



# Water Quality Program

## Permit Submittal Electronic Certification

**Permittee:** KELSO CITY

**Permit Number:** WAR045010

**Site Address:** 203 S PACIFIC AVE  
Kelso, WA 98626

**Submittal Name:** MS4 Annual Report Phase II Western

**Version:** 1

**Due Date:** 3/31/2022

### Questionnaire

Number	Permit Section	Question	Answer
1	S5.A	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.6.	Not Applicable
2	S5.A	Attach updated annual Stormwater Management Program Plan (SWMP Plan). (S5.A.2)	Kelso_SWMP_2022 - Final_2_12062021095454
3	S5.A	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.	Have you convened an interdisciplinary team to inform and assist in the development, progress, and influence of the comprehensive stormwater planning program? (S.5.c.1). August 1, 2020	Yes
15	S5.C.1.c	Continue to design and implement local development-related codes, rules, standards, or other enforceable documents to minimize impervious surfaces, native vegetation loss, and stormwater runoff, where feasible? See S5.C.1.c.i. (Required annually)	Yes
16	S5.C.1.c	From the assessment described in S5.C.1.c.i (a), did you identify any administrative or regulatory barriers to implementation of LID Principles or LID BMPs? (Required annually)	No
17	S5.C.1.d	Developed a watershed inventory as outlined in S5.C.1.d.i? (Submitted by March 31, 2022)	Yes
17a	S5.C.1.d	Attach watershed inventory as described in S5.C.1.d.i.	S5.C.1.d.i_Receiving Waters As_17a_12082021111954
18	S5.C.1.d	Developed a receiving water prioritization method and process as described in S.5.C.1.d.ii(a)-(c)? (Required by June 30, 2022.)	No
20	S5.C.2	Did you choose to adopt one or more elements of a regional program? (S5.C.2)	Yes

20a	S5.C.2	If yes, list the elements, and the regional program.	The City of Kelso is part of the Cowlitz Clean Waters partnership developed to: 1) build general awareness about methods to address and reduce impacts from stormwater runoff, and 2) effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. Cowlitz Clean Waters develops public education and outreach campaigns to inform the Lower Columbia region about the impacts of stormwater runoff on the local waterways. The largest annual campaign sponsored by Cowlitz Clean Waters is the local calendar contest; The calendar contest goal is to raise awareness of the causes and ways to prevent stormwater pollution.
21	S5.C.2	Attach a description of general awareness efforts conducted, including your target audiences and subject areas, per S5.C.2.a.i.	S5.C.2.a.i_General awareness e_21_12062021101901
23	S5.C.2	Developed a behavior change campaign that is tailored to the community in accordance with S5.C.2.a.ii(c)? (Required no later than February 1, 2021)	Yes
23a	S5.C.2	Attach the strategy and schedule developed in accordance with S5.C.2.a.ii(c).	Cowlitz Clean Waters Pet Waste_23a_120620211 01950
24	S5.C.2	Began implementing strategy outlined in S.5.C.2.a.ii(c) (S5.C.2.a.ii(d) – Required by April 1, 2021)	Yes
26	S5.C.2	Promoted stewardship opportunities (or partnered with others) to encourage resident participation in activities such as those described in S5.C.2.a.iii.	Yes
26a	S5.C.2	Attach a list of stewardship opportunities provided.	S5.C.2.a.iii_Stewardship oppor_26a_1206202110 2205

27	S5.C.3.	Describe in Comments field the opportunities created for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation, and updates of the Permittee's SWMP and the SMAP. (S5.C.3.a)	The City of Kelso held three public meetings of the Kelso Stormwater Advisory Committee (KSAC), whose purpose is to guide the development, implementation and updates to the City's SWMP. One of the KSAC meetings was to review the Receiving Waters Assessment, required under the SMAP. These meetings are advertised on the City's website and the public is invited to attend.
28	S5.C.3.	Posted the updated SWMP Plan and latest annual report on your website no later than May 31. (S5.C.3.b)	Yes
28a	S5.C.3.	List the website address in Comments field.	<a href="https://www.kelso.gov/engineering/stormwater/stormwater-documents">https://www.kelso.gov/engineering/stormwater/stormwater-documents</a>
29	S5.C.4.	Maintained a map of the MS4 including the requirements listed in S5.C.4.a.i-vii?	Yes
30	S5.C.4.	Started mapping outfall size and material in accordance with S5.C.4.b.i? (Required no later than January 1, 2020)	Yes
30a	S5.C.4.	Attach a spreadsheet that lists the known outfalls' size and material(s).	Q30a_Kelso Outfalls_30a_12062021 113318
31	S5.C.4.	Completed mapping connections to private storm sewers in accordance with S5.C.4.b.ii? (Required no later than August 1, 2023)	Not Applicable
32	S5.C.4.	Developed an electronic format for map, with fully described mapping standards in accordance with S5.C.4.c? (Required no later than August 1, 2021)	Yes Comment: All applicable data is available in file geodatabases. The data is described with a supporting document that defines the mapping standards and meta data has been added to describe the data within the file geodatabases.
33	S5.C.5	Informed public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste? (S5.C.5.b)	Yes
33a	S5.C.5	Actions taken to inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.	The general public and businesses are informed of hazards associated with illicit discharges and improper disposal of waste as illicit discharges are reported and investigated.

34	S5.C.5	Implemented an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges as described in S5.C.5.c.	Yes
35	S5.C.5	Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.5.d.i.	Yes
35a	S5.C.5	Cite field screening methodology in Comments field.	Implemented the City's Municipal Stormwater IDDE Program that incorporates methods outlined in "IDDE: A Guidance Manual for Program Development and Technical Assessments" and in "Illicit Connection and Illicit Discharge Field Screening and Source
36	S5.C.5	Percentage of MS4 coverage area screened in the reporting year per S5.C.5.d.i. (Required to screen 12% on average each year.)	27
36a	S5.C.5	Cite field screening techniques used to determine percent of MS4 screened.	Screened two manholes, three catch basins, and one ditch in Southeast Kelso using the "Outfall Reconnaissance Inventory/Sample Collection Field Sheet".
37	S5.C.5	Percentage of total MS4 screened from permit effective date through the end of the reporting year. (S5.C.5.d.i.)	58
38	S5.C.5	Describe how you publicized a hotline telephone number for public reporting of spills and other illicit discharges in the Comments field. (S5.C.5.d.ii)	The hotline telephone number is publicized on the City's website along with a "Stormwater Incident Report" online form to provide an alternate method of communication.
39	S5.C.5	Implemented an ongoing illicit discharge training program for all municipal field staff per S5.C.5.d.iii.	Yes
40	S5.C.5	Implemented an ongoing program to characterize, trace, and eliminate illicit discharges into the MS4 per S5.C.5.e.	Yes
41	S5.C.5	Municipal illicit discharge detection staff are trained to conduct illicit discharge detection and elimination activities as described in S5.C.5.f.	Yes
42	S5.C.5	Attach a report with data describing the actions taken to characterize, trace, and eliminate each illicit discharge reported to, or investigated by, the Permittee as described in S5.C.5.g. The submittal must include all of the applicable information and must follow the instructions, timelines, and format described in Appendix 12.	WAR045010-2021-ImportedIDDEs_03302022100323

43	S5.C.6.	Implemented an ordinance or other enforceable mechanism to effectively address runoff from new development, redevelopment, and construction sites per the requirements of S5.C.6.b.i-iii.	Yes
44	S5.C.6.	Revised ordinance or other enforceable mechanism to effectively address runoff from new development, redevelopment, and construction sites per the requirements of S5.C.6.b.i-iii. (Required no later than June 30, 2022)	Yes
44a	S5.C.6.	Cite code reference in Comments field.	Kelso Municipal Code Chapter 13.09
45	S5.C.6.	Number of adjustments granted to the minimum requirements in Appendix 1. (S5.C.6.b.i. and Section 5 of Appendix 1)	0
46	S5.C.6.	Number of exceptions/variances granted to the minimum requirements in Appendix 1. (S5.C.6.b.i., and Section 6 of Appendix 1)	0
47	S5.C.6.	Reviewed Stormwater Site Plans for all proposed development activities that meet the thresholds adopted pursuant to S5.C.6.b.i. (S5.C.6.c.i)	Yes
47a	S5.C.6.	Number of site plans reviewed during the reporting period.	10
48	S5.C.6.	Inspected, prior to clearing and construction, permitted development sites per S5.C.6.c.ii, 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?	No
48a	S5.C.6.	If no, inspected, prior to clearing and construction, all construction sites meeting the minimum thresholds (S5.C.6.c.ii)?	Yes
49	S5.C.6.	Inspected permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls per S5.C.6.c.iii.	Yes
49a	S5.C.6.	Number of construction sites inspected per S5.C.6.c.iii.	6
49b	S5.C.6.	Inspected stormwater treatment and flow control BMPs/facilities and catch basins in new residential developments every 6 months per S5.C.6.c.iv?	No Comment: There were no residential developments in construction this year. However, all private BMPs were inspected this year within the City of Kelso.
50	S5.C.6.	Inspected all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. (S5.C.6.c.v)	Yes
51	S5.C.6.	Verified a maintenance plan is completed and responsibility for maintenance is assigned for projects prior to final approval and occupancy being granted. (S5.C.6.c.v)	Yes

52	S5.C.6.	Number of enforcement actions taken during the reporting period (based on construction phase inspections at new development and redevelopment projects). (S5.C.6.c.ii-iv) (S5.C.7.c.viii)	0
53	S5.C.6.	Achieved at least 80% of scheduled construction-related inspections. (S5.C.6.c.vi)	Yes
54	S5.C.6.	Made Ecology's Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity available to representatives of proposed new development and redevelopment? (S5.C.6.d)	Yes
55	S5.C.6.	All staff whose primary job duties are 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.6.e)	Yes
56	S5.C.7.	Implemented maintenance standards that are as protective, or more protective, of facility function than those specified in the Stormwater Management Manual for Western Washington or a Phase I program approved by Ecology per S5.C.7.a.?	Yes
57	S5.C.7.	Updated maintenance standards specified in Stormwater Management Manual for Western Washington per S5.C.7.a? (Required no later than June 30, 2022)	Not Applicable
58	S5.C.7.	Applied a maintenance standard for a facility or facilities which do not have maintenance standards specified in the Stormwater Management Manual for Western Washington? If so, note in the Comments field what kinds of facilities are covered by this alternative standard. (S5.C.7.a)	No
59	S5.C.7.	Verified that maintenance was performed per the schedule in S5.C.7.a.ii when an inspection identified an exceedance of the maintenance standard.	Yes
59a	S5.C.7.	Attach documentation of maintenance time frame exceedances that were beyond the Permittee's control.	Not Applicable
60	S5.C.7.	Implemented an ordinance or other enforceable mechanisms to verify long-term operation and maintenance of stormwater treatment and flow control BMPs/facilities regulated by the permittee per (S5.C.7.b.i (a))?	Yes
61	S5.C.7.	Annually inspected stormwater treatment and flow control BMPs/facilities regulated by the Permittee per S5.C.7.b.i(b)	Yes
61a	S5.C.7.	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.b.i (b)	Not Applicable
62	S5.C.7.	Achieved at least 80% of scheduled inspections to verify adequate long-term O&M. (S5.C.7.b.ii)	Yes

63	S5.C.7.	Annually inspected all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	Yes
63a	S5.C.7.	Number of known municipally owned or operated stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	13
63b	S5.C.7.	Number of facilities inspected during the reporting period.	13
63c	S5.C.7.	Number of facilities for which maintenance was performed during the reporting period.	0
64	S5.C.7.	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.c.i.	Not Applicable
65	S5.C.7.	Conducted spot checks and inspections (if necessary) of potentially damaged stormwater facilities after major storms as per S5.C.7.c.ii.	Not Applicable
66	S5.C.7.	Inspected municipally owned or operated catch basins and inlets every two years or used an alternative approach? Cleaned as needed? (S.5.C.7.c.iii)	Yes
66a	S5.C.7.	Number of known catch basins?	1427
66b	S5.C.7.	Number of catch basins inspected during the reporting period?	691
66c	S5.C.7.	Number of catch basins cleaned during the reporting period?	116
67	S5.C.7.	Attach documentation of alternative catch basin cleaning approach, if used. (S5.C.7.c.iii.(a)-(c))	Not Applicable
68	S5.C.7.	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.7.d)	Yes
69	S5.C.7.	Documented 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.7.d – Required by December 31, 2022)	Not Applicable
70	S5.C.7.	Implemented an ongoing training program for Permittee employees whose primary construction, operations or maintenance job functions may impact stormwater quality. (S5.C.7.e)	Yes
71	S5.C.7.	Implemented a Stormwater Pollution Prevention Plan (SWPPP) 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.7.f)	Yes
72	S5.C.7.	Updated, if needed, SWPPPs according to S5.C.7.f no later than December 31, 2022.	Not Applicable

73	S5.C.8	Adopted ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities per S.5.C.8.b.i. (Required by August 1, 2022)	Not Applicable
74	S5.C.8	Established an inventory per S5.C.8.b.ii. (Required by August 1, 2022.)	Not Applicable
75	S5.C.8	Implemented an inspection program S5.C.8.b.iii (Required by January 1, 2023).	Not Applicable
76	S5.C.8	Implemented a progressive enforcement policy per S5.C.8.b.iv (Required by January 1, 2023).	Not Applicable
77	S5.C.8	Attach a summary of actions taken to implement the source control program per S5.C.8.b.iii and S5.C.8.b.iv.	Not Applicable
78	S5.C.8	Attach a list of inspections, per S5.C.8.b.iii, organized by the business category, noting the amount of times each business was inspected, and if enforcement actions were taken.	Not Applicable
79	S5.C.8	Implemented an ongoing source control training program per S5.C.8.b.v?	Not Applicable
80	S7	Complied with the Total Maximum Daily Load (TMDL)-specific requirements identified in Appendix 2. (S7.A)	Not Applicable
81	S7	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
82	S8	Submitted payment for cost-sharing for Stormwater Action Monitoring (SAM) status and trends monitoring no later than December 1, 2019 (S8.A.1); and no later than August 15 of each subsequent year? (S8.A.2.a.)	Yes
84	S8	Submitted payment for cost-sharing for SAM effectiveness and source identification studies no later than December 1, 2019 (S8.B.1); and no later than August 15 of each subsequent year (S8.B.2.a or S8.B.2.c)?	Yes
86	S8	If conducting stormwater discharge monitoring in accordance with S8.C.1, submitted a QAPP to Ecology no later than February 1, 2020? (S8.C.1.b and Appendix 9)	Not Applicable
87	S8	If conducting stormwater discharge monitoring in accordance with S8.C.1, attach a data and analysis report per S8.C.1. and Appendix 9. (Due annually beginning March 31, 2021.)	Not Applicable
88	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)	Yes
89	G3	Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A.	Yes
90	Compliance with standards	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



91	Compliance with standards	If requested, submitted an Adaptive Management Response report in accordance with S4.F.3.a.	Not Applicable
92	Compliance with standards	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
93	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 Comment: None for the 2021 year.
94	G20	Number of non-compliance notifications (G20) provided in reporting year. List permit conditions described in non-compliance notification(s) in Comments field.	0

*I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Michael Kardas

3/31/2022 3:47:06 PM

Signature

Date

**Attachment 1**  
**Cover Letter - City of Kelso**

# Washington Department of Ecology Electronic Submission Cover Letter



**WQWebSubmittal - Submittal Submission Id: 1799478 - 3/31/2022 3:47:08 PM**

Company Name	Signer Name	System Name
City of Kelso	Michael Kardas	WQWebPortal

### Attachments:

Document Name Or Description	Document Name
Submitted Copy of Record for City of Kelso	Copy of Record CityofKelso Thursday March 31 2022
WAR045010_23a_12062021101950	Cowlitz Clean Waters Pet Waste_23a_12062021101950
WAR045010_2_12062021095454	Kelso_SWMP_2022 - Final_2_12062021095454
WAR045010_30a_12062021113318	Q30a_Kelso Outfalls_30a_12062021113318
WAR045010_17a_12082021111954	S5.C.1.d.i_Receiving Waters As_17a_12082021111954
WAR045010_21_12062021101901	S5.C.2.a.i_General awareness e_21_12062021101901
WAR045010_26a_12062021102205	S5.C.2.a.iii_Stewardship oppor_26a_12062021102205
WAR045010-2021-ImportedIDDEs_03302022100323	WAR045010-2021-ImportedIDDEs_03302022100323

### Attestation Agreed to at Signing:

I certify I personally signed and submitted to the Department of Ecology an Electronic Signature Agreement. I understand that use of my electronic signature account/password to submit this information is equal to my written signature. I have read and followed all the rules of use in my Electronic Signature Agreement. I believe no one but me has had access to my password and other account information.

I further certify: I had the opportunity to review the content or meaning of the submittal before signing it; and to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I intend to submit this information as part of the implementation, oversight, and enforcement of a federal environmental program. I am aware there are significant penalties for submitting false information, including possible fines and imprisonment.

For Ecology Use Only



bXxZkacGDJAtnoYpq0yQeihq91+nJtrI7roWpm7JmE3H4W1DNbfCs40FaEvpJ6iIo9PPwwhk1bssfbbp57NV09e2bvEUU  
eFkbPksffGRpm4=

**Attachment 2**  
**Cowlitz Clean Waters Pet Waste  
Campaign**

# Pet Waste Management and Disposal Behavior Change Campaign for Cowlitz County

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*Prepared by:*

Cowlitz Clean Waters  
*a collaborative effort between:*

City of Kelso

City of Longview

Cowlitz County

CDID #1



January 2021

## Introduction

The current Western Washington Phase II Municipal Stormwater Permit (Permit) requires regulated local governments to develop and implement an education and outreach program to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. During the previous Permit cycle, the municipal stormwater permittees in Cowlitz County (City of Kelso, City of Longview and Cowlitz County) participated in the development and implementation of a behavior change campaign targeted at mobile interior cleaning businesses. This campaign focused on educating these cleaning businesses on the accepted best management practices (BMPs) for their wastewater handling and disposal.

The current Permit allows permittees to elect to develop a strategy and schedule for a new target audience and BMP, or to continue to implement the existing campaign. In 2020, the permittees determined there would not be additional value in further evaluation or expansion of educational efforts with the previous target audience of mobile cleaners from the previous permit cycle due to the small number and transient nature of these businesses.

The Longview-Kelso area Permit holders (which includes the Consolidated Diking Improvement District #1) have elected to develop a new behavior change campaign focused on dog owners and pet waste for the current (2019) Permit cycle under the collaborative Cowlitz Clean Waters stormwater and nonpoint source pollution education initiative.

Permittees are required to develop a campaign that is tailored to the community and develop a program evaluation plan, in accordance with special condition S5.C.2.a.ii of the Permit. The Permit requirements are the following:

- By February 1, 2021, each Permittee shall follow social marketing practices and methods, similar to community-based social marketing, and develop a campaign that is tailored to the community, including development of a program evaluation plan.
- No later than April 1, 2021, begin to implement the strategy developed.
- No later than March 31, 2024, evaluate and report on:
  1. The changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy; and
  2. Any planned or recommended changes to the campaign in order to be more effective; describes the strategies and process to achieve the results.

This remainder of this document describes the proposed public education and behavior change campaign, as well as the methods and metrics to be used to evaluate program effectiveness of the campaign.

# Proposed Behavior Change Campaign

## Background

Pet waste, predominately from dogs, is one of the many contributors of stormwater pollution that can degrade water quality. Pet feces left on lawns, parks and sidewalks washes into storm drains and roadside ditches and then into water bodies. The waste and the pollutants and pathogens it contains (nutrients, bacteria, parasites, and viruses) end up contaminating the local waters in Cowlitz County including our urban streams, flood control ditches, sloughs and Lake Sacajawea—and eventually reach the Cowlitz, Coweeman and Columbia Rivers.

Given the issue of pet waste in the community, the permittees (City of Kelso, City of Longview, Cowlitz County and the Consolidated Diking Improvement District #1) have selected **dog owners** as their target audience for implementing a behavior change program with the goal of educating and encouraging more of them to regularly pick up after their pets and “scoop the poop” whether at home or out in public. The permittees propose undertaking a broad-based campaign that involves the use of both traditional and social media, public signage and student activities within the framework of the existing regional *Cowlitz Clean Waters* stormwater education and outreach effort and interlocal cost-share agreement.

While the program focuses on helping pet owners to understand their impact on water quality, it should be noted that social marketing and community-based marketing research shows that providing education on environmental protection measures does not motivate individuals to change their behavior; however, altering the message to motivate in the improvement of one’s personal or societal welfare has proven to yield better results (McKenzie-Mohr, 2011).

For this study, the ultimate goal is to protect surface waters in the greater Longview-Kelso area by preventing pet waste from getting into the municipal separate storm sewer system and receiving waters. In order to facilitate that goal, messages will focus on how pet waste impacts quality of life at both home and in shared public spaces such as parks and roadway planting strips.

## Program Outline

This program will involve four main efforts to facilitate behavior change in regards to getting dog owners to pick up after their pets:

1. **Traditional Advertising & Outreach Campaign** – A broad advertising campaign will be developed by the permittees that will include a new brochure to be sent as a direct mailer or utility bill insert, newspaper ads, video public service announcements on local cable access and Cowlitz Clean Waters website, and targeted internet banner ad buys.
2. **Social Media Campaign** – An outreach effort will be developed for multiple social media platforms to spread the word on picking up after your dog along with expanded content on the Cowlitz Clean Waters website.

3. **Expanded Sign and Pet Station Program** – The permittees will evaluate the locations of existing pet waste signage and pet bag dispensers, and install new signs (including additional messaging) and dispensers as appropriate.
4. **Pet Waste Themed Calendar Contest** – The Cowlitz Clean Waters annual calendar art and poetry contest for middle school students for the 2022 “Solution to Stormwater Pollution” calendar will focus on the problem of pet waste to stormwater and how dog owners can pick up after their pets.

## Implementation Plan

This section discusses the implementation plan for each of the four program elements.

### Traditional Advertising & Outreach Campaign

The traditional marketing aspects of the pet waste campaign will rely on the use of tried and true elements of public education efforts that has been used by social and environmental marketing campaigns over the last several decades. These include the following:

- **Pet waste brochure** – A new trifold brochure focusing on pet waste will be developed to serve as a method to put information on the impacts of not picking up after your pet directly into the hands of local residents. The brochure is intended to be available at city and county offices and facilities, and will be designed to be used as a direct mailer as well as being suitable as a utility bill insert. The brochure will provide links to the Cowlitz Clean Waters website for more information as well as contacts for each jurisdiction.
- **Newspaper advertisements** – Small paid advertisements will be placed in The Daily News newspaper serving the Longview-Kelso area. These will be used to provide messaging to residents who still use the newspaper as a primary source of news and information which is especially important given the demographics of the area.
- **Video public service announcements** – New video public service announcements (PSAs) will be created and aired alongside the winning video PSAs from past years’ Cowlitz Clean Waters student video contests on local cable access channel KLTV. They will also be featured prominently on the Cowlitz Clean Waters website.
- **Targeted internet banner ads** – Targeted internet advertising relies on reaching a specific limited audience, by using demographic information such as geolocation and interest as well as proper placement of ads (demographics info is collected using tools such as Google Analytics or Facebook Pixel which track this information for advertising purposes). The campaign intends to utilize this targeted advertising to purchase and place internet banner ads (such as seen to the right) to reach dog owners in the local Longview-Kelso area. These ads would share a campaign message but would also click through to the Cowlitz Clean Water website and content on pet waste.





## **Social Media Campaign**

Social media is another important way to reach a target audience and amplify messages to that audience. The use of social media such as Facebook, Instagram, Twitter and YouTube provides a low-cost way to expand the reach of the public education and behavior change campaign on pet waste. The permittees intend to leverage their individual jurisdiction's social media platforms to disseminate many of the graphic images, video PSAs and messaging developed for the traditional media advertising campaign above.

A cornerstone of this social media campaign will be an expanded focus on pet waste on the Cowlitz Clean Waters website which will be linked to by each of the social media postings.

## **Expanded Sign and Pet Station Program**

In 2019, the permittees created new reflective aluminum signage for pet station posts (below left) as part of an initial effort to raise awareness on the issue of pet waste in our urban watersheds. Almost 100 of these signs were produced and placed on or near pet waste bag dispensers and in public parks and other settings in Kelso, Longview and contiguous urbanized area in unincorporated Cowlitz County.



As part of the new outreach and behavior change campaign, the permittees plan to create new signage (above right) to thank dog owners and park patrons for picking up after their pets.

The permittees also intend to evaluate the need for additional pet waste bag dispensers and stations at public parks and facilities, and to install these prior to initiating the traditional and social media campaigns described above.

## **Pet Waste Themed Calendar Contest**

Every year since 2017 (with the exception of 2020 due to the COVID-19 pandemic), Cowlitz Clean Waters has invited local middle school students to participate in its *Solutions to Stormwater Pollution* calendar contest. By creating a work of art or haiku, students learn about the many ways to prevent water pollution and help keep our local waters clean. The contest teaches them how they can protect our environment and become engaged in the community, while expressing their creativity and artistic talents. The winning entries are featured in the annual Cowlitz Clean Water calendar, with gift cards provided as prizes for the winning artwork and poetry selected for the calendar.

For the 2021 calendar contest, Cowlitz Clean Waters plan to have students focus their creative efforts around the topic of pet waste and picking up after your pet as the theme of the 2020 *Solutions to Stormwater Pollution* calendar

## **Program Evaluation and Metrics**

Evaluating the overall impact of the proposed pet waste management and disposal behavior change campaign helps to inform the permittees and other stakeholders on the effectiveness of the education and outreach efforts, which can then be used to inform future ongoing education programs on this topic and other stormwater pollutants. There are two specific areas that the permittees hope to measure and quantify:

- The effectiveness of the stormwater education campaign; and
- The impact the campaign had on influencing pet owners' behaviors and the correlation to a reduction in pet waste in the urban watershed.

The permittees propose the follow methods to evaluate the effectiveness of the pet waste outreach and behavior change campaign:

1. **Pre- and Post-Campaign Surveys of Pet Owners** – A set of surveys will be developed that will be provided to pet owners both before and following the conclusion of the education and outreach campaign efforts outlined in this document. Both direct email (online) surveys and in-person street surveys conducted at local parks and trails are being considered.
2. **Online Advertising and Social Media Impressions** – Online analytics will be used to quantify the effectiveness of the web-based and social media platforms employed in education campaign. This will include data from Google Analytics including overall banner ad and social media post impressions, as well as click through-rate and overall Cowlitz Clean Waters website visits.

3. **Pet Waste Bag Usage** – The use of pet waste bags from public pet station bag dispensers will be evaluated for an equivalent period before and following the conclusion of the education and outreach campaign. Kelso plans to provide tally cards at each stations to count the number of refills. Longview will have their staff track the number of refills done with a log book. Cowlitz County plans to document dog bag refills with a spreadsheet. The usage statistics for this resources will help to evaluate the impact of the education and behavior change messaging.

## Schedule

The following is a proposed schedule for the Cowlitz Clean Waters outreach and behavior change campaign.

- **March/April 2021** – Discuss and begin work on new trifold pet waste brochure and pet station/park signage.
- **May/June 2021** – Finalize brochure/sign design. Evaluate new locations for pet stations and install.
- **July/August 2021** – Develop traditional and social media campaign messages, graphics and PSAs.
- **July-August 2021** – 6 week evaluation of pet waste bag usage (*pre-campaign*).
- **August-September 2021** – Prepare update website content and finalize all campaign materials. Conduct pre-campaign surveys.
- **September-December 2021** – Conduct Solutions to Stormwater Pollution 2022 calendar contest for middle school students.
- **October 2021** – Official launch of education and behavior changes outreach campaign (Runs through June 2022).
- **July-August 2022** – 6 week evaluation of pet waste bag usage (*post-campaign*). Conduct post-campaign surveys.
- **October 2022-March 2023** – Prepare final report on program and results for submission with 2022 Permit Annual Report.

## References

McKenzie-Mohr, Doug, *Fostering Sustainable Behavior*, New Society Publishers, 2011.

**Attachment 3**  
**City of Kelso SWMP**

*This SWMP is an attachment to the City's 2019 Annual Report  
to the Washington State 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 2022 for

City of Kelso

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*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 December 2021 by Catherine Morey, P.E., City of Kelso

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### Abbreviations and Acronyms

AKART	All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment
BMP	Best Management Practice
City	City of Kelso
Ecology	Washington State Department of Ecology
IDDE	Illicit Discharge Detection and Elimination
KMC	Kelso Municipal Code
KSAC	Kelso Stormwater Advisory Committee
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	Western Washington Phase II Municipal Stormwater Permit
SMAP	Stormwater Management Action Plan
SWMMWW	Stormwater Management Manual for Western Washington
SWMP	Stormwater Management Program Plan
SWPPP	Stormwater Pollution Prevention Plan

# CITY OF KELSO STORMWATER MANAGEMENT PROGRAM PLAN 2022

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## 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 Western Washington Phase II Municipal Stormwater Permit (Permit) to operate the MS4.

The Permit outlines stormwater program activities and implementation milestones that the City must follow to comply with the federal Clean Water Act. As a general permit, the Permit applies to more than 80 MS4s in western Washington. The City was first issued the Permit in 2007 and has been implementing a Stormwater Management Program Plan (SWMP) since that time.

To document progress toward Permit compliance, each permittee is required to develop a SWMP that includes a description of the required activities and is required to implement activities within the required timeframes of the Permit term and submit annual reports to Ecology by March 31<sup>st</sup> of the following year.

Ecology re-issued the Permit in 2012, and it became effective on August 1, 2013. Ecology then issued a Permit modification on December 17, 2014, which became effective January 16, 2015. The Permit covered a five-year period from August 2013 to July 2018 and Ecology subsequently extended that period to July 2019. Ecology re-issued the Permit July 1, 2019 and the current Permit is effective from August 1, 2019 to July 31, 2024. This SWMP reflects the changes and additional requirements of the current permit.

Stormwater runoff via the MS4 eventually enters 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; The stormwater is eventually discharged to the Columbia River via a pump station operated by the Consolidated Diking Improvement District No. 1.

In accordance with Permit requirements, the City has developed a SWMP designed to reduce the discharge of pollutants to the maximum extent practicable (MEP), to meet all known, available, and reasonable methods of prevention, control and treatment (AKART) requirements, and to protect water quality. A main goal of the SWMP is to inform the public of the stormwater activities the City plans to achieve during the year. The following sections describe the actions that the City has and will take to comply with the requirements of the Permit.

## **I.2 Departmental Responsibilities**

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

The Community Development – Engineering 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 maintaining 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, and is based on impervious area for commercial properties and on a base rate for residential properties.

## **I.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 – Stormwater Planning, Special Condition S5.C.1
  - 2.2 – Public Education and Outreach, Special Condition S5.C.2
  - 2.3 – Public Involvement and Participation, Special Condition S5.C.3
  - 2.4 – MS4 Mapping and Documentation, Special Condition S5.C.4
  - 2.5 – Illicit Discharge Detection and Elimination (IDDE), Special Condition S5.C.5
  - 2.6 – Controlling Runoff from New Development, Redevelopment, and Construction Sites, Special Condition S5.C.6
  - 2.7 – Municipal Operation and Maintenance (O&M), Special Condition S5.C.7
  - 2.8 – Source Control Program for Existing Development, Special Condition S5.C.8
  - 2.9 – NPDES Program Administration
- Chapter 3 – Monitoring and Assessment, Special Condition S8



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## 2. STORMWATER MANAGEMENT PROGRAM

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

### 2.1 Stormwater Planning, Special Condition S5.C.1

The City will develop and implement a new Stormwater Planning program to inform and assist in the development of policies and strategies as water quality management tools to protect receiving waters. This program will be carried out by the NPDES Coordinator.

#### 2.1.1 Permit Requirements

Section S5.C.1 requires the following:

- Continue to require LID Principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed.
- Begin Stormwater Management Action Planning by creating a watershed inventory and assessing the condition of the receiving waters. Submit the *Receiving Waters Assessment* to Ecology by March 31, 2022. By June 30, 2022, prioritize receiving waters identified in the *Receiving Waters Assessment* to determine high priority receiving waters that will most benefit from the implementation of stormwater facility retrofits. By March 31, 2023, prepare a Stormwater Management Action Plan (SMAP) for at least one high priority catchment area within the City's jurisdiction.

#### 2.1.2 Existing Programs and Activities

The City's activities are as follows:

- Require LID Principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed.
- Completed the *Receiving Water Assessment*, as required in Section S5.C.1.d.i of the Permit. All Kelso watersheds were determined to have relatively low expected Stormwater Management Influence. Therefore, per Permit Section S5.C.1.d.i(a), the City has fulfilled the Stormwater Management Action Planning requirements and will not be delivering the subsequent *Receiving Water Prioritization* and SMAP submittals to Ecology.

#### 2.1.3 Planned Activities

Planned activities for 2022 include:

- Finalize the *Receiving Water Assessment* by March 31, 2022.

## 2.2 Public Education and Outreach, Special Condition S5.C.2

The City's public education and outreach program focuses on building general awareness among the public of problems created by stormwater runoff and of behavior changes to clean up local surface waters. The program is carried out by the NPDES Coordinator.

### 2.2.1 Permit Requirements

Section S5.C.2 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.
- Provide an education and outreach program designed to build general awareness about methods to address and reduce impacts from stormwater runoff.
- Educate target audiences about the stormwater problem and provide specific actions they can follow to minimize the problem.
- Affect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.
- Implement a behavior change program for one target audience and one BMP. By March 31, 2024, evaluate and report on the campaign outcome.
- Create stewardship opportunities that encourages community engagement in addressing the impacts from stormwater runoff.

### 2.2.2 Existing Programs and Activities

The City's activities in this area are ongoing:

- Continue to maintain the City's stormwater educational website at <https://www.kelso.gov/engineering/stormwater/stormwater-documents>.
- Continue partnership with Cowlitz Clean Waters that developed a public information and an education campaign to inform the Lower Columbia region general public about the impacts of stormwater runoff on our local waterways, and to affect behavior changes and water quality improvements in our communities.
- Implementation of the pet waste management and disposal behavior change campaign with Cowlitz Clean Waters.
- Track and document all public education and outreach efforts.
- Implementation of the education and outreach program for the area served by the MS4.
- Charity car wash kit and City of Kelso "Adopt-a-Street" program stewardship opportunities.

### 2.2.3 Planned Activities

Planned activities for 2022 include:

- Continue to develop stewardship opportunities with Kelso High School.
- Collaborate activities with the Cowlitz Clean Water Partners to produce educational materials, including bus ads, pet waste signs, refrigerator magnets and student art/poem calendars.
- Continue to implement the pet waste management and disposal behavior change campaign with Cowlitz Clean Waters.

## **2.3 Public Involvement and Participation, Special Condition S5.C.3**

The City's public involvement and participation program is designed to seek regular input from stakeholders through the Kelso Stormwater Advisory Committee (KSAC). The purpose of KSAC is to help guide the development, implementation and updates to the SWMP. KSAC members exhibit an interest in the quality of surface waters within and around Kelso and include a variety of stakeholders. The NPDES Coordinator is a liaison to KSAC and carries out this requirement.

### **2.3.1 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 Permittee's Stormwater Management Action Plan (SMAP) and its SWMP.
- Make the SWMP document and Annual Report available to the public on the City's website by May 31. Any other submittals required by Ecology also must be available on the website.

### **2.3.2 Existing Programs and Activities**

The City'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.
- Tracks and documents public involvement and participation efforts.

### **2.3.3 Planned Activities**

Planned activities for 2022 include:

- Continue to hold quarterly meetings of KSAC.
- Continue to post KSAC meeting minutes to the City's website
- Post the 2022 SWMP to the City's website by March 31, 2022.
- Update the SWMP for 2023 by December 31, 2022.

## **2.4 MS4 Mapping and Documentation, Special Condition S5.C.4**

The City must implement an ongoing program for mapping and documenting the MS4.

### **2.4.1 Permit Requirements**

Section S5.C.4 requires the following:

- Ongoing Mapping: Maintain an ongoing program for mapping data for many features such as outfalls, discharge points, receiving waters, BMPs, connections between MS4s, connections to the MS4 after February 16, 2007 and other features.
- New Mapping: Collect size and material for all known MS4 outfalls during normal course of business such as during field screening.
- New Mapping: Complete mapping of all known connections from the MS4 to a privately owned stormwater system by August 1, 2023.
- Map and store points, lines, polygons of the MS4 with fully described mapping standards in a Geographical Information System or in CAD drawings no later than August 1, 2021.
- Make available to Ecology, upon request, the City’s MS4 depicting the items above.
- Provide mapping information, upon request, to federally recognized Indian Tribes, municipalities and other permittees.

#### 2.4.2 Existing Programs and Activities

The City’s activities in this area are ongoing:

- Maintains a GIS of the MS4.

#### 2.4.3 Planned Activities

Planned activities for 2022 include:

- Map any new public (City-operated) stormwater treatment and flow control facilities constructed in 2022.
- Map any new MS4 infrastructure constructed in 2022.

### 2.5 Illicit Discharge Detection and Elimination (IDDE), Special Condition S5.C.5

The City’s stormwater management ordinance prohibits the discharge of anything that is not 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 monitors the system through inspection of priority outfalls. The program is carried out primarily by the Community Development – Engineering Department, although support for spill response is provided by the Public Works Department.

#### 2.5.1 Permit Requirements

Section S5.C.4 requires the following:

- Implement an ongoing program to prevent, detect, characterize, trace, and eliminate illicit discharges, connections and improper disposal into the MS4.
- Implement a program for reporting and correcting or removing illicit connections, spills and other illicit discharges. Illicit connections and illicit discharges must be identified through field screening, inspections, source control inspections and other methods.
- 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 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.5.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.5.

### 2.5.2 Existing Programs and Activities

The City's activities in this area are ongoing:

- Follows procedures for detection, reporting, characterization, response, investigation, removal, clean-up, and enforcement of illicit connections and illicit discharges detailed in the *Municipal Stormwater Illicit Discharge Detection and Elimination (IDDE) Program 2021*.
- 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 unless procedures are updated, to Public Works field staff and Police staff.
- Operates the City's 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.

### 2.5.3 Planned Activities

Planned activities for 2022 include:

- Ensure all new field employees are trained in IDDE.

- Continue ongoing activities listed above, including enforcing Kelso Municipal Code (KMC) 13.09.050, 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.
- Follow indicator sampling procedures, when required, in response to illicit discharges discovered during field screening.
- Field screen at least 12% of the MS4 by December 31 of each year for non-stormwater discharges and illicit connections and track the total percentage of the MS4 screened.

## 2.6 Controlling Runoff from New Development, Redevelopment, and Construction Sites, Special Condition S5.C.6

The City's stormwater regulatory program currently implements standards for temporary erosion control and permanent stormwater control on development, redevelopment, and construction projects greater than 2,000 square feet of new or replaced impervious surfaces. The program is based on the current ordinance that was required by the previous Permit.

### 2.6.1 Permit Requirements

Section S5.C.6 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 to address runoff from development, redevelopment and construction site projects. The ordinance shall include the minimum technical requirements, thresholds and definitions found in the Permit appendices.
- 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 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.
- Make available the link to the electronic *Construction Stormwater General Permit* Notice of Intent (NOI) form and, as applicable, a link to the electronic *Industrial Stormwater General Permit* NOI.
- Train staff on the new codes, standards, processes and procedures.

## 2.6.2 Existing Programs and Activities

The City's activities in this area are ongoing:

- Enforce existing local stormwater and erosion control codes for development, redevelopment, and construction sites that meet stormwater thresholds.
- Enforce stormwater and erosion control regulations using Ecology's 2019 Stormwater Management Manual for Western Washington (SWMMWW) for sites over 2,000 square feet that meet thresholds established in the Permit Appendix 1.
- Review site plans and grading permit applications that meet the SWMMWW Minimum Requirements.
- Make known the NOIs for Construction Activity and Industrial Activity to developers.
- Continue review of development, redevelopment, and construction sites using thresholds established in Appendix 1 of the Permit.
- Continue inspecting regulated sites before, during, and after construction.
- Document all required recordkeeping.

## 2.6.3 Planned Activities

Planned activities for 2022 include:

- Ensure all Community Development – Engineering staff are trained on the updated stormwater requirements, provisions and procedures.

## 2.7 Operation and Maintenance (O&M), Special Condition S5.C.7

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 replace more catch basins and replace failing or faulty portions of the MS4.

### 2.7.1 Permit Requirements

Section S5.C.7 requires the following:

- Implement and document an O&M program with the ultimate goal of preventing or reducing stormwater impacts.
- Implement maintenance standards for components of the municipal separate stormwater system that are at least as protective as those specified in the SWMMWW. Document standards no later than June 30, 2022.
- Conduct annual inspections of City-operated stormwater treatment and flow control and treatment BMPs/facilities, and conduct required maintenance within Permit-established deadlines.
- Conduct annual inspections of privately owned stormwater treatment and flow control and treatment BMPs/facilities that discharge to the MS4 and are regulated by the City. These facilities are covered under Stormwater Improvement Restrictive Covenants that require annual inspection and maintenance, if necessary, of the permitted stormwater facilities.

- 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 every two years and clean, if necessary, to comply with maintenance standards of the SWMMWW.
- 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. Document practices no later than December 31, 2022 of these practices, policies, and procedures.
- 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. Update SWPPP no later than December 31, 2022.
- Maintain records of inspections and maintenance or repair activities.

### 2.7.2 Existing Programs and Activities

The City's activities in this area are ongoing:

- Annual inspection of City-operated permanent stormwater treatment and flow control facilities.
- Review of inspection and maintenance records submitted to the City of parcels that have stormwater treatment and flow control BMPs permitted under the Permit, and spot checks of those 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 and conduct quarterly inspections of the yard.
- Document all required recordkeeping.

### 2.7.3 Planned Activities

Planned activities for 2022 include:



- Inspect all City-operated catch basins and stormwater BMPs/facilities and maintain those that need it.
- Inspect all privately owned stormwater BMPs/facilities that are regulated by the City.
- Update the City of Kelso *Municipal Stormwater O&M Program* to meet the requirements of the 2019 SWMMWW by June 30, 2022.
- Update the City of Kelso *Municipal Stormwater O&M Program* by December 31, 2022 to document the practices, policies, and procedures implemented to reduce stormwater impacts from the City activities listed in Permit Section S5.C.7.d.

## 2.8 Source Control Program for Existing Development, Special Condition S5.C.8

The Source Control Program is a new requirement of the Permit. The City will develop and implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4. The program will include tasks such as application of operational source control BMPs, inspections of pollutant generating sources at private and public sites, and adopting an ordinance to require source control BMPs.

### 2.8.1 Permit Requirements

Section S5.C.8 requires the following:

- Adopt and make effective an ordinance requiring the application of source control BMPs for pollutant generating sources, no later than August 1, 2022.
- Establish an inventory identifying publicly and privately owned institutional, commercial and industrial sites that have the potential to generate pollutants to the MS4 no later than August 1, 2022.
- Starting January 1, 2023, implement an inspection program for sites identified in the potential pollutant-generating businesses inventory.
- By January 1, 2023, develop a progressive enforcement policy that requires sites to comply with stormwater source control requirements within a reasonable time.
- Train staff who are responsible for implementing the source control program.

### 2.8.2 Existing Programs and Activities

As this is a new requirement, there is no current program or activities. The City will begin developing the Source Control Program.

### 2.8.3 Planned Activities

Planned activities for 2022 include:

- By August 1, 2022, adopt and make effective an ordinance requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities.
- By August 1, 2022, establish an inventory of Kelso businesses that have the potential to generate pollutants to the MS4.
- Send businesses identified on the inventory of potential pollutant-generating businesses education and outreach material about the source control program.
- Train staff who are responsible for implementing the source control program.

## 2.9 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.

### 2.9.1 Planned Activities

Planned activities for 2022 include:

- Submit to Ecology the annual Permit fee.
- Submit the 2021 Annual Report and attachments, including the 2022 SWMP, to Ecology by March 31, 2022.
- Post the 2021 Annual Report to City's website by May 31, 2022.
- Maintain records of NPDES activities for each Permit component.

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## 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:

- For Regional Status and Trends Monitoring, make annual payments into a collective fund to implement regional receiving water status and trends monitoring.
- For Effectiveness and Source Identification Studies, make annual payments into a collective fund to implement effectiveness and source identification studies.

#### 3.1.1 Ongoing Activities

- The City will continue to pay into collective funds to implement both Regional Status and Trends Monitoring and Effectiveness and Source Identification Studies.
- The City will continue to assist in the development of the Quality Assurance Project Plan for southwest Washington.

**Attachment 4**  
**City of Kelso Outfalls**

## City of Kelso Outfalls

City of Kelso Outfalls			
<u>ID</u>	<u>Discharges to:</u>	<u>Material</u>	<u>Diameter (in)</u>
OF-0001	Coweeman River	CMP	18
OF-0003	Unnamed Stream	CMP	24
OF-0004	Cowlitz River	Concrete	24
OF-0005	Coweeman River	CMP	18
OF-0006	Unnamed Stream	CMP	8
OF-0007	Unnamed Stream	ADS	10
OF-0008	Unnamed Stream	ADS	12
OF-0009	Coweeman River	CMP	8
OF-0010	Coweeman River	Concrete	12
OF-0011	Coweeman River	ADS	12
OF-0012	Coweeman River	Concrete	12
OF-0013	CDID No. 3 Slough	CMP	36
OF-0014	Baker Way Slough	CMP	48
OF-0015	Coweeman Slough	CMP	48
OF-0016	Coweeman Slough	CMP	42

**Attachment 5**  
**Stormwater Management Action  
Planning - Receiving Waters  
Assessment**

City of Kelso

# Stormwater Management Action Planning

Receiving Water Assessment



Engineering Department  
March 31, 2022





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## Introduction

The Western Washington Phase II Municipal Stormwater Permit (Permit) requires the City of Kelso (City) to complete the Stormwater Management Action Planning (SMAP) requirements described in Section S5.C.1.d of the Permit. The SMAP requires with three separate submittals to the State of Washington Department of Ecology (Ecology) between March 31, 2022 and March 31, 2023. The following is a summary of each SMAP submittal:

1. *Receiving Water Assessment*. Assess existing information related to receiving waters and contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning.
2. *Receiving Water Prioritization*. Develop and implement a prioritization method and process to determine which receiving waters will receive the most benefit from implementation of stormwater facility retrofits, tailored implementation of SWMP actions, and other land/development management actions.
3. *Stormwater Management Action Plan*. Develop a Stormwater Management Action Plan for at least one high priority catchment area.

This report describes the City's Receiving Water Assessment. The Receiving Water Assessment was developed in accordance with Permit Section S5.C.1.d.i and the "Stormwater Management Action Planning Guidance" document written by Ecology (2019).

## Background

Kelso is located within Cowlitz County in Southwest Washington State along Interstate 5. The Coweeman and Cowlitz rivers flow through Kelso, and Kelso borders the Columbia River. Kelso has a population of over 12,000 people and has experienced relatively little growth since 1980.

The 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 Ecology and the City is required to obtain the Permit to operate the MS4. The Permit outlines stormwater program activities and implementation milestones that the City must follow to comply with the federal Clean Water Act.

The City's stormwater runoff via the MS4 enters the Cowlitz and Coweeman rivers through a combination of gravity outfalls and pump stations operated by Diking Improvement District No. 1 (DID No. 1) and Consolidated Diking Improvement District No. 3 (CDID No. 3). The City's MS4 also connects to and discharges stormwater to the City of Longview's MS4; The stormwater is eventually discharged to the Columbia River via a pump station operated by Consolidated Diking Improvement District No. 1 (CDID No. 1).

The City worked with a consultant in 2013 to develop the City's *Stormwater Management Plan*. As part of the project, the consultant divided Kelso into eight watersheds. The watershed boundaries developed for the 2013 *Stormwater Management Plan* are used in this Receiving Water Assessment.

## Receiving Water Conditions Assessment

The receiving water conditions assessment is intended to identify receiving waters, the relative impacts of urbanization and land use activities on the receiving waters, and the existing information useful to guide the prioritization of receiving waters. The outcome of this assessment is a watershed inventory that identifies the list of candidate watersheds, if any, and information to support the prioritization process for the second SMAP submittal.

Four steps are included in the receiving water conditions assessment:

1. Delineate watersheds and identify receiving waters;
2. Assess receiving waters conditions;
3. Assess stormwater management influence; and
4. Assess relative conditions and contributions.

The following sections describe the results of each assessment step.

### Watersheds and Receiving Waters

In 2013, as part of the development of the City's *Stormwater Management Plan*, Kelso was divided into eight watersheds based on contour data and information on the City's MS4. The watersheds are larger geographical areas defined by their drainage systems and the general direction of discharge. In general, undeveloped areas within city limits are not included in a watershed; developed areas not within city limits that drain to the City's MS4 are included in a watershed. The geographical boundaries for each watershed are shown in Figure 1.

It should be noted that Kelso was developed on river floodplains. To prevent the city from flooding, diking districts were formed and dikes were constructed parallel to the Coweeman, Cowlitz and Columbia rivers. In six of the City's eight watersheds, the City's MS4 outfalls to a slough, ditch, or culvert owned by CDID No. 1, CDID No. 3 or DID No. 1; The stormwater is eventually pumped over the dike into the Coweeman, Cowlitz and Columbia rivers. Per Appendix A of the Stormwater Management Manual for Western Washington (SWMMWW), waters within the jurisdiction of CDID No. 1 and CDID No. 3 are flow control exempt receiving waters (Ecology, 2019). DID No. 1 is not listed in Appendix A of the SWMMWW.

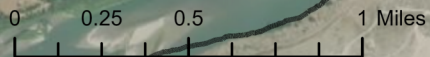
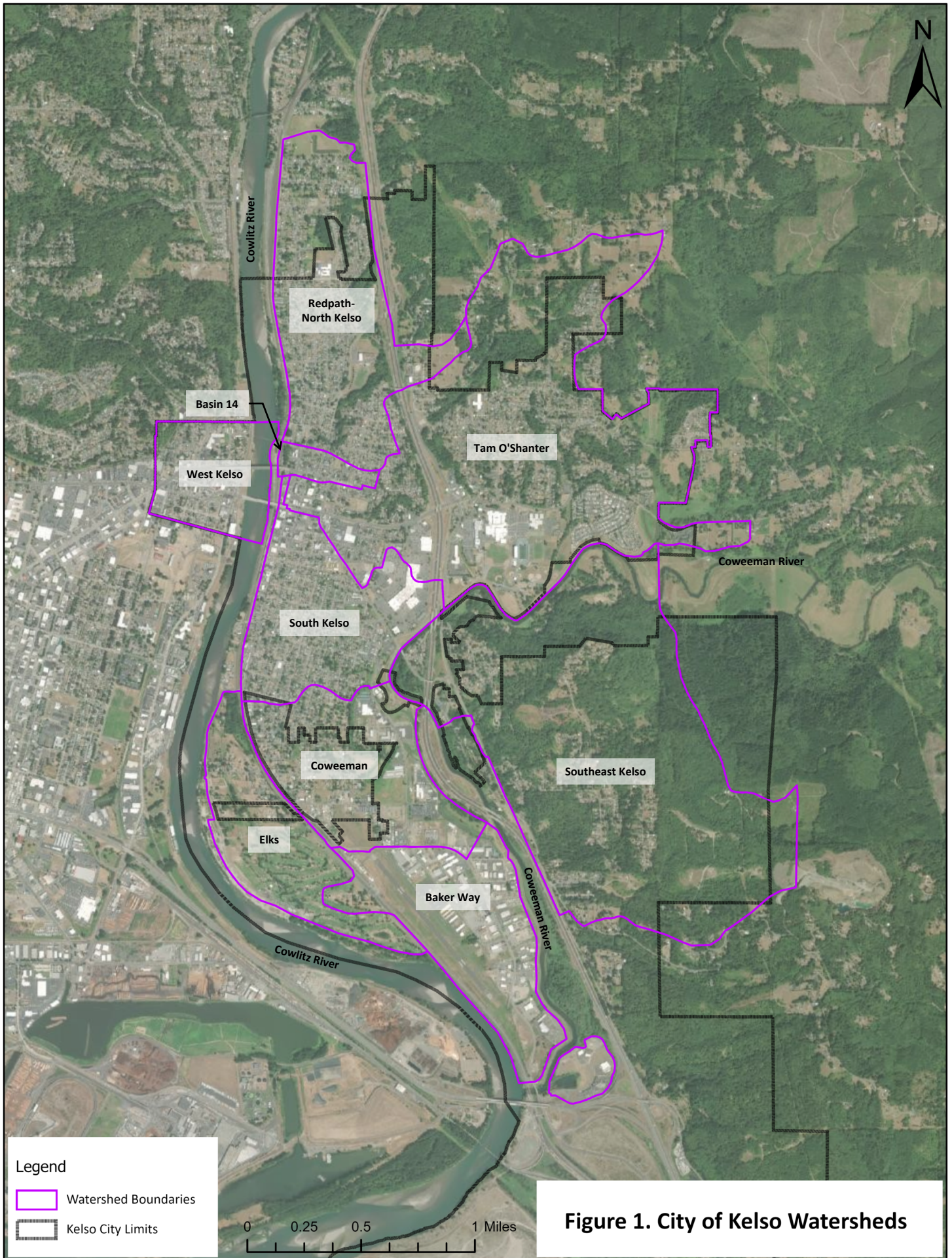
The DID No. 1 conveyance systems are comprised entirely of stormwater runoff and do not host any aquatic life or recreational activity. The CDID No. 3 sloughs and ditches are comprised entirely of stormwater runoff and have minimal aquatic life; Carp, geese and nutria have been seen in the CDID No. 3 sloughs. The City discharges to CDID No. 1's Ditch 4 and Ditch 6. Ditch 4 is comprised of stormwater runoff and does not host any aquatic life or recreational activity. Ditch 6 is comprised of stormwater runoff and water pumped out of Cowlitz River to fill Lake Sacajawea, a manmade lake, in Longview, WA. The water flows to the overflow at the south end of the lake and back into a CDID No. 1 ditch. Lake Sacajawea has a stocked fish supply and hosts water recreation activities year-round.

The City consulted Ecology regarding the City's MS4 receiving waters. The City and Ecology agreed that assessing the conditions of the Coweeman, Cowlitz and Columbia rivers instead of the CDID No. 1, CDID No. 3, and DID No. 1 conveyance systems would result in more useful stormwater planning. For this report, the City's MS4 receiving waters are the rivers downstream of the CDID No. 1, CDID No. 3 and DID

## Receiving Water Assessment

No. 1 pump stations. The City's watersheds, and their respective MS4 outfall locations and receiving waters are presented in Table 1.

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## Receiving Water Assessment

Table 1. Watersheds

Watershed	Area (sq. miles)	Outfall Location	Outfall Receiving Water
Redpath-North Kelso	0.7	DID No. 1 Box Culvert	Cowlitz River
West Kelso	0.2	CDID No. 1 Ditch 4 and Ditch 6	Columbia River
Basin 14	0.1	Cowlitz River	Cowlitz River
Tam O'Shanter	1.6	CDID No. 3 Ditches	Coweeman River
Coweeman	0.5	CDID No. 3 Baker Slough	Coweeman River
South Kelso	0.5	CDID No. 3 Coweeman Slough	Coweeman River
Baker Way	0.6	CDID No. 3 Baker Slough	Coweeman River
Southeast Kelso	1.7	Coweeman River	Coweeman River
Elks	0.4	CDID No. 3 Golf Course Pond	Cowlitz River

Permit Section S5.C.1.d.i and the supporting Ecology guidance document requires the following information for each identified receiving water (Ecology, 2019):

- Each receiving water name;
- Total contributing watershed area for that receiving water to the point where the receiving water flows into a flow-control exempt water body as defined in Appendix A of the SWMMWW; and
- Percent of the total watershed area that is in the City's jurisdiction.

The City's watershed inventory is presented in Table 2. The City determined the total contributing watershed area for each receiving water using the EPA's WATERS GeoViewer online tool. Since all of the City's MS4 receiving waters are flow-control exempt, the total water contributing watershed area is to the point where the City's stormwater runoff outfalls to the receiving water.

Table 2. Watershed Inventory

Receiving Water	Total Watershed Area (sq. miles)	City's Contributing Watershed Area (sq. miles)	Percent of Total Watershed Area in City's Jurisdiction
Coweeman River	130	4.9	3.7%
Cowlitz River	2,476	1.2	0.0%
Columbia River	239,129	0.2	0.0%

## Receiving Water Conditions Assessment

This section includes a desktop assessment of the receiving water conditions using existing data.

### Designated Uses

Kelso is located at the confluence of the Coweeman, Cowlitz and Columbia rivers. All three rivers support the passage of anadromous fish that migrate between the Pacific Ocean and fresh water tributaries, several of which are threatened or endangered under the Endangered Species Act. The three rivers are used for recreational fishing. The Columbia River is used as a shipping channel to facilitate the transportation of cargo. The City of Kelso's raw water supply is received from a deep Ranney well

## Receiving Water Assessment

beneath the Cowlitz River; this water supply is rated as groundwater under the influence of surface water.

To protect aquatic species and habitat, environmentally sensitive areas within Kelso, such as rivers, wetlands, and streams, are protected under the Kelso Municipal Code and City of Kelso Shoreline Master Program.

### Existing Mitigation

The Lower Columbia Fish Recovery Board (LCFRB) coordinates the implementation of plans to restore and manage the water and fish in the three rivers surrounding Kelso. The current Coweeman River projects are to improve channels and riparian habitats. The current Cowlitz River projects are to restore channels and riparian habitats that are highly degraded due to sediment and materials accumulation from the 1980 Mount St. Helens eruption.

In 2016, the LCFRB developed the “Habitat and Water Quality Status Trend Monitoring” project in the Lower Columbia Region to support the recovery of threatened and endangered salmonid species. The intent of this project is to monitor the effectiveness of the habitat and watershed recovery programs. The results will provide data on riparian, instream habitat and water quality conditions throughout the region to inform future Municipal Stormwater NDPES Permit requirements. The monitoring is on hold until the LCFRB secures funding for the project. Currently, there are insufficient water quality data available for the Lower Columbia, Coweeman and Cowlitz rivers.

The Washington State Department of Transportation (WSDOT) has installed and maintains two fish passage structures under Interstate 5 within Kelso city limits. One fish passage structure is a tributary to the Coweeman River in the Southeast Kelso watershed, and the other is a tributary to Owl Creek. The fish passage structure that is a tributary to Owl Creek is not located in any of the City watersheds because there is no MS4 infrastructure in the area.

### Land Use

The City updated the Comprehensive Plan in 2015 to include a land use analysis. Table 3 shows the land use analysis results in 2015. Single family residences account for nearly two-thirds of the parcels in Kelso but only 20% of the acreage; Vacant land parcels account for over half of the land area. It should be noted that most of the “vacant” land in the land use analysis is not included in a watershed because there is no MS4 in undeveloped and undevelopable parts of the City. There are no significant changes to the land uses forecasted for the future.

## Receiving Water Assessment

Table 3. Existing Land Use

Existing Land Use	Parcels	% of Total Parcels	Acres	% of Total Acreage
Single Family Residential	3411	64%	860	20%
Medium Density Residential	263	5%	57	1%
High Density Residential	57	1%	99	2%
Commercial	191	4%	190	4%
Industrial	93	2%	128	3%
Airport	8	0%	59	1%
Churches or Private Organizations	29	1%	22	1%
Parks, Recreation, and Open Space	9	0%	187	4%
Public Services and Education	110	2%	111	3%
Rights-of-Way	93	2%	244	6%
Tideland	1	0%	9	0%
Vacant	1036	20%	2350	54%
<b>Totals</b>	<b>5301</b>	<b>100%</b>	<b>4316</b>	<b>100%</b>

### Development Pressure

Kelso has experienced little growth and limited amounts of new development since 1980. There are no significant increases in population forecasted for the future.

### Impaired Waters

Ecology maintains the “Water Quality Atlas” online tool for identifying Clean Water Act Section 303(d) impaired waters. Using this tool, the Columbia and Cowlitz rivers were found to be 303(d) impaired waters. The Columbia River is in violation of water quality standards for bacteria and temperature; The Cowlitz River is in violation of water quality standards for temperature. Ecology has not determined the source for the water quality violations and there are no ongoing water quality improvement projects for either river. There are no data indicating that the source of these water quality violations comes from the City’s MS4; The City will continue to monitor for and report illicit discharges and connections that could be contributing to water quality standard violations.

Sediment is not listed as a violation of water quality standards for the rivers. However, the primary concern with the receiving waters condition to the City is sediment and materials accumulation, specifically in the Cowlitz River, due to the Mount St. Helens eruption. Sediment pollution comes from all urbanized stormwater runoff and cannot be traced to one specific watershed within the City. To combat city-wide stormwater pollution, the City employs best management practices (BMPs) in accordance with the Permit and SWMMWW to control stormwater and prevent pollution at its source.

### Overburdened Communities

An overburdened community is defined by Ecology as minority, low-income, tribal or indigenous populations or geographic locations in Washington State that potentially experience disproportionate environmental harms and risks; The term describes situations where multiple factors, including both environmental and socio-economic stressors, may act cumulatively to affect health and the environment and contribute to persistent environmental health disparities. Kelso is considered to be an

## Receiving Water Assessment

overburdened community due to being low-income and having increased vulnerability due to an accumulation of negative environmental, health, economic and social conditions within the city.

Using the Washington Tracking Network Health Disparities Map, Kelso is given ratings of 9 and 10 out of 10 in health disparities. However, Kelso is given ratings of 3 and 4 out of 10 for wastewater discharge; The wastewater discharge indicator takes the pollutant discharge information reported from facilities to the EPA and assigns it to the receiving waters. Wastewater discharge is the only water-related indicator provided by Washington State. There is no evidence of overlap between receiving water conditions for water quality and Kelso residents' human health.

## Stormwater Management Influence Assessment

The Permit instructs Permittees to identify the watersheds that have a relatively low Stormwater Management Influence. Per Permit Section S5.C.1.d.i.(a), watersheds that have a relatively low expected Stormwater Management Influence do not need to be included in the subsequent SMAP submittals. The following is from the SMAP Guidance document provided by Ecology (2019):

*A basin with relatively low expected Stormwater Management Influence for SMAP is defined as having both "low expected hydrologic impacts" and "low expected pollutant loadings" that are defined as follows:*

- *Low expected hydrologic impacts are from MS4s that drain directly to:*
  - *Flow-control exempt receiving waters as defined in the 2019 SWMMWW, or*
  - *Ephemeral streams (generally, streams having less than one square mile of contributing watershed area), or*
  - *Receiving waters primarily influenced by groundwater flows.*
- *Low expected pollutant loadings are from MS4s receiving runoff from only:*
  - *Non-pollutant generating surfaces as defined in the 2019 SWMMWW; and/or*
  - *Low density residential land uses; and/or*
  - *Parking areas with up to 100 total trip ends or for up to 300 employees; and/or*
  - *Roads with ADT up to 7,500, fully and partially controlled limited access highways with ADT up to 15,000; and/or*
  - *Other land uses where runoff is already being treated using stormwater BMPs designed in accordance with the SWMMWW (or equivalent), and, in particular, roads with higher ADT, parking areas for buildings with more total trip ends, and on-street parking areas of municipal streets in commercial and industrial areas (see the 2019 SWMMWW).*

Per Appendix A of the SWMMWW, all of the City's MS4 receiving waters (CDID No. 1, CDID No. 3, Coweeman River, Cowlitz River and Columbia River) are flow-control exempt (Ecology, 2019). Therefore, all of the City's MS4 has a low expected hydrologic impact.

Most of the City's MS4 has low expected pollutant loadings due to the low density residential and vacant land uses. There are no significant changes to the land uses anticipated for the future. On-street parking is limited in City streets within commercial and industrial areas. Recently developed or

## Receiving Water Assessment

redeveloped private commercial and industrial properties were designed to include stormwater BMPs in accordance with the SWMMWW.

It is likely that the Three Rivers Mall parking area has more than 100 total trip ends daily or more than 300 employees working at the retail locations throughout the mall. The stormwater runoff from Three Rivers Mall is conveyed under Interstate 5 and discharges into a CDID No. 3 ditch. There are no stormwater BMPs currently installed at Three Rivers Mall to treat stormwater runoff. There are no known plans for Three Rivers Mall to replace the existing impervious surfaces and construct stormwater BMPs.

Per the WSDOT Access Control online map, within the City's jurisdiction, Washington State Route 4 (SR 4) is a combination of partially controlled limited access (the Cowlitz River Bridge) and non-limited access highway. WSDOT's Traffic Data online map shows average daily traffic (ADT) to be between and 3,800 and 20,000 on SR 4 within the City's jurisdiction in 2019. Traffic data are also maintained by City staff; There are no current data showing other City roads with ADT greater than 7,500.

SR 4 crosses three City MS4 watersheds: West Kelso, Basin 14, and Tam O'Shanter. The Cowlitz River Bridge on SR 4 was constructed in 1950 and the stormwater runoff on the bridge drops directly down into the Cowlitz River. There are no BMPs located along SR 4 other than standard catch basins. There are no known plans for WSDOT to make improvements to SR 4 and the Cowlitz River Bridge. The stormwater management influence assessment results for City watersheds are presented in Table 4.

## Receiving Water Assessment

Table 4. Stormwater Management Influence Assessment

Watershed	Land Use	Potential Pollutant Loading Source	Stormwater Management Influence
Redpath-North Kelso	Low-Density Residential	None	Low
West Kelso	Low-Density Residential	SR 4	Moderate
Basin 14	Low-Density Residential	SR 4	Moderate
Tam O'Shanter	Low-Density Residential; Commercial	SR 4; Three Rivers Mall	Moderate
Coweeman	Low-Density Residential; Light Industrial	None	Low
South Kelso	Low-Density Residential; Commercial	None	Low
Baker Way	Light Industrial	None	Low
Southeast Kelso	Low-Density Residential	None	Low
Elks	Low-Density Residential	None	Low

The SMAP Guidance document provided by Ecology requires documented answers to the following questions for each watershed. The City's responses are provided in italics.

1. What are the major pollutants and/or flow impacts associated with individual point sources versus non-point sources? Will the loadings and/or runoff volumes increase under expected future land uses?
  - *There are no identified flow impacts from the City's MS4 to the receiving waters.*
  - *There are no major pollutants identified from individual point sources.*
  - *The major identified pollutant from non-point sources for all watersheds is sediment. For watersheds with WSDOT's SR 4 stormwater runoff, major identified pollutants are oil and grease.*
  - *There are no expected changes in land use forecasted for the future.*
2. Can these sources be addressed through other land management strategies, including policies, code, or development standards?
  - *Sediment pollution is addressed by the Kelso Municipal Code and Kelso Engineering Design Manual. The City employs a stormwater engineer to:*
    - *Engage in public education,*
    - *Run the illicit discharge detection and elimination program,*
    - *Enforce erosion and sediment controls on construction projects,*
    - *Encourage low impact development, and*
    - *Ensure compliance with the SWMMWW and the Permit.*
  - *The City cannot make WSDOT install oil/water separators or other BMPs on SR 4 since the road is already constructed. However, when SR 4 is replaced one day, the project will require compliance with the most current version of the SWMMWW. The City will continue to inspect and clean the catch basins on SR 4 every other year.*
  - *The City cannot make Three Rivers Mall install oil/water separators or other BMPs since the mall is already constructed. However, if the existing impervious surface is replaced*

## Receiving Water Assessment

*one day, Three Rivers Mall will be required to comply with the most current version of the SWMMWW.*

3. Can future growth be managed to minimize adverse stormwater impacts?
  - *While future growth is forecasted to be minimal, development and redevelopment are required to be in compliance with the SWMMWW. This ensures that all future construction will be managed to minimize adverse stormwater impacts.*

## Relative Conditions and Contributions Assessment

The section is intended to narrow the number of receiving waters and watersheds to a candidate list to include in the second SMAP submittal, the Receiving Water Prioritization. Watersheds that were determined to have low Stormwater Management Influence in the previous section are not required to be prioritized. However, the SMAP Guidance document states the following:

“Some (particularly, small) jurisdictions may not have any basins where their actions can significantly influence receiving water conditions. If this is the case, submit your documentation instead of a list of candidate basins in your Permit Annual Report” (Ecology, 2019).

The City concluded that there are no watersheds within the City’s jurisdiction where additional stormwater mitigations can significantly influence receiving water conditions. Per Stormwater Management Influence Assessment results, the City’s MS4 has low hydrologic impacts to all receiving waters and low expected pollutant loadings, with the exception of WSDOT’s SR 4 and, possibly, the Three Rivers Mall. There are no data indicating that the City’s MS4 is contributing to the known water quality violations for temperature and/or bacteria in the Cowlitz and Columbia rivers.

The Cowlitz River is the only City MS4 receiving water with ongoing habitat restoration projects for anadromous fish due to sediment accumulation within the river. The City will continue to enforce BMPs consistent with the SWMMWW, Kelso Municipal Code and Kelso Engineering Design Manual to mitigate sediment pollution from urban stormwater runoff.

## Conclusion

This report serves as documentation that the City completed the Receiving Water Conditions Assessment in accordance with Permit Section S5.C.1.d.i and the Ecology SMAP Guidance. The City determined that there are no watersheds within the City’s jurisdiction where additional stormwater can significantly influence receiving water conditions. The City will continue to mitigate the adverse impacts of stormwater runoff to receiving waters through compliance with the Permit and enforcement of the Kelso Municipal Code Chapter 13.09 – Stormwater Management.

Based on the results of this assessment, the City is exempt from submitting subsequent SMAP submittals. The City will not be submitting the Receiving Water Prioritization and Stormwater Management Action Plan described in Permit Sections S5.C.1.d.ii-iii.

## References

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**Attachment 6**  
**General Awareness**  
**Memorandum**



## MEMORANDUM

---

DATE: December 6, 2021

TO: File

FROM: Catherine Morey, P.E.

RE: Permit Section S5.C.2.a.i – General awareness efforts conducted by the City of Kelso

Target Audience selected:

General Public with emphasis on school age children

Efforts Conducted:

1. The City maintained and regularly updated its stormwater website with many documents and videos to educate the public on stormwater pollution and the City's stormwater management program (SWMP). The documents include annual reports, educational documents 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's stormwater website is located at: <http://stormwater.kelso.gov>.
2. The City provided support for KPTV's Clean Water Campaign. The City convenes with 28 other agencies from Oregon and Southwest Washington to review elements and deliverables of the campaign. The campaign includes television commercials, social media postings, digital advertisements and <https://www.kptv.com/water/>.
3. Cowlitz Clean Waters held its fourth annual "Solutions to Stormwater Pollution" calendar contest where middle-school students submitted artwork and poems, and won prizes. Cowlitz Clean Waters received 114 art and poetry entries from five schools located in Kelso and Longview. Approximately 4,000 calendars will be distributed throughout Cowlitz County schools, government offices, and libraries in January of 2022.
4. The City provided financial supported and participated in a Cowlitz Clean Waters table at Longview's Go Fourth festival. The table included a game with prizes to teach children how to prevent stormwater pollution.



5. The City started a Cowlitz Clean Waters Facebook page to post about Cowlitz Clean Waters education events and ways to prevent stormwater pollution. There were 10 posts made in 2021 regarding the calendar contest and ways to prevent stormwater pollution. In general, each post received between 400 and 3,000 impressions. Posts are shared by the City of Kelso, City of Longview, Cowlitz County, and Consolidated Diking Improvement District No. 1's Facebook pages.

**Attachment 7**  
**Stewardship Opportunities**



## MEMORANDUM

---

DATE: December 6, 2021

TO: File

FROM: Catherine Morey, P.E.

RE: Permit Section S5.C.2.a.iii – Stewardship opportunities provided by the City of Kelso

The City of Kelso provided the following stewardship opportunities in 2021:

1. Charity Car Wash Kit. The City makes a car wash kit available to businesses, schools, groups, and organizations that host charity car wash events. The kit includes a submersible pump, power cord, hose and plastic insert that fits into a catch basin to help prevent car wash wastewater from entering the City's stormwater system. The reservation form is available on the City's website:  
<https://www.kelso.gov/stormwater/charity-car-wash-kit>.
2. Adopt-a-Street. The City organized and maintains an Adopt-a-Street program for businesses, groups and organizations to remove litter from the streets of their choice at least twice per year. Adopted streets display an "Adopt-a-Street Program" sign with the adoptive group's name.