater planning requirement, which is not applicable to the City. The Permit covers a five-year period from August 2013 to July 2018.

Stormwater flows from the City eventually enter the Cowlitz and Coweeman Rivers through a combination of gravity outfalls and pump stations operated by the Diking Improvement District No. 1 and the Consolidated Diking Improvement District No. 3. The City's MS4 also connects to and discharges stormwater to the City of Longview's MS4.

In accordance with Permit requirements, the City has developed a SWMP designed to reduce the discharge of pollutants to the maximum extent practicable (MEP), meet all known, available, and reasonable methods of prevention, control and treatment (AKART)

requirements, and to protect water quality. The following sections describe the actions that Kelso has and will take to comply with the requirements of the Permit.

1.2 Departmental Responsibilities

The Community Development Department employs a full-time Senior Stormwater Engineer, who acts as the City's National Pollutant Discharge Elimination System (NPDES) Coordinator.

The Community Development Department is responsible for general Permit compliance, stormwater public education and outreach, public involvement in stormwater concerns, regulating the entrance of stormwater pollutants into the MS4, regulating runoff on construction sites and developments, developing procedures for compliance with the Permit, planning stormwater capital projects, training staff from other departments, and reporting.

The Public Works Department is responsible for spill response, maintaining components of the MS4, and operating City properties such as roads, rights-of-way, parks, and municipal buildings in a manner that prevents and reduces stormwater impacts.

Employees in the Police Department are responsible for maintaining awareness of the stormwater system and reporting potential illicit discharges that may be observed during the normal course of their duties in the community.

The City's stormwater utility funds the SWMP based on impervious area for commercial properties and on a base rate for residential properties.

1.3 Document Organization

This report comprises the required written documentation of the City's SWMP.

To aid in tracking Permit requirements, this document has been organized into sections that correspond with the Permit Special Conditions and are outlined in the Permit as follows:

- Chapter 2 – Stormwater Management Program
 - 2.1 - Public Education and Outreach, Special Condition S5.C.1
 - 2.2 - Public Involvement and Participation, Special Condition S5.C.2
 - 2.3 - Illicit Discharge Detection and Elimination (IDDE), Special Condition S5.C.3
 - 2.4 - Controlling Runoff from New Development, Redevelopment, and Construction Sites, Special Condition S5.C.4
 - 2.5 - Operation and Maintenance (O&M) for Municipal Operations, Special Condition S5.C.5
 - 2.6 - NPDES Program Administration
- Chapter 3 – Stormwater Monitoring

2. STORMWATER MANAGEMENT PROGRAM

This chapter describes five required components of the Permit SWMP and the City's plan to meet each requirement and administer the program.

2.1 Public Education and Outreach

The City's public education and outreach program focuses on building general awareness among the public of problems created by stormwater runoff. The program is carried out by the NPDES Coordinator.

2.1.1 Permit Requirements

Section S5.C.1 requires the following:

- Develop and administer an education program to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts and encourage the public to participate in stewardship activities. The program must target residents, businesses, industry, and city employees at all levels.
- Provide an education and outreach program designed to educate target audiences about the stormwater problem and provide specific actions they can follow to minimize the problem.
- Measure adoption of targeted behaviors for at least one target audience in at least one subject area. Use the resulting measurements to direct outreach resources most effectively and to evaluate changes in adoption of the targeted behaviors and evaluation of the education program's effectiveness at changing targeted behaviors.
- Create stewardship opportunities to encourage residents to participate in activities such as stream teams, storm drain marking, volunteer monitoring, and riparian plantings.

2.1.2 Existing Programs and Activities

Kelso's activities in this area are ongoing:

- Continue to maintain the City's stormwater educational website at <http://www.kelso.gov/departments-services/community-development/engineering-department/stormwater>.
- Make available to the public the *Solution to Stormwater Pollution* brochure.
- Coordinate a storm drain marker volunteer program.
- Hold educational workshops.
- Track and document all public education and outreach efforts.

2.1.3 Planned Activities

Planned activities for 2017 include:

- Send remaining general stormwater brochures to residence through regular mail or utility inserts.
- Update the general stormwater brochure
- Implement a program to educate a target audience.
- Update the City’s outreach plan based on results of measurement.
- Continue to develop stewardship opportunities with Kelso High School.
- Collaborate activities with the Cowlitz Clean Water Partners to produce educational materials.

2.2 Public Involvement and Participation

The City’s public involvement and participation program is designed to seek regular input from stakeholders through the Kelso Stormwater Advisory Committee (KSAC). The NPDES Coordinator carries out this requirement.

2.2.1 Permit Requirements

Section S5.C.2 requires the following:

- Provide ongoing opportunities for public involvement through advisory councils, public hearings, watershed committees, participation in developing rate structures or other similar activities.
- Create opportunities for the public to participate in the decision-making processes involving the development, implementation and update of the SWMP.
- Make the SWMP document and Annual Report available to the public on the City’s website. Any other submittals required by Ecology also must be available on the website.

2.2.2 Existing Programs and Activities

Kelso’s activities in this area are ongoing:

- Holds quarterly public meetings of KSAC.
- Seeks public input through the City Council.
- Posts annual reports, the SWMP, and other stormwater-related documents to the City’s website.
- Track and document all public involvement and participation efforts.

2.2.3 Planned Activities

Planned activities for 2017 include:

- Continue to hold quarterly meetings of KSAC.
- Update the SWMP by December 31, 2017.
- Post the 2017 SWMP to the website by January 2017
- Post the 2016 Annual Report to website by May 2017.

2.3 Illicit Discharge Detection and Elimination (IDDE)

The City's IDDE ordinance prohibits the discharge of non-stormwater, with a few exceptions, into the MS4. The IDDE program guides City responses to spills and to reports of potential discharges to the storm sewer. Staff monitored the system through inspection of priority outfalls. During the Permit term, the City plans to make minor modifications to its prohibited and allowable discharges, update its MS4 maps, and increase system monitoring through a greater number of outfall inspections. The program is carried out primarily by Community Development, although primary responsibility for spill response is with Public Works.

2.3.1 Permit Requirements

Section S5.C.3 requires the following:

- Implement an ongoing program to prevent, detect, characterize, trace, and eliminate illicit discharges, connections and improper disposal into the MS4.
- Develop a storm sewer system map and update it on an ongoing basis.
- Implement an ordinance to prohibit non-stormwater, illicit discharges into the MS4 that includes allowable discharges, conditionally allowable discharges, and escalating enforcement procedures and actions.
- Implement a compliance strategy that includes informal compliance actions such as public education and technical assistance as well as escalating enforcement penalties and an enforcement strategy. Include the following tools:
 - Apply operational and structural source control Best Management Practices (BMPs) for pollutant generating sources to prevent illicit discharges.
 - Maintain stormwater facilities to standards to prevent illicit discharges.
- Implement an ongoing program to detect and identify non-stormwater discharges and illicit connections to the MS4, including the following components:
 - Procedures for conducting investigations of the MS4, including field screening and methods for identifying potential sources of illicit discharges and connections.
 - Publicize a hotline or other local telephone number for reporting of spills or other illicit discharges.
 - Provide appropriate training to City field staff on identification and reporting of illicit discharges.
 - Inform public employees, businesses, and the general public of the hazards associated with illicit discharges and improper disposal of waste.
- Implement an ongoing program to address illicit discharges and illicit connections, including the following components:
 - Procedures for characterizing the nature of, and threat posed by, any illicit discharges found by or reported to the City, including evaluating if the discharge must be immediately contained.
 - Procedures for tracing the source of an illicit discharge, including visual inspection and other methods and procedures.

- Procedures for eliminating the discharge through notification, technical assistance, inspections and the compliance strategy required above.
- Comply with requirements to address illicit discharges found or reported within Permit-established timelines (see S5.C.3.d.iv.).
- Train technical staff that is responsible to conduct these activities.
- Track and maintain records of the activities conducted to meet the requirements of S5.C.3.

2.3.2 Existing Programs and Activities

Kelso's activities in this area are ongoing:

- Follows procedures for detection, reporting, characterization, response, investigation, removal, clean-up, and enforcement in the *Municipal Stormwater Illicit Discharge Detection and Elimination (IDDE) Program 2015*.
- Contacts the public to provide education and enforcement when illicit discharges are reported or discovered.
- Provides training on IDDE awareness one time, per Permit term, to Public Works field staff and Police.
- Operates the Kelso stormwater hotline.
- Encourages the public to report illicit discharges, spills, or other stormwater-related issues using the online Stormwater Incident Report at <http://www.kelso.gov/stormwater-incident-report>.
- Tracks illicit discharge reports and responses.
- Tracks and documents required recordkeeping.

2.3.3 Planned Activities

Planned activities for 2017 include:

- Ensure all new field employees are training in IDDE.
- Continue ongoing activities listed above, including enforcing KMC 13.11, responding to illicit discharges and spills, educating the public about the hazards of IDDE through educational enforcement, and providing the public ways to report illicit discharges and spills, including the hotline and an online incident report.
- Map any new public (City-operated) stormwater treatment and flow control facilities constructed in 2017.
- Map discharge points.
- Complete as-built surveys on approximately 75 catch basins that are not documented in the GIS database.
- Obtain additional training in field investigation, tracing, and follow-up for the Senior Stormwater Engineer.
- Create new standard operating procedures in the Kelso IDDE manual for indicator sampling of physical and chemical parameters.

- Select subset of outfalls to screen.
- Follow indicator sampling procedures, when required, in response to illicit discharges discovered during field screening.
- Contact concrete suppliers to educate and give technical guidance on proper on-site washout procedures.
- Field screen at least 40% of the MS4 by December 31 for non-stormwater discharges and illicit connections.

2.4 Controlling Runoff from Development, Redevelopment, and Construction Sites

The City's stormwater regulatory program currently implements local standards for temporary erosion control and permanent stormwater control on most development, redevelopment, and construction projects, while applying state standards to those projects greater than one acre in size.

During this Permit term the City plans to update its regulatory program, including adopting a new stormwater ordinance and updating the Kelso Engineering Design Manual (KEDM) in accordance with Permit requirements. Furthermore, the City plans to incorporate Low Impact Development (LID) into the new stormwater ordinance, development codes, and the KEDM. Community Development carries out this program.

Note: the Permit includes Section S5.C.4.g for watershed-scale stormwater planning. None of these requirements apply to the City, so they are not listed below.

2.4.1 Permit Requirements

Section S5.C.4 requires the following:

- Implement and enforce a program to reduce pollutants in stormwater runoff that enters the MS4 from new development, redevelopment and construction site activities.
- Implement an ordinance with necessary legal authority to require development, redevelopment, and construction applications submitted after June 30, 2017 to control runoff according to the minimum technical requirements in either the 2014 Ecology Stormwater Management Manual for Western Washington, or an equivalent Manual approved by Ecology.
- Include a permitting process with site plan review, inspection, and enforcement capability to all sites that meet the minimum thresholds in Appendix 1 of the City's Permit, including the following components:
 - Review all stormwater site plans.
 - Inspect, prior to clearing and construction, all permitted development sites that have high potential for sediment transport.

- Inspect all permitted development sites during construction to verify proper installation of erosion and sediment controls.
- Inspect all permitted development sites upon completion of construction, and prior to final approval or occupancy, to ensure proper installation of permanent stormwater facilities. Verify that a maintenance plan is complete and responsibility for maintenance is assigned.
- An enforcement strategy to respond to issues of non-compliance with above-noted components.
- By June 30, 2017, adopt regulations that include provisions to verify adequate long-term operations and maintenance of regulated stormwater treatment and flow control facilities, including the following components:
 - Implement an ordinance that requires development applications to identify the party responsible for maintenance, requires inspection of facilities, and establishes enforcement procedures.
 - Establish maintenance standards at least as protective as those contained in the Stormwater Management Manual for Western Washington (SWMMWW).
 - Annual inspection of regulated treatment and flow control facilities.
 - Inspection of all regulated permanent treatment and flow control BMPs/facilities and catch basins in new residential developments every six months until 90% of the lots are constructed or until the site is fully stabilized.
 - Perform maintenance within timelines established in the Permit.
 - Keep records of inspections and enforcement actions.
- Make available copies of the Notice of Intent (NOI) for Construction Activity and copies of the NOI for Industrial Activity to representatives of proposed new development and redevelopment.
- Train staff on the new codes, standards, processes and procedures.
- Adopt LID code-related requirements by June 30, 2017 to make LID the preferred and commonly-used approach to site development using a process similar to that described in *Integrating LID into Local Codes: A Guidebook for Local Governments* (Puget Sound Partnership, 2012).
- Summarize the results of the LID integration and revision process by March 31, 2018.

2.4.2 Existing Programs and Activities

Kelso's activities in this area are ongoing:

- Enforce existing local stormwater and erosion control codes for development, redevelopment, and construction sites that meet local thresholds.
- Enforce stormwater and erosion control regulations using Ecology's 2005 SWMMWW for sites over one acre that meet thresholds established in Appendix 1.
- Review site plans and grading permit applications that meet the SWMMWW Minimum Requirements.
- Perform site inspections before, during, and after construction on regulated sites.

- Make known the NOIs for Construction Activity and Industrial Activity to developers.
- Continue review of development, redevelopment, and construction sites using local thresholds for sites under one acre and using thresholds established in Appendix 1 of the 2007 Permit for sites over one acre.
- Continue inspecting regulated sites before, during, and after construction.
- Document all required recordkeeping.

2.4.3 Planned Activities

Planned activities for 2017 include:

- Re-certify two staff for the Certified Erosion and Sediment Control Lead (CESCL) certification by September 2017.
- Complete the process to update stormwater standards in accordance with Appendix 1 and the SWMMWW, including incorporation of LID standards in City development codes by June 30, 2017.
- Combine and update the KEDM and Standard Plans to include standards in the above bullet by June 30, 2017.
- Ensure all Community Development staff are trained on the updated stormwater requirements, provisions and procedures.
- Create new public guidance materials and checklists for development-related activity.

2.5 Municipal Operations and Maintenance (O&M)

The Public Works Department operates the MS4 and City properties, including streets, rights-of-way, parks, and municipal buildings. Employees follow procedures to reduce stormwater impacts from City operations. During the Permit term, the City plans to update its maintenance standards, increase frequency of catch basin inspection, and implement a catch basin repair and replacement program.

2.5.1 Permit Requirements

Section S5.C.5 requires the following:

- Develop and implement an operations and maintenance (O&M) program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations.
- By June 30, 2017, establish and adopt maintenance standards for components of the municipal separate stormwater system that are at least as protective as those specified in Volume V of the SWMMWW.
- Conduct annual inspections of City-operated stormwater treatment and flow control and treatment BMPs/facilities, and conduct required maintenance within Permit-established deadlines.
- Spot checks of potentially damaged permanent stormwater treatment and flow control BMPs/facilities after major storm events and system-wide inspection if spot checks

indicate widespread damage. Then conduct required maintenance within Permit-established deadlines.

- Inspect all City-operated catch basins and inlets at least once by August 1, 2017 and then every two years thereafter.
- Implement practices, policies, and procedures to reduce stormwater impacts associated with runoff from municipal operation and maintenance activities including but not limited to streets, parking lots, roads, highways, buildings, parks, open space and maintenance yards owned or maintained by the City.
- Implement an ongoing training program for staff whose job functions may impact stormwater quality. Document the training program.
- Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by the City that are not covered by an Industrial Stormwater General Permit.
- Maintain records of inspections and maintenance or repair activities.

2.5.2 Existing Programs and Activities

Kelso's activities in this area are ongoing:

- Annual inspection of six City-operated permanent stormwater treatment and flow control facilities.
- Annual cleaning of two stormwater facilities.
- Spot check stormwater facilities and flood-prone areas of the conveyance system after rain storms larger than the 24-hour, 10-year storm event.
- Routine street sweeping.
- Clean ditches and culverts as needed.
- Follow City of Kelso *Municipal Stormwater O&M Program 2015* for operation of stormwater facilities, streets, parks and buildings owned or operated by the City.
- Follow City of Kelso *Nutrient, Integrated Pest Management and Herbicide Plan 2015* to guide the use of nutrients and chemicals on City-operated properties and rights-of-way.
- Follow protocols for spills response on City streets and properties in the City of Kelso *Illicit Discharge Detection and Elimination (IDDE) Program 2015*.
- Train new Operations staff on operational source control BMPs for the maintenance yard, City street and property operations, and City parks operations or when the program is modified.
- Maintain the SWPPP for the Public Works maintenance yard; conduct quarterly inspections.
- Document all required recordkeeping.

2.5.3 Planned Activities

Planned activities for 2017 include:

- Review maintenance standards and revise as necessary to ensure they are as effective as the current edition of the SWMMWW.
- Review the street sweeping program and consider strategies to document where, when and how much street sweeping has been performed. Investigate the possibility to increase the frequency of street sweeping.
- Implement a catch basin structural repair and replacement program to repair or replace approximately six catch basins in 2017.
- Inspect the Operations maintenance yard for proper application of BMPs to document conformity with the SWPPP; revise SWPPP as needed based on conditions.
- Inspect approximately half of City-operated catch basins and maintain those that need it.

2.6 NPDES Program Administration

The City's NPDES compliance program requires administration to develop plans and schedules, administer contracts, maintain tracking systems, process payments, and prepare reports.

2.6.1 Planned Activities

Planned activities for 2017 include:

- Manage contract with consultant for assistance with LID code and manual update implementation.
- Implement new NPDES time tracking procedures for Community Development and Public Works.
- Submit the 2016 Annual Report and attachments, including the 2017 SWMP.
- Submit the annual Permit fee.
- Submit required payments for regional monitoring activities (see Chapter 3).
- Update the SWMP for 2018 activities in late 2017.
- Maintain records of NPDES activities for each Permit component.

3. MONITORING AND ASSESSMENT

3.1 Stormwater Monitoring

Stormwater monitoring requirements are given in Section S8 of the Permit. The basic requirements for stormwater monitoring include the following:

- Providing Ecology with any stormwater-related monitoring or studies conducted by or on behalf of the City.
- Study the effectiveness of the SWMP, either through contributing to Ecology's established regional effort or by conducting stormwater discharge monitoring.
- Pay into a collective fund to conduct source identification and diagnostic monitoring, which will implement the Source Identification Information Repository (SIDIR).

3.1.1 Ongoing Activities

- The City has chosen to pay into the regional effort for monitoring. The City will remit payments to Ecology annually through 2017 for effectiveness monitoring and the SIDIR.
- The City will continue to participate in the Lower Columbia Habitat Status and Trends Monitoring program to develop recommendations on a regional status and trends monitoring program for the southwest Washington permittees for the next Permit cycle.



Engineering Department

203 S. Pacific Avenue, PO Box 819 Kelso, WA 98626



MEMO

To: Project No. 601301 project file

From: Van McKay, P.E.

Date: January 6, 2017

Subject: Description of public education and outreach efforts conducted in 2016 for Permit sections S5.C.1.a.i and ii.

To build general awareness, the City made available to the public the Solution to Pollution brochure that describes the hazards of stormwater pollution and specific habits to reduce stormwater pollution. The City mailed two separate letters to over 1600 residents.

As much information is now communicated through the Internet, the City maintained and regularly updated its stormwater website with many documents to educate the public on stormwater pollution and the City's stormwater management program (SWMP). The documents include annual reports, educational documents, stormwater management plans, and stormwater ordinances. It also includes supporting documents for the SWMP such as the IDDE program, the O&M program and the Operations SWPPP.

The City provided financial support for Earth Day. The funds were earmarked to help with the Earth Day bag contest. This contest uses art as a vehicle to educate school children on stormwater and water quality issues.

The City provided educational materials on stormwater pollution to local charities who use the City's car wash kit. The materials were for both the charities and their customers.

Clean Water Partners (CWP), that includes permittees and secondary permittees in the area as well as the Port of Longview, had meetings to further its combined educational efforts. The purpose of the CWP is to develop media materials necessary to undertake a regional social marketing strategy and to disseminate these media within the area.

Educational flyers on leaf pollution were handed out to residents in a high leaf-drop neighborhood.

Teamed with Kelso High School to install storm drain markers at City catch basins.

The City along with the City of Longview and Cowlitz County mailed educational materials on wastewater disposal to mobile interior cleaning businesses based in the regional area.

Evaluation of the Impact of Education and Outreach on Mobile Interior Cleaning Businesses in the Kelso-Longview-Cowlitz County, Washington Region

A project to satisfy provisions of the State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of Washington and the Federal Water Pollution Control Act (The Clean Water Act), Title 33 United States Code, Section 1251 et seq.

Participants

City of Kelso
City of Longview
Cowlitz County

Overview

The current Western Washington Phase II Municipal Stormwater Permit (Permit) requires regulated local governments to develop and implement an education and outreach program designed to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.

As a minimum performance measure of this program, permittees are required to evaluate the effectiveness of their efforts for a specific audience (Section S5.C.1.c):

Each Permittee shall measure the understanding and adoption of the targeted behaviors for at least one target audience in at least one subject area. No later than February 2, 2016, Permittees shall use the resulting measurements to direct education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors. Permittees may meet this requirement individually or as a member of a regional group.

The City of Kelso, the City of Longview and Cowlitz County (Participants) determined that it was beneficial and more effective to satisfy this requirement as a regional group with a collaborative research project. The two cities and the MS4-coverage area of the County form a contiguous area and single market, comprising the majority of the population within greater Cowlitz County. The project was implemented from October 2015 into February 2016 and satisfies this Permit requirement.

Target Audience/Subject Area

The Participants evaluated several potential target audiences and subject areas. They chose mobile interior cleaning businesses as the target audience and the subject area as being the business' best management practices (BMPs) for their equipment, cleaning practices and wastewater handling and disposal.

These businesses are based in Cowlitz County and serve both residential and commercial/industrial/institutional customers. They offer one or more of the following services:

- Carpet Cleaning
- Upholstery Cleaning
- Interior Wall and Floor Washing
- Window Washing

Wastewater from these activities commonly contains detergents, chemicals, dirt and other debris, and must be discharged onsite into a sink, toilet, or other drain connected to a sanitary sewer system (not a septic system), or hauled off-site and disposed of properly. Improper disposal of wastewater, as well as leaks and spills outdoors, can result in illicit discharges to the MS4 and impairment of receiving waters.

Methodology

The project involved a three phase effort:

- 1) A confidential initial survey (by phone or in-person) of each business to gauge both their general awareness of the stormwater issues as well as best management practices for their industry;
- 2) The development and dissemination of educational materials to those businesses that responded to the initial survey; and
- 3) A confidential follow-up survey to measure and evaluate changes in awareness and the adoption of the targeted behaviors.

The initial survey questionnaire (see Appendix 1) included 14 questions. Six of the questions (Q1, Q2, Q3, Q4, Q6 and Q7) were intended to assess the awareness of the business owner/operator and their general knowledge of the stormwater system and the potential for water quality impairments due to polluted runoff. The remaining eight questions (Q5, Q8, Q9, Q10, Q11, Q12, Q13 and Q14) were focused on the behavior and practices in place at each business operation.

The Participants researched and evaluated a number of education and outreach resources for mobile interior cleaning businesses. They decided to provide the survey respondents with an educational packet (see Appendix 2) that included a cover letter, the Washington Department of Ecology's educational flyer on *Good Business Practices & Wastewater Disposal* (Ecology publication #11-01-004), and a new collateral piece on *Best Practices for Carpet and Interior Cleaning Activities* developed for the project.

The follow-up survey questionnaire (see Appendix 1) included 13 questions, 11 of which were repeated from the initial survey (Q2-Q10 and Q12-13) with two new behavior-based questions (Q15 and Q16).

Implementation

A total of 24 mobile interior cleaning businesses were identified within the Kelso-Longview area. The businesses were divided among the three Participants to conduct the initial surveys. After extensive efforts, initial surveys were completed for 11 of the 24 businesses. The Participants then provided a cover letter and education materials to those businesses that completed the initial survey. The follow-up survey was then undertaken after these businesses had an opportunity to review the materials provided. A total of seven businesses completed the follow-up survey.

Results and Analysis

Detailed information and tabulation of the responses to the initial and follow-up surveys are found in Appendix 3 – Initial and Follow-up Survey Results

Question 1: What is your overall impression of the water quality in our local waterways? [open ended]

This open-ended question (provided only on the initial survey) solicited a wide-range of responses varying from “fine” to “fair” to “bad/dirty.” There is obviously a disparity in perceptions of local water quality which also varied in some cases on the particular water body.

Question 2: Pollution in rivers, streams, wetlands and lakes is more due to industrial facilities than to individuals. [AGREE / DISAGREE]

In the initial survey, 73% agreed with this statement. In the follow-up survey 71% continued to believe that pollution was more due to industrial discharges than to individuals and non-point source pollution. Given the industrial nature of the Kelso/Longview area this is somewhat to be expected, however it points to the need for more general education on the topic of stormwater and nonpoint source pollution, as well as the collective role of individual actions on water quality.

Question 3: Where does water entering the storm drains on the street go? [open ended]

This question was answered correctly in a number of ways with responses that included “river,” “creeks,” “drainage ditches,” and “storm drainage system.” Only one business on the initial survey incorrectly stated that water in storm drains goes to a treatment plant. On the follow-up survey, there was one response of “facility-treated,” though it is unclear whether this was meant to specify wastewater treatment or treatment by a stormwater BMP facility.

Question 4: Is water that enters storm drains on the street treated before being discharged to the environment? [YES / NO]

91% of the initial survey respondents correctly answered that stormwater is untreated before being discharged. This number dropped to 57% in the follow-up survey showing some confusion over this topic. As with question #2, this indicated that future educational efforts should include the general message that stormwater is typically untreated before reaching the environment.

Question 5: Do you use water-based, biodegradable and low-phosphate products? [YES / NO]

In both the initial and follow-up survey, all respondents indicated that their businesses use biodegradable and low-phosphate cleaning products.

Question 6: Non-toxic, biodegradable soaps do not pollute stormwater runoff. [AGREE / DISAGREE]

In the initial survey, 55% of businesses said they agreed with this statement. In the follow-up survey only 29% made the statement showing a measurable change in awareness as a result of the educational materials provided to the businesses for this project.

Question 7: Cleaning rinsewater, having little soap or dirt, can be safely poured down a stormwater drain. [AGREE / DISAGREE]

36% of the businesses agreed with this statement when asked in the initial survey. None of the respondents did so in the follow-up survey, again showing a significant change in awareness as a result of the educational materials provided.

Question 8: Where do you dispose your cleaning wastewater? [open ended]

The response to this question was typically some variation of sanitary sewer via a toilet, sanitary drain, or cleanout. One respondent on the initial survey indicated they dispose “outside or down a sanitary drain.” There appeared to be some confusion in the responses as the most proper mechanism for sanitary sewer disposal (on-site vs. business location) and options for customers on septic systems. This is a topic for the Participants, in conjunction with the Three Rivers Regional Wastewater Authority (TRRWA), to further develop appropriate disposal guidance and provide this information to the mobile cleaner businesses in the area.

Question 9: Do you handle or store detergents and chemicals in a covered or contained area where any spills will not occur outdoors? [YES / NO]

In the initial survey, 73% of businesses stated that they handled and stored cleaning detergents and chemicals in a covered or contained area. In the follow-up survey, this value rose to 100% of the respondents. This may show a measurable change in behavior as a result of the educational materials provided to the businesses for this project.

Question 10: Do you follow the manufacturer's instructions and not use more detergents or chemicals than recommended? [YES / NO]

91% of respondents initially said they follow the manufacturer’s instructions on cleaning detergents and chemicals. All of those businesses on the follow-up survey indicated that they do, which again may show a measurable change in behavior as a result of the educational materials provided.

Question 11: How often is your equipment serviced to prevent leaks? [DAILY / WEEKLY / MONTHLY / ANNUALLY]

This question, which was only asked on the initial survey, shows that there is a wide variety in how often equipment is serviced by the businesses that participated.

Question 12: Do all the company's cleaning vehicles have a spill kit? [YES / NO]

In the initial survey, 64% of businesses stated that they had a spill kit in all of the company's vehicles. In the follow-up survey, this value rose to 71%. This may show a measurable change in behavior as a result of the educational materials provided to the businesses for this project.

Question 13: For which best management practices are employees trained?

The figure below shows the responses for both the initial and follow-up surveys for each of the options provided on this question.

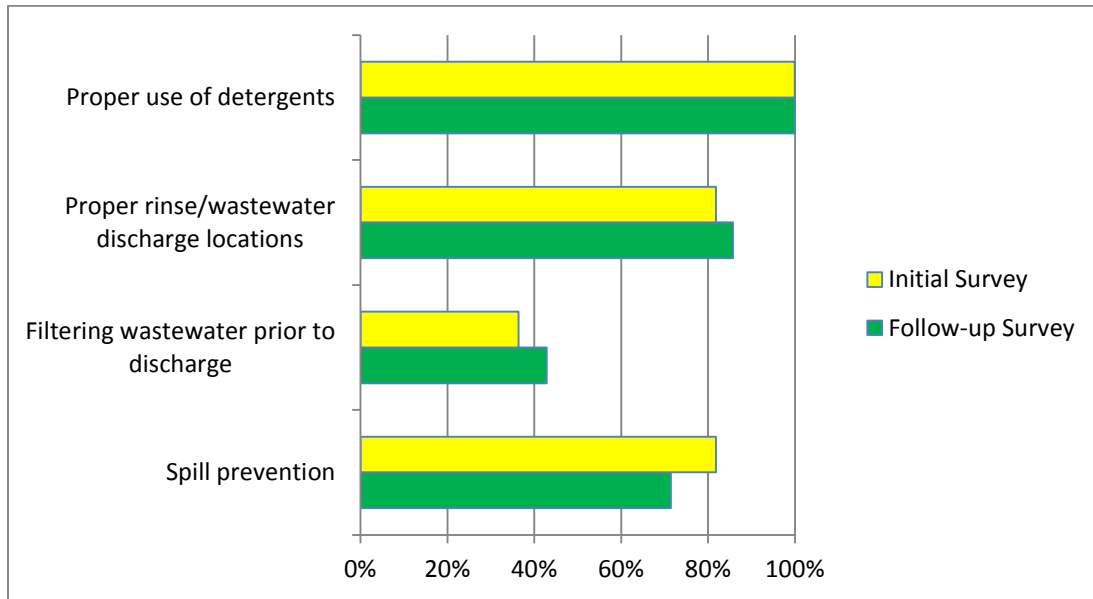


Figure 1. Best Management Practices for Which Employees are Trained

Question 14: How often are employees trained?

This question (asked on the initial survey only) indicated a wide variety in the training frequency provided to employees at the various businesses that took part in the survey project.

Question 15: Do you filter all rinse and wastewater for solids such as carpet fibers, prior to disposal?
[YES / NO]

This question (asked on the follow-up survey only) shows that the majority of businesses filter wastewater for solids prior to disposal. This is an area where additional focus on the importance of filtering rinse and wastewaters may provide additional behavior change.

Question 16: Do you check with your clients to see if the work location has a septic system or is connected to the local sanitary sewer system? [YES / NO]

This question (asked on the follow-up survey only) shows only 43% of business check to see whether or not their clients have a septic system or are connected to the local sanitary sewer system. However, several businesses indicated that they do not check with their clients as their standard practice is off-site disposal. This is an area where additional guidance on proper disposal options could be provided to these businesses.

Summary and Conclusions

Seven out of twenty-four businesses completed both initial and follow-up surveys which equates to a participation rate of approximately 30%. The Participants feel this is a significant number of respondents for a survey and project of this nature. The survey results provide meaningful information that will inform future stormwater educational efforts by the Participants in the greater Longview/Kelso area.

There was measureable change in the awareness and behavior among the respondents on several issues. However, the majority of respondents still believe that pollution is more due to industrial facilities than individuals, and there is still confusion regarding whether or not stormwater is treated.

Additional educational efforts surrounding several topics and areas could potentially provide more progress in driving mobile cleaner businesses to employ best management practices. Future educational materials for mobile cleaners should be enhanced to provide the following:

- General information about the nature of stormwater pollution
- Repetition on best management practices for mobile cleaners
- Specific information on the importance of filtering wastewater

As the results of Questions 8 and 16 indicate, the Participants will also need to further develop policy and guidance on appropriate disposal options and provide this to mobile cleaning businesses.

APPENDIX 1 – Initial and Follow-Up Questionnaires

**MOBILE INDOOR CLEANING BUSINESS STORMWATER
INITIAL QUESTIONNAIRE**

“Hello, my name is _____ and I’m here (or calling) on behalf of the Cities of Kelso and Longview, and Cowlitz County. We are asking businesses to provide input on several environmental issues and would like to include your opinion. We will be following up our survey with some educational materials and may ask you to respond to a follow-up survey.

We would like to speak to the individual in your business that is responsible for and/or most knowledgeable about how your business deals with environmental and stormwater-related issues.”
(or alternatively the Owner / Manager)

- *Would that be you?*
- *May I speak to this individual?*

REPEAT INTRODUCTION WHEN SPEAKING TO THE CORRECT INDIVIDUAL

“Your replies to this survey are strictly confidential and will not be associated with either your name or business”

QUESTIONS:

Q1. What is your overall impression of the water quality in our local waterways? [open ended]

Q2. Pollution in rivers, streams, wetlands and lakes is more due to industrial facilities than to individuals. AGREE / DISAGREE

Q3. Where does water entering the storm drains on the street go? [open ended]

Q4. **Is water that enters storm drains on the street treated before being discharged to the environment?** YES / NO

Q5. **Do you use water-based, biodegradable and low-phosphate products?** YES / NO

Q6. **Non-toxic, biodegradable soaps do not pollute stormwater runoff.** AGREE / DISAGREE

Q7. **Cleaning rinsewater, having little soap or dirt, can be safely poured down a stormwater drain.**
AGREE / DISAGREE

Q8. **Where do you dispose your cleaning wastewater?** [open ended]

Q9. **Do you handle or store detergents and chemicals in a covered or contained area where any spills will not occur outdoors?** YES / NO

Q10. **Do you follow the manufacturer's instructions and not use more detergents or chemicals than recommended?** YES / NO

Q11. **How often is your equipment serviced to prevent leaks?**

- A) Daily
- B) Weekly
- C) Monthly
- D) Annually

Q12. **Do all the company's cleaning vehicles have a spill kit?** YES / NO

Q13. **For which best management practices are employees trained?** [Circle/choose all that apply]

- A) Proper use of detergents/chemicals
- B) Proper rinse/wastewater discharge locations
- C) Filtering of wastewater prior to discharge
- D) Spill prevention

Q14. **How often are employees trained?**

- A) Once at start of employment
- B) Monthly
- C) Annually
- D) Other _____

**MOBILE INDOOR CLEANING BUSINESS STORMWATER
FOLLOW-UP QUESTIONNAIRE**

*“Hello, my name is _____ and I’m here (or calling) on behalf of the
Cities of Kelso and Longview, and Cowlitz County. We are following up our initial survey with some
repeat and new questions.*

*“Your replies to this survey are strictly confidential and will not be associated with either your name
or business”*

QUESTIONS:

**Q2. Pollution in rivers, streams, wetlands and lakes is more due to industrial facilities than to
individuals. AGREE / DISAGREE**

Q3. Where does water entering the storm drains on the street go? [open ended]

**Q4. Is water that enters storm drains on the street treated before being discharged to the
environment? YES / NO**

Q5. Do you use water-based, biodegradable and low-phosphate products? YES / NO

Q6. Non-toxic, biodegradable soaps do not pollute stormwater runoff. AGREE / DISAGREE

**Q7. Cleaning rinsewater, having little soap or dirt, can be safely poured down a stormwater drain.
AGREE / DISAGREE**

Q8. Where do you dispose your cleaning wastewater? [open ended]

Q9. Do you handle or store detergents and chemicals in a covered or contained area where any spills will not occur outdoors? YES / NO

Q10. Do you follow the manufacturer's instructions and not use more detergents or chemicals than recommended? YES / NO

Q12. Do all the company's cleaning vehicles have a spill kit? YES / NO

Q13. For which best management practices are employees trained? [Circle/choose all that apply]

- A) Proper use of detergents/chemicals
- B) Proper rinse/wastewater discharge locations
- C) Filtering of wastewater prior to discharge
- D) Spill prevention

Q15. Do you filter all rinse and wastewater for solids such as carpet fibers, prior to disposal? YES / NO

Q16. Do you check with your clients to see if the work location has a septic system or is connected to the local sanitary sewer system? YES / NO

APPENDIX 2 – Education Materials



[Business]

[Business Address]

[Longview/Kelso], WA XXXXX

January 25, 2016

Dear _____,

Cowlitz County and the Cities of Kelso and Longview would like to thank you for your recent participation in a survey of your knowledge and business practices in regards to the management of wastewater from your interior cleaning operations.

We are conducting these surveys as part of a requirement in our Municipal Stormwater Permits with the Washington Department of Ecology under the Clean Water Act. The goal of the permit requirement is to use the survey results to direct education and outreach resources most effectively, as well as to promote the adoption of best management practices to help protect water quality.

As we mentioned, these surveys are confidential and will not be used for any compliance or enforcement by the Cities or County.

We are including education materials on best management practices for your business. We encourage you to review these materials and train your staff and employees to follow these practices in their daily activities and operations.

Once you have had an opportunity to review these materials, we invite you to participate in a similar survey during the week of February 1 to measure the effectiveness of our outreach effort. Again, these surveys are voluntary and completely confidential.

Thank you for your time and willingness to participate in our educational effort on behalf of the community.

Best regards,

Cowlitz County, the City of Kelso and the City of Longview

Preventing stormwater pollution is good business

Good Business Practices for Carpet Cleaning & Wastewater Disposal



Why is wastewater from carpet cleaning operations a concern?

Wastewater from carpet cleaning may contain dirt, soap, oil, grease, solvents, and other toxic chemicals. These common pollutants can enter our waterways and harm the animals and plants that live there.

How and where you dispose of carpet cleaning wastewater matters. Imagine swimming in a stew of carpet cleaning wastewater – it's not a pretty picture. But this is exactly what can happen if your carpet cleaning waste enters a storm drain. Water that goes into storm drains or ditches is not treated and goes directly to our lakes, rivers, and creeks. Carpet cleaning businesses must implement appropriate best management practices (BMPs) to prevent these pollutants from entering storm drains or ditches.

Best management practices help protect the environment

How? It's Easy. Be smart! Plan ahead. You can take simple steps to complete carpet cleaning work without polluting the environment.

- ✳️ Make sure your equipment is well serviced and that all filters are operating properly. Maintain the tanks, hoses, and fittings to prevent wastewater leaks.
- ✳️ Where possible, invest in cleaning equipment and cleaning practices that minimize water use.
- ✳️ Train your operators and employees on appropriate carpet cleaning best management practices, as well as pollution prevention and wastewater discharge requirements.
- ✳️ Check with your clients when booking the job. Is this location on sewer or septic system?

*Did you know? Storm drains discharge directly to our lakes, creeks, and waterways **UNTREATED**. This is why it is dangerous and illegal to dispose of carpet cleaning wash water in the storm drain system. Wastewater contains toxic chemicals and can harm humans, sensitive habitats, and wildlife.*



Areas on a sewer system

Arrange with the client to allow you to discharge into the toilet or utility sink on the premises. If this is not possible, plan to transport the wastewater off-site and dispose of it properly at an authorized sewage discharge point.



Areas on Septic Systems

At a location with a septic system, plan to store wastewater and residues in a collection tank and transport them to an authorized sewage discharge point for proper disposal.

Identify the wastewater disposal option that will be used and ensure that you meet all the requirements to do so. Contact your local sewer authority for information about requirements.



Smart Carpet Cleaning Practices

✳️ **Assess the site:** Before starting the job, do a quick check of the location of stormwater drains and ensure that they are protected from any runoff or spills.

✳️ **Vacuum before cleaning:** This minimizes the amount of debris in the wastewater.

✳️ **Follow instructions:** Always use the recommended type and quantity of chemicals (including water-based, biodegradable, and low-phosphate products, where available) according to the manufacturer's instructions. Remember, just because a product is biodegradable doesn't mean it can be discharged to a storm drain. Store and handle detergents and chemicals in a contained area where any spills will not enter the storm drain.

✳️ **Filter all wastewater** before discharging into the sewer system, since fibers and other debris in the wastewater can clog pipes. The filtered materials may be disposed of in the garbage, unless the waste is contaminated. Waste contaminated with hazardous pollutants must comply with hazardous materials disposal requirements. If you have any questions about finding out if wastes are hazardous and how they should be disposed of, contact a hazardous waste specialist at your nearest Ecology office. See the contact list at: <http://www.ecy.wa.gov/reportenviropblem.html#lookup>.

✳️ **Dispose of wastewater properly.**

Did you know?

You should never dispose of carpet cleaning wastewater into a septic system.

The chemicals may cause the system to fail and contaminate groundwater and drinking water.



Is your business part of the problem or part of the solution?

Knowing your role can help protect Washington waters, save you money in fines, and also prevent negative publicity about your business. All businesses have a role in keeping our lakes, rivers, marine and ground waters clean. Our health and economy depend on it. Your business can be a pollution solution!

Contact information:

Justine Asohmbom,
Puget Sound
Education Coordinator
425-649-7108
juas461@ecy.wa.gov

Special accommodations:

To ask about the availability of this document in a format for the visually impaired, call the Communications and Education Program at 360-407-7472. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Remember:
Only rain down the drain.

STORMWATER Pollution Prevention

Best Practices for Carpet and Interior Cleaning Activities

Wastewater from interior cleaning activities (including carpet, upholstery, floor and window cleaning) commonly contains detergents, chemicals, dirt and other debris. This wastewater should never be disposed anywhere that could lead to the stormwater drainage system and into our waterways, where these pollutants are very harmful to water quality and aquatic life.

Follow the tips below to do your part
and be a solution to water pollution!



☑ Minimize Pollutants

Always use the least toxic detergents and cleaning agents. Minimize the amount of water used to reduce the amount of wastewater.

☑ Dispose of Wastewater Properly

Wastewater from cleaning equipment must be discharged into a sink, toilet, or other drain connected to the sanitary sewer system, or hauled off-site and disposed of properly. Wastewater should never be discharged into the street, gutter, parking lot, storm drain or drainage ditch.

☑ Filter Wastewater Before Disposing

Carpet cleaning wastewater should be filtered before discharging it to the sanitary sewer since fibers and other debris in the wastewater can clog pipes. The filtered material can be disposed of in the garbage, provided that the waste is not contaminated with hazardous pollutants.

☑ Maintain Equipment

Maintain cleaning equipment (tanks, hoses and fittings) to prevent wastewater leaks. Check equipment daily for leaks and loose fittings and make repairs immediately.

APPENDIX 3 – Initial and Follow-Up Survey Results

INITIAL SURVEY RESPONSES

Question	Company 1	Company 2	Company 3	Company 4	Company 5	Company 6	Company 7	Company 8	Company 9	Company 10	Company 11
1	Things are fine	Not as good as it used to be. Mt. St. Helens Ash	Kalama River is good; the larger the river, the worse the quality. Columbia River is bad.	Fair. Lacking intellect in beneficial consumption.	Not Bad	Fair, no odor, no dead cats.	Fair	Fine, clean	ok	Poor	Dirty, Can Never see in the Cowlitz, Ditches Nasty, Columbia better but still dirty.
2	Agree	Agree	Agree	Agree	Disagree	Agree	Agree	Disagree	Disagree	Agree	Agree
3	Down to the river	Into the river (not through treatment)	Rivers	Rivers	Rivers	River	Drainage ditches and river.	Storm drainage system	Diking Ditches	Creeks/Rivers	Treatment Plant
4	No	No	No (untreated)	No	Don't know, should be though	No; don't know, assume some level.	No	No	No	No	Yes
5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Agree	Disagree, it pollutes	Agree	Disagree	Didn't agree or disagree, stated it helps.	Agree	Disagree	Agree	Agree	Disagree	Agree
7	Agree	Disagree	Disagree	Disagree	Agree; probalbly.	Disagree	Disagree	Agree	Disagree	Disagree	Agree
8	Outside or down sanitary drain	Dumps into toilet; doesn't have much wastewater	Toilets	Dump sites. Mainly sanitary sewer using a hose down the toilet.	Used to use RV dump site on Oregon Way and was told not to by City personel; would like to know for sure on this. Currently uses his sanitary sewer cleanout which is a 4" line, however doesn't know for sure if this is okay or not; has confusion.	Sanitary Sewer	Sanitary Sewer	Sanitary		Sanitary Cleanout	Usually in Sanitary Drain in shop when not in toilet. Can't drain to toilet when its on septic and over half his customers are on septic.
9	No	Yes	No	Yes	Yes	Yes	Yes; indoor	Yes	No; Not all	Yes	Yes
10	Not necessarily	Yes	Yes	Yes	Yes	Yes, training	Yes	Yes	Yes	Yes	Yes
11	Repair as needed	Weekly to monthly; repairs as needed	Vans are serviced every 5000 miles	Daily	Annually	Weekly (weighted)	Tough question, only water can leak; chemicals are injected.	Monthly	Monthly	Annually	Weekly
12	No	Yes	Answered "No" to be safe: (hasn't checked in awhile)	Yes	Might	Have kits for specifics (gasoline); cleaning products are cleaned with water.	Yes	Yes	No	Yes	Yes
13	A) Y; B) N; C) N; D) N	A) Y; B) Y; C) Y; D) Y	A) Y; B) Y; C) N; D) Y	A, B, C, D	A, B	A, B, C, D	A, B, D (C- properly dispose)	A, B, C(some), D	A,B,D	A, D	A, B, D
14	D) Train with change in procedures	Yearly (low turnover so not much training)	A & B	B, Anytime when having new knowledge.	Myself; no employees.	A, D (biannually)	D (weekly at safety meetings)	A	C	A	B

FOLLOW-UP SURVEY RESPONSES

Question	Company 1	Company 2	Company 3	Company 4	Company 5	Company 6	Company 7
2	Agree ("industrial")	Agree	Disagree	Agree	Agree	Disagree	Agree
3	Into the river	Into the rivers, lakes, wetlands	Rivers	Facility treated	River	Rivers	Creeks and Ground
4	No	No	Yes	Yes	Yes	No	No
5	Yes, no phosphate	Yes	Yes	Yes	Yes	Yes	Yes
6	Disagree, false	Agree	Agree	Disagree	Disagree	Disagree	Disagree
7	Disagree, no	Disagree	Disagree	Disagree	Disagree	Disagree	Disagree
8	Toilet, where there is a sewer system	In the sewer system, toilets	Sanitary sewer line (cleanout) at mobile cleaners home.	Sanitary sewer (All comes back to facility, into a tank, hose is filtered for debris, and disposed via cleanout.	Dump site off of 15th Ave. (RV dump) which is sanitary sewer.	Sanitary sewer cleanout @ Shop	Sanitary Sewer
9	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	Yes	No, will check	No	Yes	Yes	Yes	Yes
13	A, B, C, D	A, B	A,C,D	A,B,D	A,B,D	A,B,C,D	A,B
15	Yes	No	Yes	Yes	Yes	No	No
16	Yes	No. She thinks all in Longview and Kelso are on sewer.	No, dump at own house.	No (dispose offsite at facility sanitary sewer cleanout)	No, offsite disposal.	Yes	Yes

SURVEY RESULTS AND ANALYSIS

Follow-up Survey Results

Number of respondents =

7

Question	Yes -or- Agree	No -or- Disagree	No Response	Percent Yes or Agree	Initial Percentage	Interpretation
2	5	2		71%	73%	Majority still believe that pollution is more due to industrial facilities than individuals <i>--need to provide more general information about nature of stormwater pollution</i>
4	3	4		43%	9%	Some now believe that water that enters storm drains is treated before being discharged <i>--need to provide more general information about nature of stormwater pollution</i>
5	7	0		100%	100%	All use biodegradable, low-phosphate cleaning products <i>--no change</i>
6	2	5		29%	55%	Majority now believe that non-toxic, biodegradable soaps do pollute stormwater runoff <i>-- educational materials resulted in a measureable change in awareness</i>
7	0	7		0%	36%	All now disagree that rinsewater can be safely poured down a stormwater drain <i>-- educational materials resulted in a measureable change in awareness</i>
9	7	0		100%	73%	All now store detergents and chemicals in a covered area <i>-- educational materials resulted a measureable change in behavior</i>
10	7	0		100%	91%	All now follow manufacturer's instructions on use of detergents <i>-- educational materials resulted a measureable change in behavior</i>
12	5	2		71%	64%	Larger majority have spill kits <i>-- educational materials resulted a measureable change in behavior</i>
15	4	3		57%	n/a	Majority filter wastewater for solids prior to disposal <i>-- provide additional materials on the importance of filtering wastewater</i>
16	3	4		43%	n/a	Majority do not check with clients to determine septic or sewer connection <i>-- provide additional guidance on how to determine if septic/sewer</i>

Multiple Choice Questions:

Question	Response or Yes (#13)	No (#13)	Follow-up Survey	Initial Survey	Question Choices
13-d	5	2	71%	82%	<i>Spill prevention</i>
13-c	3	4	43%	36%	<i>Filtering wastewater prior to discharge</i>
13-b	6	1	86%	82%	<i>Proper rinse/wastewater discharge locations</i>
13-a	7	0	100%	100%	<i>Proper use of detergents</i>

S5.C.3.e (IDDE Log)

Date In	Inspection, Caller, or Hotline	Spill, Illicit Dumpn/Dischrg or Connection, or PR Feedback	Caller Information	Location	Problem	Response Date	Discussion of Actions and Resolution (Van McKay unless otherwise noted)	Date Completed	Days to Respond	Days to Conclude	Illicit Discharge-Connection eliminated?
1/21/2016	C	D	Redacted	1109 N. 7th Ave.	Resident washing radiator that drained to gutter.	01/21/16	Skylar Masters observed two adult males washing a radiator with the wastewater discharging to the gutter. I went to the site and John Entler and his father-in-law were working on an older pick-up in the concrete driveway that sloped to the garage. They admitted they were cleaning a radiator but claimed it didn't have antifreeze in it when they cleaned it with city water and Dawn detergent. Soap suds were on the driveway and in the gutter. I did not see antifreeze in the gutter. I explained the stormwater permit, illicit discharges, enforcement and stormwater pollution in general. I left a copy of the IDDE ordinance with Mr. Entler.	1/21/2016	0	0	Y
2/11/2016	Other	D	Redacted	1819 Baker Way	Stormwater runoff from the site is impacted with copper and zinc and exceeds their permit benchmarks	03/03/16	The City had a pre-application meeting with Steel Painters 02-11-16. They are under a Level 3 Corrective Action plan with Ecology due to elevated levels of zinc in their stormwater runoff. The City denied Steel Painters proposal to use the right-of-way to manage their stormwater via email correspondence with their attorney Miller Nash Graham & Dunn about March 3. The City also educated Steel Painters via a March 7 email that their polluted runoff was in violation of the City's illicit discharge ordinance and that installation of the proposed stormwater treatment facilities would bring them into voluntary compliance.		21		N
3/3/2016	Other	D	Redacted	301 Allen Street	Paint is peeling from the building and paint chips are going into the right of way and into the storm system.	03/03/16	Mr. Bonner came into the office 3/3/2016 and had a concern about paint chips that have been coming off the building and into the street and onto his property. He brought in a paint chip that flew onto his property that was approximately 12 square inches. He was concerned about paint chips having lead content and having them come onto his property and into the storm drains. 03-18-2016: I used a lead paint test kit on the east wall of the building and the paint tested positive for lead (photo taken). My superior asked that I wait to act on this as the City is working with the owner to correct major issues with the building and the intent is to bundle the corrections.		0		N
3/1/2016	Other	D	Redacted	612 N. 23rd Ave.	Failed erosion control measures have allowed sediment to discharge from the site	03/04/16	I made a construction inspection of the property at 612 N. 23rd Avenue on March 1 and found that the silt fence was missing from large portions of exposed soil and that straw that had been placed previously on exposed soil was missing. On March 4 a letter was sent to the owner demanding to maintain erosion control measures by March 11 or face a Stop Work Order and civil fines.		3		Y
3/28/2016	Other	D	Redacted	501 S. Pacific Avenue - Watkins Tractor	Employees pressure washing power equipment at the property	04/01/16	A 4/1/2016 letter was sent to John Boatman to meet on August 12 to discuss the illicit discharges. John & his father met and we discussed options. They said they knew about this issue and did not deal with it when they bought the City property to the south due to the economic downturn in 2008/9. They knew they had to work on it and now that it has come to the forefront they will. They will get with their engineer Tim Wines for feasibilities of concrete and asphalt installation as well as a grit chamber and oil/water separator. I said a covered wash pad is required. They said they keep witch-hat filters in the onsite catch basins and they all have elbows. We discussed there was no deadline to abate the problem, as it was a large capital expense, but the City wanted to see progress to make sure the problem is abated. July 18, 2016: VLM met w/J. Boatman to discuss abatement status. He has consulted with T. Wines/PLS on sanitary drainage issues. He has contacted a building contractor who has quoted \$60K for a permanent building but he is less interested in a permanent building due to future building on the property. John is weighing design alternatives from a lean-to or gas pump-like cover to a building for construction. I indicated I would check status every 2-3 months.		4		N
			Redacted				10-11-2016: Spoke with John Boatman today for a status update on his abatement. He said he has worked with a building company with structural engineers and installing an adjacent building will not be a good idea. He is looking to retrofit a concrete pad that drains to a catch basin as well as a cover. T. Wines is working on the civil sitework and should have a conceptual drawing reasonably soon that will address a conflict in wastewater gravity lines. He will hard surface the site but has not determined whether it will be asphalt or concrete.				

