CITY OF PASCO
2022 STORMWATER MANAGEMENT PROGRAM PLAN (SWMPP)

EASTERN WASHINGTON PHASE II
MUNICIPAL STORMWATER PERMIT
PERMIT NO. WAR04-6503

Prepared By:
Public Works Engineering Department
525 N 3rd Avenue
Pasco, WA 99301

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Permit Cycle(s):
February 16, 2007 - July 31, 2014
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ACRONYMS AND ABBREVIATIONS

AKART	All Known, Available, and Reasonable methods of prevention, control, and Treatment
BMPs	Best Management Practice
CED	Community and Economic Development
CESCL	Certified Erosion and Sediment Control Lead
CIP	Capital Improvement Program
City	City of Pasco
CSMP	Comprehensive Stormwater Management Plan
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FCD	Franklin Conservation District
GIS	Geographic Information System
IDDE	Illicit Discharge Detection and Elimination
IS	Information Services
MEP	Maximum Extent Practicable
MS4(s)	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
Permit	Phase II Eastern Washington Municipal Stormwater Permit
Phase I	Phase I Municipal Stormwater Permit
PMC	Pasco Municipal Code
PW	Public Works
QAPP	Ecology-approved Quality Assurance Project Plan (QAPP)
Quad-Cities	Kennewick, Pasco, Richland, and West Richland
Standards	Design and Construction Standards and Specifications for Public Works Improvements
SWMMEW	Stormwater Management Manual for Eastern Washington
SWMPP	Stormwater Management Program Plan
UGA	Urban Growth Area
UIC	Underground Injection Control
WSDOT	Washington State Department of Transportation

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Section 1 Introduction and Background

The Washington State Department of Ecology (Ecology) issued the first Phase I Municipal Stormwater Permit (Phase 1) in 1995. Phase I required medium and large cities, or certain counties with populations of 100,000 or more, to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for stormwater discharges. The municipalities covered under Phase I include the City of Seattle, the City of Tacoma, and Snohomish, King, Pierce, and Clark counties.

In December of 1999, the U.S. Environmental Protection Agency (EPA) adopted the National Pollutant Discharge Elimination System (NPDES) Phase II stormwater regulations. The federal rules thereof provide the minimum measures for compliance that are applicable to owners or operators of regulated small Municipal Separate Storm Sewer Systems (MS4). The NPDES Phase II regulations require urbanized areas, as defined by the U.S. Census Bureau and with small MS4s designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges. The City of Pasco (City) is located in Franklin county, on the north margin of the Columbia River. The City is part of the metropolitan area/ urbanized area which includes Kennewick, Richland, and West Richland located across the river in Benton County (often referred as the Quad-Cities).

The Phase II Eastern Washington Municipal Stormwater Permit (Permit) is currently issued with a term from August 1, 2019 to July 31, 2024. Throughout the term of the Permit, certain requirements must be met by MS4 permittees, including the development and implementation of a Stormwater Management Program Plan (SWMPP).

1.1 Purpose

The purpose of the City's SWMPP is to inform the public of actions and activities that are planned during the upcoming annual reporting cycle of the MS4 Permit.

The SWMPP is updated annually and submitted to Ecology with the MS4 Annual Report in accordance with Permit Requirements S9. In general, the SWMPP is designed to reduce the discharge of pollutants from the City's regulated MS4 to the Maximum Extent Practicable (MEP), satisfy the state requirement under RCW 90.48 to apply All Known, Available, and Reasonable methods of prevention, control, and Treatment (AKART) prior to discharge, and to protect water quality.

1.2 Stormwater Utility

The City's stormwater management utility was formed by Ordinance No. 3386 in November 1999. This action by City Council established Chapter 13.80 (*prior code 13.60*) of the Pasco Municipal Code (PMC), which provides the management of City owned surface and stormwater operations, including maintenance and performance standards. PMC 13.80 also outlines the City's stormwater utility authority for illicit discharge detection and elimination, construction and post-construction responsibilities, rates and charges, and administrative enforcement procedures.

Under PMC 14.10, the construction, modification, extension, or improvements that directly, or indirectly, affect any MS4 infrastructure, is performed in accordance with the City's Design and Construction Standards and Specifications for Public Works Improvements (Standards). The City's Standards adopt and amend the Standard Specifications for Road, Bridge, and Municipal Construction published by Washington State Department of Transportation (WSDOT). These rules apply to work performed under any Public Works (PW) contract and private development within the City.

1.3 Stormwater Infrastructure

In general, the City's MS4 consists of conveyance through the storm sewer system, on-site collection and dissipation systems, or grassy swales along roadways. As identified in the City's 2016 Comprehensive Stormwater Management Plan (CSMP), the City's stormwater infrastructure, or MS4, consists of a network of piped conveyances and infiltration pipe. This includes 50+ miles of stormwater pipe, 13+ miles of infiltration pipe, 2,786 catch basins, 1,673 inlets, and 835 manholes.

The stormwater conveyance system is primarily situated in older areas of the City and accepts storm run-off from streets and sidewalks and directs the flow to outfalls into the Columbia River. Street drainage in newer areas is accomplished using catch basins and infiltration facilities or grassy swales along the side of the street, or by detention/infiltration ponds. The arid and often windy climate, which evaporates moisture quickly, combined with the treatment capacity of the region's soils and deep-water table, enables these methods to function effectively and avoids potential impacts to the waters of the Columbia River.

Section 2 Permit Coverage Area

The permit coverage area includes the entire limits of the City. Areas within Urban Growth Area (UGA), but outside the City limits, are under the jurisdiction of Franklin County until such time they are annexed into the City. As identified in the City's proposed 2018-2038 Comprehensive Plan (Volume II), the existing land use within City limits includes approximately 21,793 acres with a population of 78,273.

Section 3 NPDES Phase II Permit Stormwater Management Program Plan (SWMPP)

This SWMPP describes the City's programs, practices and responsibilities that are implemented to effectively meet the Permit requirements. As outlined in S5.B of the Permit, the SWMPP is organized by the following components:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management for New Development and Redevelopment
- Municipal Operations and Maintenance

The SWMPP also serves as a guide for the general public to become familiar the City's plan to promote the health, safety, and welfare in the management of surface and stormwater runoff throughout the community. It will also provide information for upcoming education and outreach events, involvement opportunities, construction stormwater controls, maintenance and operations stormwater processes, and coordination that City staff performs to ensure Permit requirements are met each year.

In general, management and maintenance of the City's stormwater utility is performed by the Public Works (PW) department. This department also oversees the implementation of Capital Improvement Program (CIP) projects. For privately developed projects, the review of site plans and development plans is performed by the Community and Economic Development (CED) department. Other departments, for example, Administrative and Community Services (ACS), Finance, and Executive, coordinate in supporting roles for the stormwater utility through their divisions: Information Services (IS), Customer Service and Communications Services, respectively.

3.1 Public Education and Outreach

3.1.1 Permit Requirements (S5.B.1)

Permittees shall implement a public education and outreach program designed to educate the target audiences about the impacts of stormwater discharges to water bodies and the steps to take to reduce pollutants in stormwater. Outreach and educational efforts should include a multimedia approach and shall be targeted and presented to specific audiences for increased effectiveness. The education program may be developed and implemented locally or regionally.

The SWMPP shall, at a minimum address the following, based on the land uses and priority target audiences found within the community. Permittees shall provide subject area information to the target audience on an ongoing or strategic schedule.

The table below outlines the minimum performance measures for target audiences and applicable information that shall be provided to them:

Table 3-1

S5.B.1.a.i *General public, including homeowners, teachers, school-age children, or overburdened communities*	(a) The importance of improving water quality and protecting beneficial uses of waters of the State. (b) The potential impacts from stormwater discharges. (c) Methods for avoiding, minimizing, reducing, and/or eliminating the adverse impacts of stormwater discharges. (d) Actions individuals can take to improve water quality, including encouraging participation in local environmental stewardship activities and programs.
S5.B.1.a.ii *Businesses*	(a) Preventing illicit discharges, including what constitutes illicit discharges (e.g., Source Control BMPs to prevent illicit discharges). (b) The impacts of illicit discharges. (c) Promoting the proper management and disposal of waste. (d) Management of dumpsters and wash water. (e) The use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps, and other hazardous materials.
S5.B.1.a.iii *Engineers, construction contractors, developers, development review staff, and land use planners*	(a) Technical standards, and the development of stormwater site plans and erosion control plans. (b) Infiltration and underground injection control criteria. (c) Low Impact Development (LID). (d) Stormwater Best Management Practices (BMPs) for reducing adverse impacts from stormwater runoff from development sites. (e) Municipal stormwater code requirements.

By no later than August 1, 2023, new Permittees shall begin using the results of measurements to direct education and outreach resources more effectively, as well as to evaluate changes in adopted behaviors. Each Permittee shall measure the understanding and adoption of the targeted behaviors for at least one target audience in at least one subject area. No later than December 31, 2021, Permittees shall use the resulting measurements to direct ongoing education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors.

3.1.2 Implementation of S5.B.1 in 2022

The City continues to promote education and awareness about stormwater to the target audiences, through Utility Bill Inserts to property owners and participation at local events, as well as education and outreach activities throughout the year. The City has contracted with the Franklin Conservation District (FCD) to provide public education and outreach related to stormwater pollution prevention awareness. FCD is dedicated to educating school-aged children in Franklin County about conservation of water and soil quality in the surrounding area. The curriculum for this education is specifically designed to engage school-aged children by involvement through specific programs. Teachers are also offered seminars to learn about the content of the program and incorporate material in their curriculum and class planning.

Due to COVID-19 restrictions, presentations for the FCD programs described below were offered virtually in 2021.

Drain Rangers

The Drain Rangers program is designed for teachers and school-aged children (Grades 3-5) to develop an understanding of stormwater pollution control and specific actions that can be taken to improve the quality of water. Students are introduced to a problem-solving curriculum where they explore ways to overcome challenges for stormwater infrastructure. The lessons specifically designed to meet requirements of the Common Core and Next Generation Science Standards. Course content also includes information related to polluted stormwater runoff, engineering design, and literacy skills.

For more information, please visit the FCD website: https://www.franklincd.org/drain-rangers

Jr. Drain Rangers

Modeled after the Drain Rangers stormwater education program, the Jr. Drain Rangers is adapted to meet the learning needs of school aged children (Grades K-2). Presentations are given where students are able to identify problems in their community and develop solutions. Students participate in hands-on activities, games, and engage in discussion about stormwater challenges and how to prevent pollution.

For more information, please visit the FCD website: https://www.franklincd.org/jr-drain-rangers-original

Wheat Week

Wheat Week is a program designed for students (Grades 3-6) to explore how the wheat plant plays a vital role in the ecosystem. Over the course of 5 days, topical lessons are provided that include introducing the wheat plant as a system of parts, the water cycle, the importance of soil, wheat DNA, and wheat as an energy source for humans. Teachers can register for Wheat Week lessons and order educational kits from the local Wheat Week educator.

For more information, please visit the FCD website: https://www.franklincd.org/wheat-week

For informational purposes, **Attachment A** includes 2021 Education Reports from FCD for Jr. Drain Rangers, Drain Rangers, and Wheat Week.

Outreach to Businesses, Contractors, and Developers

Stormwater information for local businesses, contractors, developers, and other professional services involved with land development and re-development is available on the City's website, as well as in handouts that are available in the CED and Customer Service departments (examples provided in **Attachment B**).

Pasco is situated within the vicinity of three other cities, including Kennewick, Richland, and West Richland and many local businesses and contractors are active throughout this area. Although Kennewick, Pasco, Richland, and West Richland (Quad-Cities) own and operate different MS4s, ongoing coordination between the Quad-Cities will be implemented for outreach to these local businesses. Coordination efforts will include providing invites to contractors, developers, and engineers for education opportunities, such as virtual events for Regional Stormwater Training (e.g., Eastern Washington Stormwater Management Manual, General Construction Stormwater Permit, UIC registration, etc.).

The development community and CED department staff play an important contributing role through the site plan and development review process. This process is required for all building, land development, and re-development projects, where plans are submitted and examined by the CED department. The procedure for the plan review process is outlined in the City's Design and Construction Standards and Specifications for Public Works Improvements (Standards): https://www.pasco-wa.gov/409/City-Standards-Specifications

In accordance with the SWMMEW and the Phase II Municipal Stormwater Permit, the City's Standards include general requirements and guidance for stormwater improvements and construction best practices. Based on those general requirements and guidance, the CED department has made a Development Review Checklist available to inform the public of project elements that are required for the plan review process. For example, the checklist shows that a site stormwater plan and report are required to be prepared by an engineer licensed in the state of Washington and submitted to the City by the builder or developer.

Regional Events

The City participates along with FCD and other Quad city members in regional events. A booth for stormwater pollution prevention awareness and resources for Illicit discharge reporting is planned for regional events, such as the Regional Home and Garden Show and River Fest. These booths are a joint effort between the Quad-Cities and FCD, where visitors are engaged to win "stormwater pollution prevention" merchandise by responding to stormwater related questions. Best management practices and illicit discharge resources are provided at the booth, along with a PowerPoint presentation projected in the background, educational brochures that are handed out, and contact information for each City. Due to COVID-19 restrictions, events may need to be rescheduled or cancelled, and at this time the City tentatively plans to participate in these events in 2022.

In 2022, the existing program for Public Education and Outreach will continue in accordance with S5.B.1 of the 2019-2024 Permit.

3.2 Public Involvement and Participation

3.2.1 Permit Requirements (S5.B.2)

Permittees shall provide ongoing opportunities for public involvement and participation such as advisory panels, public hearings, watershed committees, participation in developing rate-structures, or other similar activities. Permittees shall comply with applicable state and local public notice requirements when developing elements of the SWMP.

The table below outlines the minimum performance measures for public involvement and participation:

Table 3-2

S5.B.2.a	Permittees shall implement a program or policy directive to create opportunities for the public, including overburdened communities, to provide input during the decision-making processes involving the development, implementation and update of the SWMP, including development and adoption of all required ordinances and regulatory mechanisms.
S5.B.2.b	No later than May 31 each year, Permittees shall post on their website and make the latest version of the Annual Report and SWMP Plan available to the public. All other submittals should be available to the public upon request. Co-Permittees and other groups of Permittees that are developing the SWMP in a cooperative effort may post the updated SWMP Plan on a single entity's website. To comply with the posting requirement, a Permittee that does not maintain a website may submit the updated SWMP Plan in electronic format to Ecology for posting on its website.

3.2.2 Implementation of S5.B.2 in 2022

Existing Program: The City is open to comments and concerns from the public relating to the stormwater utility. The official Stormwater webpage includes general information about the utility, annual reporting, applicable web-links to Ecology's website, and the City's Standards. The Stormwater Hotline is also available if the public is having problems with road drainage, blocked storm drains, property or basement flooding, or to report illicit discharges to the City's stormwater system. See below for the Stormwater Hotline and City website:

- Stormwater Hotline: 509-543-5777
- https://www.pasco-wa.gov/846/Stormwater

Public Comment Period for 2022 SWMPP Update

In order to create opportunities for the public, including overburdened communities, to provide input during the decision-making processes involving the development, implementation, and update of this SWMPP, a public comment period will be implemented. A draft copy of the 2022 SWMPP update will be made available on the City's website for a public comment period through April 30, 2022. A final version of the SWMPP will be made available in May on the City's website.

In 2022, the existing program for Public Involvement and Participation will continue in accordance with S5.B.2 of the 2019-2024 Permit.

3.3 Illicit Discharge Detection and Elimination

3.3.1 Permit Requirements (S5.B.3)

Each Permittee shall implement and enforce a program designed to prevent, detect, characterize, trace, and eliminate illicit connections and illicit discharges into the MS4.

The table below outlines the minimum performance measures for illicit discharge detection and elimination:

Table 3-3

S5.B.3.a	Each Permittee shall continue to maintain and periodically update a map of the MS4. Update maps, if necessary, to meet the requirement of this Section no later than August 1, 2023. At a minimum, the maps shall include information as described in S5.B.3.a of the permit.
S5.B.3.b	Each Permittee shall effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into the MS4. Each Permittee shall implement an ordinance or other regulatory mechanism that prohibits illicit discharges and authorizes enforcement actions, including on private property, as described in S5.B.3.b of the permit.
S5.B.3.c	Each Permittee shall implement an ongoing program designed to detect and identify illicit discharges and illicit connections into the Permittee's MS4, as described in S5.B.3.c of the permit.
S5.B.3.d	Permittees shall implement an ongoing program designed to address illicit discharges, including spills, and illicit connections into the MS4. The program shall include elements described in S5.B.3.d of the permit.
S5.B.3.e	Permittees shall train staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections to conduct these activities. Follow-up training shall be provided, as needed, to address changes in procedures, techniques, requirements, or staff. Permittees shall document and maintain records of the training provided and the staff trained.
S5.B.3.f	Each Permittee shall track and maintain records of the activities conducted to meet the requirements of this Section. In the Annual Report, each Permittee shall submit data for the illicit discharges, spills, and illicit connections including those that were found by, reported to, or investigated by the Permittee during the previous calendar year. The data shall include the information specified in Appendix 7 and WQWebIDDE. Each Permittee may either use their own system or WQWebIDDE for recording this data. Final submittals shall follow the instructions, timelines, and format as described in Appendix 7.

3.3.2 Implementation of S5.B.3 in 2022

Existing MS4 Map: The City continues to maintain and periodically update a map of the MS4 (see Figure 1 below) through ArcGIS, which is a geographic information system (GIS) using maps to compile the City's utility infrastructure. Known information for the City's MS4 that is compiled in ArcGIS includes outfalls and discharge points (including size and material where known), receiving waters, and connections between the MS4 owned and operated by the City. The City's map is capable of showing other information required by the Permit, such as areas served by the MS4 that discharge to ground (e.g., basins), private connections to the MS4 authorized by the City or

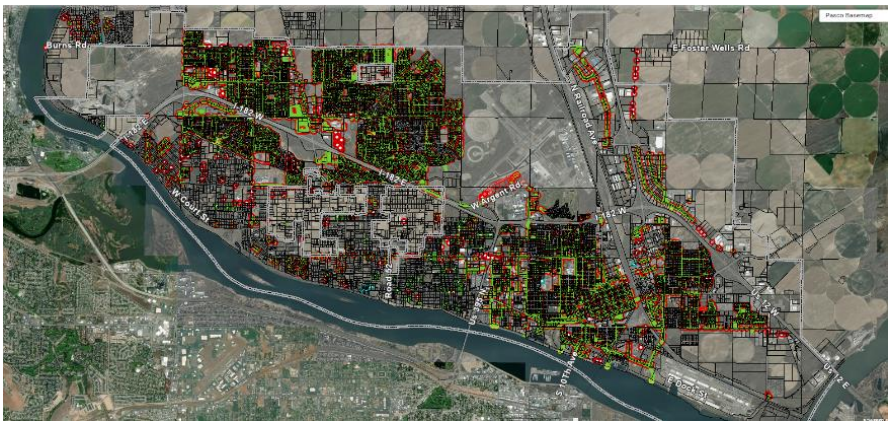


Figure 1 – Current ArcGIS Map of City's MS4

connections from the MS4 to a privately owned stormwater system, and connections between MS4 owned and operated by the City and Franklin County. Basins are anticipated to be included in the map as part of the update to the City's CSMP. Connections described above, if identified, will also be included as part of the update.

IDDE Program: The City has an Illicit Discharge Detection and Elimination (IDDE) program in place to detect, identify, address and eliminate illicit discharges, including spills, and connections to the City's MS4. This program is a collaborative effort of City staff between multiple departments. Additionally, the general public plays a vital role in this program by use of the Stormwater Hotline. This line of communication allows the City to provide a timely response and investigation into illicit discharges, including spills, as well as illicit connections. PMC Chapter 13.80 (prior code 13.60) outlines the City's stormwater utility authority for illicit discharge detection and elimination, construction and post-construction responsibilities, rates and charges, and administrative enforcement procedures.

When the City is notified of a potential illicit discharge, the Code Enforcement Division tracks the incident by use of computer-based software called TRAKiT, which is directly linked to the City's GIS database and provides a workflow management system for effectively capturing data related to code enforcement, inspections, permitting, and planning. The incident is verified by a Code Enforcement Officer, who is assigned to implement correction and enforcement actions, and document the incident for historical purposes.

Staff Training: As part of the IDDE program, annual training is provided to City staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections. The annual training includes videos, discussion, and a self-assessment test. Sign-in sheets and tests are filed for maintaining records. Additionally, the City ensures that site plan review and inspections are conducted by a Certified Erosion and Sediment Control Lead (CESCL).

Actions: The City anticipates that a future amendment to its Comprehensive Stormwater Management Plant will help collect more information needed to meet the MS4 map requirements of S5.B.3.a by **August 1, 2023**. This includes identifying fully described mapping standards, updating all outfall pipe information (i.e., size and material where known), and showing stormwater basins that discharge to the ground.

Additionally, the City is on the legal revision stage to revise Pasco Municipal Code (PMC) Chapter 13.80 to effectively prohibit non-stormwater discharges into the MS4. The revision will address updated definitions for discharge types (e.g., Allowable, Conditionally Allowable, Prohibited), escalation of enforcement procedures and actions (e.g., fines and penalties for public/private property), and identify discharge types that are considered to be a significant source of pollutants to waters of the State. Additionally, the City plans to develop an effective compliance strategy in accordance with S5.B.3.b. To meet the requirements of the Permit, this revision of the PMC will be done by **February 2, 2023**.

In 2022, the City's existing program for Illicit Discharge Detection and Elimination will continue in accordance with S5.B.3 of the 2019-2024 Permit.

3.4 Construction Site Stormwater Runoff Control

3.4.1 Permit Requirements (S5.B.4)

All Permittees shall implement and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that disturb one acre or more, and from construction projects of less than one acre that are part of a larger common plan of development or sale. Public and private projects, including projects proposed by the Permittee's own departments and agencies, shall comply with these requirements. The Permittee shall implement an ongoing process for ensuring proper project review, inspection, and compliance by its own departments and agencies.

The table below outlines the minimum performance measures for construction site stormwater runoff control:

Table 3-4

S5.B.4.a	Permittees shall implement an ordinance or other regulatory mechanism to require erosion and sediment controls, and other construction-phase stormwater pollution controls at new development and redevelopment projects. The ordinance or other regulatory mechanism shall include sanctions to ensure compliance. The ordinance or other regulatory mechanism shall include provisions to review site plans and inspect sites with high potential for sediment transport prior to clearing or grading. The ordinance, or other enforceable mechanism to implement S5.B.4.a.i through S5.B.4.a.v of the permit, shall be adopted and effective no later than December 31, 2022.
S5.B.4.b	Permittees shall implement procedures for site plan review which incorporates consideration of potential water quality impacts, as described in S5.B.4.b of the permit.
S5.B.4.c	Permittees shall implement procedures for site inspection and enforcement of construction stormwater pollution control measures, as described in S5.B.4.c of the permit.
S5.B.4.d	Each Permittee shall ensure that 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. Follow-up training shall be provided as needed to address changes in procedures, techniques, or staffing. Permittees shall document and maintain records of the training provided and the staff trained.
S5.B.4.e	Permittees shall provide information to construction site operators about training available on how to install and maintain effective erosion and sediment controls and how to comply with the requirements of Appendix 1 and apply the BMPs described in the Stormwater Management Manual for Eastern Washington, or another technical stormwater manual approved by Ecology.
S5.B.4.f	To comply with these provisions, Permittees shall keep records of all projects disturbing one acre or more, and all projects of any size that are part of a common plan of development or sale that is one acre or more, as described in S5.B.4.f of the permit.

3.4.2 Implementation of S5.B.4 in 2021

Existing Procedures: As outlined in PMC Chapter 13.80, Chapter 14.10, and Chapter 16.10, the City has adopted regulations to ensure construction site stormwater runoff is being controlled on both public and private projects. This includes the requirement of an approved storm water site plan, and erosion and sediment control plans, for any project subject to the Core Elements of the SWMMEW. When the threshold is met, a stormwater construction permit is required and must be applied for with the Department of Ecology (https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit). City staff who perform plan review and inspections are trained in necessary erosion and sediment control measures and BMPs. Inspections include installation and maintenance of the required BMPs, where construction and post-construction activities are required to maintain BMPs for stormwater drainage facilities.

Site Plan Review: Through direction of the PW Director, work performed under a PW contract is managed by the CIP Manager. This work is designed by City engineering staff, or City hired engineering consultants, who are licensed in the State of Washington. Contrary to private development, CIP projects focus specifically on improvements to City owned facilities and infrastructure (e.g., water treatment, wastewater treatment, sewer, MS4, streets), where stormwater and drainage improvements are required to be planned, designed, permitted, constructed, and maintained in accordance with PMC 13.80. Since the type of work is unique for each CIP project, the associated plans and specifications may implement special provisions that differ from the City's Standards and provide more stringent measures for stormwater facilities/BMPs. All plans and specifications are reviewed by the CIP department, and in some cases require building permits where site plan review is further conducted by the CED department.

The City requires that private development (e.g., commercial, industrial, residential) is planned, designed, permitted, constructed, and maintained in accordance with the Stormwater Management Manual for Eastern Washington (SWMMEW) and the City's Standards. All plans for private development are required to be reviewed through the Community and Economic Development (CED) department. This process ensures the proposed work will implement BMPs and incorporates consideration of potential water quality impacts due to stormwater runoff at projects.

Staff Training: As discussed in Section 3.3.2 of this SWMPP, annual training is provided to City staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections. The annual training includes videos, discussion, and a self-assessment test. Sign-in sheets and tests are filed for maintaining records. Additionally, the City ensures that site plan review and inspections are conducted by a Certified Erosion and Sediment Control Lead (CESCL), where CESCL certifications are pursued and renewed on a regular basis by CED and PW staff.

Inspections: City inspectors conduct routine observations of construction sites, as well as inspect project elements and milestones during the work. Enforcement of construction stormwater pollution control measures is done through means of directives such as Stop Work or Correction Notices. Contractors, developers, and property owners also play a vital contributing role by ensuring all work performed in conformance with the SWMMEW, approved plans, specifications, and permits.

Record Keeping: The City keeps records of all projects disturbing one acre or more and all project of any size that are part of a common plan of development or sale that is one acre or more. This is accomplished by filing hardcopy records or use of computer-based software called TRAKiT, which is directly linked with the City's GIS database and provides a workflow management system for effectively capturing data related to code enforcement, inspections, permitting, and planning.

Actions: While the City's Standards and PMC adopt the SWMMEW by reference, the City will begin work towards developing an ordinance(s) to further address enforcement of erosion and sediment controls, and other construction-phase stormwater pollution controls at new development and redevelopment projects. In addition, the sanctions will be considered to ensure compliance and provisions to review and inspect sites with high potential for sediment transport prior to clearing and grading. These actions will be taken to meet Permit requirement S5.B.4.a, and S5.B.4.e by **December 31, 2022**.

The City also plans to develop strategies to publicize training opportunities available for construction site operators and design professionals on how to comply with the requirements and BMPs in the SWMMEW.

In 2022, the existing program for Construction Site Stormwater Runoff Control will continue in accordance with S5.B.4 of the 2019-2024 Permit.

3.5 Post-Construction Stormwater Management for New Development and Redevelopment

3.5.1 Permit Requirements (S5.B.5)

All Permittees shall implement and enforce a program to address post-construction stormwater runoff to the MS4 from new development and redevelopment projects that disturb one acre or more, and from projects of less than one acre that are part of a larger common plan of development or sale. The program shall ensure that controls to prevent or minimize water quality impacts are in place. Public and private projects, including projects proposed by the Permittee's own departments and agencies, shall comply with these requirements. The Permittee shall implement an ongoing process for ensuring proper project review, inspection, and compliance by its own departments and agencies.

The table below outlines the minimum performance measures for post-construction stormwater management for new development and redevelopment:

Table 3-5

S5.B.5.a and S5.B.5.b	No later than December 31, 2022, Permittees shall implement an ordinance or other regulatory mechanism that requires post-construction stormwater controls at new development and redevelopment projects. The ordinance or other regulatory mechanism shall include mechanisms to ensure compliance. The local program shall be adopted no later than December 31, 2022 to meet the requirements described in S5.B.5.b of the permit. The ordinance or other enforceable mechanism shall, at a minimum: • Apply to new development and redevelopment sites that discharge to the MS4 and that disturb one acre or more or are less than one acre and are part of a larger common plan of development or sale. • Require project proponents and property owners to adhere to the minimum technical requirements in Appendix 1 of the permit, and shall include BMP selection, design, installation, operation, and maintenance standards necessary to protect water quality, reduce the discharge of pollutants to the MEP, and satisfy state AKART requirements. • Include provisions for both construction-phase and post-construction access for Permittees to inspect stormwater BMPs on private properties that discharge to the MS4. • Include appropriate escalating enforcement procedures and actions. • Implement an enforcement strategy and the enforcement provisions of the ordinance or other regulator mechanisms.
S5.B.5.c	Permittees shall implement procedures for site plan review which incorporate consideration of potential water quality impacts, as described in S5.B.5.c of the permit.
S5.B.5.d	Permittees shall implement procedures for site inspection and enforcement of post-construction stormwater control measures, as described in S5.B.5.d of the permit.
S5.B.5.e	Permittees shall provide adequate training for all staff involved in permitting, planning, review, inspection, and enforcement to carry out the provisions of this SWMP component.
S5.B.5.f	Permittees shall provide information to design professionals about training available on how to comply with the requirements of Appendix 1 of the permit and apply the BMPs described in the Stormwater Management Manual for Eastern Washington, or another technical stormwater manual approved by Ecology.
S5.B.5.g	To comply with these provisions, Permittees shall keep records of all projects disturbing one acre or more, and all projects of any size that are part of a common plan of development or sale that is one acre or more, as described in S5.B.5.g of the permit.

3.5.2 Implementation of S5.B.5 in 2022

Site Plan Review: For publicly funded projects, all plans and specifications are required to be reviewed by the CIP department, and in some cases require building permits where site plan review is further conducted by the CED department. The City also requires that plans for private development (e.g., commercial, industrial, residential) are reviewed through the Community and Economic Development (CED) department. This process ensures the proposed work will implement BMPs and incorporates consideration of potential water quality impacts due to stormwater runoff at projects.

Inspections: City inspectors conduct routine observations of construction sites, as well as inspect project elements and milestones during the work. Enforcement of construction stormwater pollution control measures is done through means of directives such as Stop Work or Correction Notices. Contractors, developers, and property owners also play a vital contributing role by ensuring all work performed in conformance with the SWMMEW, approved plans, specifications, and permits. The City provides available information to design professionals about available training opportunities on Permit compliance and the SWMMEW. This is typically done through communications that are coordinated between the Quad-Cities, during the plan review processes implemented by the CIP and CED departments, and periodic interactions the City has with design professionals.

Staff Training: As discussed in Section 3.3.2 and 3.4.2 of this SWMPP, annual training is provided to City staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections. The annual training includes videos, discussion, and a self-assessment test. Sign-in sheets and tests are filed for maintaining records. Additionally, the City ensures that site plan review and inspections are conducted by a Certified Erosion and Sediment Control Lead (CESCL), where CESCL certifications are pursued and renewed on a regular basis by CED and PW staff.

Record Keeping: The City keeps records of all projects disturbing one acre or more and all project of any size that are part of a common plan of development or sale that is one acre or more. This is accomplished by filing hardcopy records or use of computer-based software called TRAKiT, which is linked to the City's GIS database and provides a workflow management system for effectively capturing data related to code enforcement, inspections, permitting, and planning.

Actions: While the City's Standards and PMC adopt the SWMMEW by reference, the City will begin work towards developing an ordinance(s) to further address enforcement of erosion and sediment controls, and other post construction stormwater pollution controls at new development and redevelopment projects. In addition, the ordinance(s) will enforce requirements set forth in S5.B.5.b(i) through S5.B.5.b(v) of the Permit. The City intends to work towards completing this action by **December 31, 2022**.

The City also plans to publicize training opportunities available for construction site operators and design professionals on how to comply with the requirements and BMPs in the SWMMEW, Via the City's Stormwater website.

In 2022, the existing program for Construction Site Stormwater Runoff Control will continue in accordance with S5.B.5 of the 2019-2024 Permit.

3.6 Municipal Operations and Maintenance

3.6.1 Permit Requirements (S5.B.6)

Permittees shall implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

The table below outlines the minimum performance measures for municipal operations and maintenance:

Table 3-6

S5.B.6.a	Permittees shall implement a schedule of municipal Operation and Maintenance activities (an O&M Plan). Permittees shall review and, if needed, update the O&M Plan no later than December 31, 2022. The schedule shall include BMPs that, when applied to the municipal activity or facility, will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy state AKART requirements. The Stormwater Management Manual for Eastern Washington provides a selection of appropriate BMPs that meet these requirements for various types of facilities. Operation and maintenance standards in the O&M Plan shall be at least as protective as those included in the Stormwater Management Manual for Eastern Washington, or another technical stormwater manual approved by Ecology. Recordkeeping shall be done pursuant to the requirements in S9 – Reporting and Recordkeeping. The O&M shall include elements as described in S5.B.6.a.i through S5.B.6.a.iii of the permit.
S5.B.6.b	Permittees shall provide training for all employees who have primary construction, operations, or maintenance job functions that are likely to impact stormwater quality. Training shall address the importance of protecting water quality, operation and maintenance requirements, relevant SWPPPs, inspection procedures, and ways to perform their job activities to prevent or minimize impacts to water quality. Follow-up training shall be provided, as needed, to address changes in procedures, methods or staffing.

3.6.2 Implementation of S5.B.6 in 2022

O&M Plan: The City currently implements a schedule of Operations and Maintenance, otherwise called an O&M Plan, that includes BMPs to protect water quality, reduce the discharge of pollutants to the MEP, and satisfy state AKART requirements. Standards in the O&M Plan are based on those included in the SWMMEW. The O&M Plan focuses on housekeeping of the following City assets:

- MS4, including regular inspections, cleaning, and street waste disposal.
- Roads, highways, and parking lots, including street cleaning, deicing, anti-icing and snow removal, snow disposal and runoff, material laydown areas, and all season BMPs.
- Vehicle Fleets, including storage, washing, maintenance, repair, and fueling.
- Municipal buildings, including cleaning, washing, painting, and other maintenance activities.
- Parks and open spaces, including fertilization, pesticides/herbicides, pet waste BMPs, sediment/erosion control, landscape maintenance and disposal BMPs, trash management, and BMPs for exterior building maintenance.

In general, the schedule of housekeeping activities is done through computer-based software called Cartegraph. This software is linked to the City's GIS database and provides a real-time workflow management system for managers and crews to effectively capture data related to the aforementioned housekeeping activities.

Staff Training: As discussed in Section 3.3.2, 3.4.2, and 3.5.2 of this SWMPP, annual training is provided to City staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections. The annual training includes videos, discussion, and a test. Sign-in sheets and tests are filed for maintaining records. Additionally, the City ensures that site plan review and inspections are conducted by a Certified Erosion and Sediment Control Lead (CESCL).

Actions: While the City's O&M Plan currently addresses BMPs to protect water quality, reduce the discharge of pollutants to the MEP, and satisfy state AKART requirements, a revision will be completed by **December 31, 2022** to update a Stormwater Pollution Prevention Plan (SWPP) and modify the schedule of MS4 inspections to align with S5.B.6 requirements. The City will revise its O&M Plan and evaluate implementing an alternative to the standard approach of inspecting catch basins every two years in accordance with S5.B.6.a.ii(b), and update the SWPPP in accordance with S5.B.6.a.ii(h).

3.7 Compliance with Total Maximum Daily Load Requirements

3.7.1 Permit Requirements (S7)

For applicable TMDLs listed in the Permit, Appendix 2, *Total Maximum Daily Load Requirements* (TMDL), affected Permittees shall comply with the specific requirements identified in Appendix 2.

The City does not currently have additional permit requirements based on applicable TMDLs in accordance with Special Condition S7 of the permit.

3.8 Reporting and Recordkeeping

3.8.1 Permit Requirements (S8)

The City will continue to participate in implementation of the Ecology-approved studies that were selected pursuant to Section S8.B in the 2014-2019 Permit. Yakima County is the lead entity for the BMP Inspection and Maintenance Responsibilities effectiveness study, this study was conducted following the QAPP which can be accessed at the link on the previous page. The study started in December 2020 and the last data was collected in July 2021. The findings of the study were presented and submitted to the Technical Advisory Group (TAG) in August 2021 for review and comment. The final TER (Txxx)was submitted to Ecology in October 2021. This was done to meet the permit requirements in S8.A.1.a, the City is participating in the study in the role of a reviewer and survey volunteer (**see Attachment C**).

The City will also continue to coordinate with the cities of Kennewick, Richland, and West Richland by participating in the Ecology-approved Quad-Cities effectiveness study, Non-Vegetated Filtration Swale. In accordance with the schedule outlined in S8.2, the Fact Sheet of the Quad-Cities effectiveness study (**see Attachment D).** A detailed study design proposal will be submitted to Ecology before September 30, 2022, a completed Ecology-approved Quality Assurance Project Plan (QAPP) by July 31, 2023, and then conduct the study on or before December 31, 2022. The City is participating in the study in the role of Technical Advisory Committee (TAC) as described in the G19, *Certification and Signature for Stormwater Management Program Effectiveness Studies* (**see Attachment E**).

Attachment A

2020 Education Reports

Franklin Conservation District Education Report Drain Rangers, Jr. Drain Rangers and Wheat Week September – December 2021

In-Person Jr. Drain Rangers	# Students	# Teachers	# Lessons
Benton County	**304**	**15**	**14**
Richland	**185**	**10**	**9**
Jefferson Elementary	64	5	4
White Bluffs Elementary	121	5	5
West Richland	**119**	**5**	**5**
Tapteal Elementary	119	5	5
Franklin County	**146**	**11**	**7**
Pasco	**146**	**11**	**7**
McClintock Elementary	55	3	3
Whitter Elementary	91	8	4
Grand Total	**450**	**26**	**21**

DIY Online Jr. Drain Rangers	# Students	# Teachers	# Classes
Benton County	**200**	**11**	**11**
Kennewick	**60**	**4**	**4**
Ridgeview Elementary	60	4	4
Richland	**140**	**7**	**7**
Jefferson Elementary	58	3	3
Lewis and Clark Elementary	58	3	3
Pacific Crest Online Elementary	24	1	1
Franklin County	**86**	**4**	**3**
Pasco	**86**	**4**	**3**
Rowena Chess Elementary	61	2	2
Whitter Elementary	25	2	1
Grand Total	**286**	**15**	**14**

In-Person Wheat Week	# Students	# Teachers	# Weeks
Benton County	**271**	**12**	**3**
Kennewick	**73**	**4**	**1**
Ridgeview Elementary	73	4	1
Richland	**111**	**4**	**1**
Orchard Elementary	111	4	1
West Richland	**87**	**4**	**1**
William Wiley Elementary	87	4	1
Franklin County	**14**	**2**	**1**
Pasco	**14**	**2**	**1**
Kingspoint Elementary	14	2	1
Grand Total	**285**	**14**	**4**

Franklin Conservation District Education Report Drain Rangers, Jr. Drain Rangers and Wheat Week September – December 2021

DIY Online Wheat Week	# Students	# Teachers	# Schools
Benton County	**202**	**8**	**3**
Kennewick	**50**	**2**	**1**
Eastgate Elementary	50	2	1
Richland	**152**	**6**	**2**
Jefferson Elementary	72	3	1
Sacajawea Elementary	80	3	1
Franklin County	**158**	**6**	**1**
Pasco	**158**	**6**	**1**
Marie Curie STEM Elementary	158	6	1
Grand Total	**360**	**14**	**4**

Drain Rangers Teacher Workshops held virtually:

No Drain Ranger workshops were offered Sept-Dec.

Total Drain Ranger, Jr. Drain Ranger & Wheat Week in the Quad Cities

Students = 1,381

Teachers = 69

Attachment B

Public Education and Outreach Materials

SÓLO LA LLUVIA POR EL DESAGÜE

La protección del agua de nuestras ciudades de cosas como los coches con fugas de aceite , fertilizantes de las granjas y hogares, excrementos de perro, incluso tanques sépticos deficientes. Todas estas fuentes se suman a un gran problema de contaminación. Pero cada uno de nosotros podemos hacer cosas pequeñas para ayudar a limpiar el agua también.

Ser la solución contaminación!

Para informar de descarga ilegal o dumping llame:

Kennewick: 509-585-4419
Pasco: 509-543-5777
Richland: 509-942-7480
West Richland: 509-967-5434

Read the label. Follow the instructions.

Many people use fertilizers, weed killers, and pesticides to enhance their yards and gardens. If you use too much of these products or apply them at the wrong time, runoff can easily carry them from your lawn or garden into storm drains and ditches. From there they can end up in lakes, streams, rivers and marine waters.

Like in the garden, fertilizer in lakes and rivers makes plants grow. But too much algae and other aquatic plant growth can make boating, fishing and swimming unpleasant. What's more, as the algae and other plants decay, they use up the oxygen in the water that fish and other aquatic life need.

Lea la etiqueta. Siga las instrucciones.

Muchas personas usan fertilizantes, herbicidas y pesticidas para mejorar sus patios y jardines. Si utiliza demasiada cantidad de estos productos o los aplica en el momento equivocado, la escorrentía puede llevarlos fácilmente de su césped o jardín a las alcantarillas y zanjas. Desde allí puede terminar en lagos, arroyos, ríos y aguas marinas.

Al igual que en el jardín, fertilizantes en lagos y ríos hacen que las plantas crezcan. Pero el exceso de algas y crecimiento de otras plantas acuáticas pueden hacer paseos en bote, pesca y natación desagradable. Lo que es más, a medida que las algas y otras plantas se descomponen, utilizan el oxígeno en el agua que los peces y otra vida acuática necesitan.

ONLY RAIN DOWN THE DRAIN!

Protect our cities' water from things like cars leaking oil, fertilizers from farms and homes, dog waste, even failing septic tanks. All these sources add up to a big pollution problem. But each of us can do small things to help clean up our water too.

Be the pollution solution!

To report illegal discharge or dumping call:

Kennewick: 509-585-4419
Pasco: 509-543-5777
Richland: 509-942-7480
West Richland: 509-967-5434

Scoop the poop! Bag it. Trash it.

Dog poop is more than just an icky nuisance. It's a health risk to dogs and people, especially children. It's full of bacteria that can make people sick. And it's a source of water pollution.

Bacteria from dog poop threatens drinking water for both people and livestock and can end up in shellfish. Nutrients from dog poop can also feed the growth of aquatic plants and algae. As these decay, they use up oxygen in the water that fish and other aquatic life need.

Pick up after your dog in your yard every few days— more often if you have small children who play there.

¡Recoja los excrementos de perro! Embólselos. Bótelos a la basura.

Los excrementos de perro son algo más que una molestia repulsiva. Es un riesgo para la salud de los perros y personas, especialmente niños. Están llenos de bacterias que pueden causar enfermedades. Y son una fuente de contaminación del agua.

Las bacterias de los excrementos de perro ponen en peligro el agua potable para las personas y el ganado y pueden terminar en los mariscos. Los nutrientes delos excremento de perro también pueden alimentar el crecimiento de las plantas acuáticas y algas. A medida que estas se descomponen, utilizan el oxigeno en el agua que los peces y otra vida acuática necesitan.

Recoja los desechos de su perro en su patio cada pocos días- más a menudo si usted tiene niños pequeños que juegan allí.

Check for leaks. Recycle used motor oil.

What's the problem with motor oil? Oil does not dissolve in water. It lasts a long time and sticks to everything from beach sand to bird feathers. Oil and other petroleum products are toxic to people, wildlife, and plants. One pint of spilled oil in the water can make a slick larger than a football field.

Oil that leaks from our cars onto roads and driveways is washed into storm drains, and then flows directly to a lake or stream. Used motor oil is the largest single source of oil pollution in our lakes, streams and rivers.

Americans improperly dispose of 200 million gallons of used oil each year and a sizeable portion reaches our waters.

Revise si tiene fugas. Recicle el aceite del motor usado.

¿Cuál es el problema con el aceite de motor? El aceite no se disuelve en agua. Dura mucho tiempo y se pega a todo, desde la arena de la playa a las plumas de las aves. Aceite y otros productos derivados del petróleo son tóxicos para las personas, la fauna y la flora. Un litro de aceite derramado en el agua puede causar una mancha más grande que un campo de fútbol.

El aceite que se escapa de nuestros vehículos en las carreteras y caminos de entrada se escurre a las alcantarillas, y luego fluye directamente a lagos o arroyos. El Aceite de motor usado es la mayor fuente de contaminación por hidrocarburos en nuestros lagos, arroyos y ríos.

Los estadounidenses descartan incorrectamente 200 millones de galones de aceite usado cada año y una parte considerable llega a nuestras aguas.

Don't leave a sheen. Prevent drips, spills, and overfills.

Many boaters may not be aware they've spilled fuel. Unless you take precautions, drips can end up in the water when fuel back-splashes out of the tank, when it discharges out of the vent from over-filling or expansion, or when it drips off the nozzle.

It can kill fish and other aquatic life, and can cause long-term damage to the surrounding habitat.

What will you do to help? Know how much fuel your tanks hold. Fill only to 90% capacity to leave room for expansion, especially during warm weather. Don't top off your tanks.

No deje manchas de aceite. Evite goteos, derrames y desbordes.

Muchos navegantes pueden no ser conscientes de que han derramado combustible. A menos que tome precauciones, goteos pueden terminar en el agua cuando el combustible salpica fuera del tanque, cuando se derrama el combustible por la ventilación debido a desbordes o por expansión, o cuando gotea de la boquilla.

Puede matar peces y otros organismos acuáticos, y puede causar daños a largo plazo al hábitat circundante.

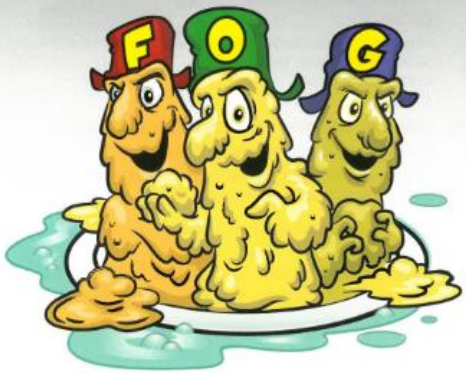
¿Qué vas a hacer para ayudar? Sepa cuánto combustible cabe en sus tanques. Llene sus tanques sólo al 90% de su capacidad para dejar espacio para la expansión, sobre todo durante el verano. No colme sus tanques.


CITY OF PASCO
STORM DRAINS:
ALCANTARILLAS PARA AGUA DE LLUVIA
Do you know where the water (and any debris) goes?
¿Sabe hacia dónde se dirige el agua (y la suciedad)?
(We bet you'll be surprised...)
(Suponemos que quedará sorprendido...)
Little known facts about our storm drains:
Información desconocida acerca de las alcantarillas:
Storm water is generally not treated before flowing into our rivers and underground aquifers.
Generalmente, el agua de lluvia no es tratada antes de ingresar a los ríos y los acuíferos subterráneos.
Motor oil, paints, animal waste and other pollutants flow directly to our waterways. When it rains, water runs over the ground and picks up these pollutants and carries them to our rivers. In fact, one gallon of oil can contaminate up to one million gallons of water.
El aceite de motor, la pintura, los excrementos de los animales y otras sustancias contaminantes fluyen directamente a nuestros canales. Cuando llueve, el agua corre por el suelo y arrastra dichas sustancias a nuestros ríos. De hecho, un galón de aceite puede contaminar casi un millón de galones de agua.
Storm drains are designed to prevent flooding from natural rains. They are not for hosing off grass clippings, yard debris, car washing soap, washing, cement sludge, etc. from your property. This can cause clogging as well as affect the quality of Pasco's water and downstream watersheds.
Las alcantarillas están diseñadas para prevenir inundaciones causadas por las lluvias naturales. No son para almacenar el agua que acarrea el pasto que es cortado, los residuos del jardín, el jabón para limpiar el carro, otros jabones, la lechada de cemento, etc. de su propiedad. Esto puede causar que las alcantarillas se tapen, así como afectar la calidad del agua de Pasco y las cuencas aguas abajo.
REPORT ANY ILLEGAL DISCHARGE OR SPILLS.
DENUNCIA CUALQUIER DESCARGA O DESBORDE ILEGAL.
Call the Stormwater Hotline: (509) 543-5777
or visit www.pasco-wa.gov/stormwater
Llame a nuestra línea directa para Agua de Lluvia:
(509) 543-5777 o visite www.pasco-wa.gov/stormwater
USE YOUR BRAIN
ONLY RAIN
DOWN THE DRAIN...
USE SU CEREBRO, SÓLO AGUA DE LLUVIA A LAS ALCANTARILLAS...

FIGHT F.O.G.™

Keep Fats, Oils & Grease Out of Your Drain!

Mantenga las grasas y aceites fuera de la boca del drenaje.



CITY OF PASCO

P.O. Box 293
Pasco, WA 99301
509-545-3463

What Can I Do?

Follow these simple steps to help prevent sewer backups:

Siga estos pasos para ayudar a evitar cañerías obstruidas y derrames de las alcantarillas:

1. **Pour cold fats, oils and grease into a covered, disposable container and throw it into your garbage. Never pour fats, oil, or grease down sink drains or toilet.**
   Coloque las grasas y los aceites frios en un recipiente desechable con tapa y tírelo a la basura. Nunca tire las grasas en los desagües de su casa.

2. **Soak up spilled oils and grease with an absorbent material such as paper towels or kitty litter and throw into your garbage.**
   Absorba las grasas y los aceites restantes con un material absorbente como servilletas de papel o arena sanitaria y tírelos en la basura.

3. **Before you wash dishes, scrape food scraps, fats, oils and grease into your garbage.**
   Antes de lavar los platos, tire los restos de alimentos, grasas y aceites en la basura.

4. **Use sink strainers to catch any remaining food waste while washing dishes.**
   Utilice coladores para fregaderos al lavar los platos para atrapar los restos de comida.

For more information, contact the City of Pasco F.O.G. Squad **509-545-3463 (Sewer Collections)** or **www.pasco-wa.gov**

CITY OF PASCO

PREVENTION, REDUCTION AND ELIMINATION OF FATS, OILS AND GREASE

Why is this Required?

Owners or operators of Municipal Separate Storm Sewer Systems (MS4s) in Eastern Washington are required by the State to be covered under the Eastern Washington Phase II Municipal Stormwater Permit.

The Phase II permit requires the owners/operators to up hold the requirements within the permit including compliance with the federal Clean Water Act, federal Safe Drinking Water Act and the state Water Pollution Control Act. This applies to your project.

Lot Development

A Lot Development is a connected area where separate construction activities may happen at different times, on different schedules, under one proposed plan or independent of a proposed plan.

Examples of Lot Development include:

- Individual home construction
- Home or landscaping improvements
- Commercial/industrial sites
- Phased projects

Some Lot Development may be governed by a Construction General Stormwater Permit established at the time of larger development initial construction.

Erosion and sediment control is required regardless of the size or shape of a project. Whether it is a single home, landscaping improvements, office building, or large subdivision, it is required to keep water, dirt, and other construction material on site.

Protect Water

When sediment is carried offsite by rain, vehicles, wind, and materials placed on the roadway, the sediment and pollutants within can harm lakes, streams, wetlands and groundwater or plug a storm system causing flooding.

The U.S. Environmental Protection Agency estimates that a one-acre construction site can lose as much as 20 to 150 tons of soil every year due to erosion and stormwater runoff.

What can you do to protect receiving waters from pollution?

See the **10 steps to Stormwater Pollution Prevention** inside of this pamphlet to learn ways to minimize sediment from leaving your construction site. By selecting and applying the appropriate steps, you can help keep our water clean!

Check local governing agency for specific erosion and sediment control requirements.

City of Richland
www.ci.richland.wa.us
Spill Response: (509) 942-7480

City of Pasco
www.pasco-wa.gov
Spill Response: (509) 543-5777

City of Kennewick
www.go2kennewick.com
Spill Response: (509) 585-4419

City of West Richland
www.westrichland.org
Spill Response: (509) 967-5434

Erosion and Sediment Control

for Commerical and Residential Construction

Each municipality has an adopted Illicit Discharge Program describing allowable and prohibited discharges to the city's storm drain system.

Contractors/Owners found discharging pollutants to the city's storm drain system are subject to enforcement procedures as described within each city's Municipal Code. Penalties can range from civil infraction (monetary fine) to a criminal citation.

City Municipal Code Illicit Discharge Codes:

City of West Richland: Chapter 13.82
City of Richland: Chapter 16.05
City of Kennewick: Chapter 14.29
City of Pasco: Chapter 13.80

Common BMPs

Chapter 7.3 of the Stormwater Management Manual for Eastern Washington provides standards and specifications for Construction Site Best Management Practices for runoff prevention.

Common BMPs are:

- BMP C105E: Stabilized Construction Access
- BMP C151E: Concrete Handling
- BMP C152E: Sawcutting and Surfacing Pollution Prevention
- BMP C154E: Concrete Washout Area
- BMP C220E: Inlet Protection
- BMP C233E: Silt Fence

RICHLAND | KENNEWICK | PASCO | WEST RICHLAND

10 Steps to Stormwater Pollution Prevention on Construction Sites

NOTE: This graphic does not address post-construction stormwater treatment permit requirements

Keep water, dirt, and other construction materials on the construction site & out of the storm system

1 Protect Any Areas Reserved for Vegetation or Infiltration and Preserve Existing Trees
If you will be installing infiltration-based features such as rain gardens or bioswales, make sure these areas are designated as off limits to avoid compaction.

Save time and money by preserving existing mature trees during construction. Preserving mature trees minimizes the amount of soil that needs to be stabilized once construction is complete, and minimizes the amount of runoff during and after construction activity.

2 Stockpile Your Soil
Operators shall try and preserve native topsoil on site unless infeasible and protect all soil storage piles from run-on and runoff. For smaller stockpiles, coving the entire pile with a tarp may be sufficient.

3 Protect Construction Materials from Run-On and Runoff
At the end of every workday and when rain is expected, provide cover for materials that could leach pollutants.

4 Designate Waste Disposal Areas
Clearly identify separate waste disposal areas on site for hazardous waste, construction waste, and domestic waste by designating with signage, and protect from run-on and runoff.

5 Install Perimeter Controls on Downhill Lot Line
Install perimeter controls such as sediment filter logs or silt fences around the downhill boundaries of your site. Make sure to remove accumulated sediment whenever it has reached halfway up the control. Some jurisdictions may require additional perimeter controls.

6 Install Inlet Controls
Sediment control logs, gravel barriers, and sand or rock bags are options for effective inlet controls. Make sure to remove accumulated sediment whenever the device becomes nonfunctional. Some jurisdictions may require additional perimeter controls.

7 Install a Concrete/Stucco Washout Basin
Designate a leak-proof basin lined with plastic for washing out used concrete and stucco containers. Never wash excess stucco or concrete residue down a storm drain or into a stream!

8 Maintain a Stabilized Exit Pad
Minimize sediment track out from vehicles exiting your site by maintaining an exit pad made of crushed rock spread over geotextile fabric, a shaker rack, or a wash rack at the construction site exit. If sediment track-out occurs, sweep and remove deposited sediment within 24 hours of discovery or earlier if rain is expected. Never wash track-out to a catch basin or water body.

9 Keep an Up-to-Date Copy of Your SWPPP on Site
Keep a copy of your complete and up-to-date SWPPP and/or Erosion and Sediment Control Plan showing where each BMP is or will be installed. If required, records of the site inspections completed by a trained inspector shall be on site and easily available.

10 Site Stabilization
Immediately stabilize exposed portions of the site with rock, mulch or hydro-seed whenever construction work will stop for 14 or more days, even if work is only temporarily stopped. Remember, final stabilization is required prior to terminating permit coverage.

Keep in mind that temporary or permanent stabilization must be completed within 7 days if your project is within 1 mile of a special or impaired water.

Graphic courtesy of US EPA.

City of Richland
www.ci.richland.wa.us
Spill Response: (509) 942-7480

City of Kennewick
www.go2kennewick.com
Spill Response: (509) 585-4419

City of Pasco
www.pasco-wa.gov
Spill Response: (509) 543-5777

City of West Richland
www.westrichland.org
Spill Response: (509) 967-5434

Attachment C
G19 Form of Participation for the BMP Inspection and Maintenance Responsibilities effectiveness study

Public Services

128 North Second Street • Fourth Floor Courthouse • Yakima, Washington 98901
(509) 574-2300 • 1-800-572-7354 • FAX (509) 574-2301 • www.co.yakima.wa.us

YAKIMA COUNTY LISA H. FREUND - Director

Andrea Jedel 1/28/2022
WA State Department of Ecology (Ecology) Central Region Office 1250 Alder St.
Union Gap, WA 98903
RE: Stormwater Management Program Effectiveness Studies-Eastem Washington Phase Il Municipal Stormwater Permit Section/Paragraphs: S 1.D.3.c & S8.B. I -10

To Whom it may concern,

Yakima County (Permit No. WAR04-6014) as the Lead Entity has completed the Effectiveness Study for BMP Inspection and Maintenance Responsibilities for Privately Owned Facilities as per the Ecology approved Quality Assurance Project Plan (QAPP). The preliminary Technical Evaluation Report (TER) has been reviewed by the Ecology and suggestions and corrections have been addressed. The final TER along with comments report log has been submitted to the Ecology. The City of Pasco (Permit No. WAR04-6503) has participated in the BMP Inspection and Maintenance Responsibilities for Privately Owned Facilities and is relying on Yakima County to meet the permit obligations in S8.B.1-10. Please Accept this letter as documentation of the permit obligations carried out by Yakima County and The City of Pasco's participation in the BMP Inspection and Maintenance Responsibilities for Privately Owned Facilities.

If you have any questions with regards to this submittal, please feel free to contact Jack Wells at 509.574.2350 or via email at jack.wells@co.yakima.wa.us.

Regards,

David Haws, P.E., cFM
Yakima County Public Services
Environmental Services Director
Desk: (509) 574-2277
david.haws@co.yakima.wa.us
Yakima County

Gl 9 Certification and Signature for Stormwater Management Program Effectiveness Studies, Eastern Washington Phase Il Municipal Stormwater Permit, Section/Paragraphs: S8.B.1-10

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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information submitted is, to the best ofmy 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 willful violations.

David Haws, Environmental Services Director — Date: 2/10/22

City of Pasco

G19 Certification and Signature for Stormwater Management Program Effectiveness Studies, Eastern Washington Phase Il Municipal Stormwater Permit, Section/Paragraphs: S8.B.1- I O

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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information submitted is, to the best ofmy knowledge and belief, frue, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of e and imprisonment for willful violations.

Mana Serra, CIP Manager — Date

Attachment D
Non-Vegetated Filtration Swale – Fact Sheet

OSBORN CONSULTING INCORPORATED

Non-Vegetated Filtration Swale - Fact Sheet

Stormwater Effectiveness Study

Project Purpose & Stormwater Management Problem

The filtration swale BMP is the same as a biofiltration swale except the filtration swale is lined with rock instead of grass. This study will evaluate the treatment performance to determine if the filtration swale can meet the same Basic Treatment Performance Goal (80% reduction of total suspended solids [TSS]) as biofiltration swales. If the treatment goal is achieved, results from the study will be used to justify that a rock-lined filtration swale is functionally equivalent to a biofiltration swale. Developing non-vegetated BMPs is highly desirable for locations with hot and dry summers, including some western Washington areas and most of eastern Washington. This is because biofiltration swales require irrigation to keep the vegetation alive between storm events. The cost to construct and operate an irrigation system adds to the overall life-cycle expense of stormwater BMPs and consumes water that could have a higher beneficial use.

Project Background Information

Biofiltration swales are designed to convey runoff for a minimum of nine minutes and pollutants are removed as runoff is filtered through grass and particulates settle on top of the swale. No literature was found regarding the pollutant effectiveness of rock-lined swales. However, there are similar applications that suggest a rock-lined swale could be effective for reducing TSS. The Federal Highway Administration uses a combination of rock sizes for streambank stabilization to prevent fines from migrating into the stream. The same principle has been successfully applied in many stormwater applications in which a choke stone layer (3- to 4-inch layer of pea gravel) replaces filter fabric. For example, choke stone can prevent the migration of finer treatment soil particles into the underlaying gravel for bioretention cells with underdrains.

A filtration swale designed with sufficient rock depth will allow runoff to flow through the rock without concerns regarding overtopping and flattening grass that can be an issue with grass-lined swales. Specifically, grassed swales maintenance practices (mowing) can affect the treatment performance: grass that's too tall tends to bend over and not slow the runoff; whereas grass cut too short is overtopped by runoff. Researchers have also proposed equations for designing and predicting the swale removal efficiency, which could be used to design a rock-lined swale and predict its TSS removal.

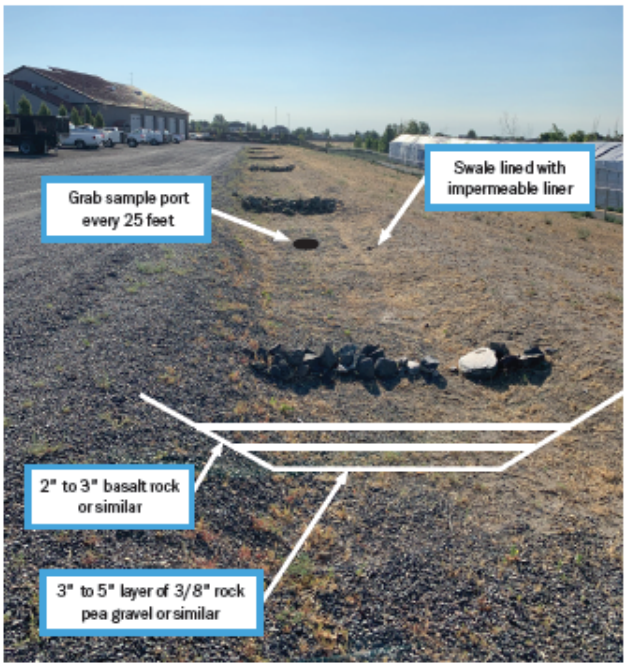
Scope of Work

The treatment performance will be evaluated by conducting controlled field experiments using synthetic stormwater to mimic stormwater runoff at a test site. The team will develop a QAPP that follows TAPE research protocol, to guide the design and implementation of the project. The test site will be constructed with an impermeable liner below the rock to isolate the performance of the rock lining for removing TSS from the underlying soils. The team will conduct a literature search to determine the best swale design procedures and up to four different gravel bed designs will be tested. One of the designs will be replicated without the liner to assess if the liner is needed. Grab sample collection ports will be installed at multiple locations along the swale. Influent samples will be compared to effluent samples to evaluate the treatment performance (as percent reduction). The data and analysis will be presented in a report that includes swale design guidance and maintenance recommendations.

Study Approach & Test Site Conceptual Layout

The test site is located at the City of West Richland Public Works office in the parking lot. An existing swale will be retrofitted as shown in the photo with an impermeable liner, gravel, and grab samplers. Given the infrequent nature of storm events in the Quad-Cities area, a synthetic stormwater solution will be used to simulate rainfall events with flow rates consistent with water quality events in Washington. The stormwater solution will be composed of tap water and a quantity of Sil-Co-Sil 106 sufficient to match the TAPE influent criteria for TSS.

The gravel base of the swales will be designed so that water will flow through the rock rather than over to maximize contact time between the rock and stormwater, which will mimic water flowing through a grassed swale. Water quality samples will be collected in grab samplers installed at the base of the swale at 25-feet intervals. Influent and effluent samples will be compared to determine the most efficient length needed to remove TSS to the target 80% level.



Project Budget & Timeline

Task Name	Task Fees	Project Timeline
Task 1: Grant Administration & Management	$27,695	Jan-22 to Apr-23
Task 2: Project Coordination	$39,044	Jan-22 to Apr-23
Task 3: Develop Study Design	$56,654	Jan-22 to Jun-22
Task 4: Construct Test Site	$46,331	Jul-22 to Oct-22
Task 5: Data Collection & Analysis	$79,303	Aug-22 to Nov-22
Task 6: Reporting	$43,718	Dec-22 to Apr-23
Total Project Budget	$292,745	

Project Team

Lead Entity: City of West Richland

Partners: City of Kennewick, City of Pasco, City of Richland, City of Walla Walla, Walla Walla County, and Osborn Consulting

Attachment E
G19 Form, TAC Member. Non-Vegetated Filtration Swale Effectiveness Study

City of Pasco
PUBLIC WORKS
PO Box 293 3rd Ave. Pasco, WA 99301 www.pasco-wa.gov

February 3, 2022

Mr. Drew Woodruff

City Engineer

City of West Richland

3100 Belmont Blvd., Suite 102

West Richland, WA 99353

Subject: Confirmation of Contributing Entity Role for City of West Richland Non-Vegetated Filtration Swale Effectiveness Study

Dear Drew:

This letter signifies that City of Pasco has reviewed and will perform the role of Technical Advisory Committee (TAC) Member, as described in Attachment A, for the City of West Richland Non-Vegetated Filtration Swale Effectiveness Study. City of Pasco is bound to this role for the entirety of the study. In the event of an internal staff change, The City of Pasco will contact you to provide the new contact information. If it is needed during the study, The City of Pasco may also fulfill the role of auditor or data verifier.

Sincerely,

Maria L. Serra, PE CIP Manager

City of Pasco

Attachment A – Summary of Roles and Responsibilities

Attachment B – G19 Certification

City of Pasco
PUBLIC WORKS
PO Box 293 3rd Ave. Pasco, WA 99301 www.pasco-wa.gov

Attachment A - Summary of Roles and Responsibilities

Role	Role Description
Technical Advisory Committee (TAC) Member	The goal of the TAC is to provide insight, suggestions, and professional opinions to the research team throughout the study. The primary responsibilities of TAC members include attending the as many of the four TAC meetings and participating in the meeting discussion as feasible and reviewing and providing comments on research materials (i.e., design guidance, QAPP, data analyzed, final report, etc.) prior to the lead entity submitting the documents to Ecology. Members of the TAC may also serve as an Auditor and/or a Data Verifier.
Auditor	Responsible for conducting audits to verify the study conforms to the plan and procedures of the QAPP. This may include: verifying staff collecting the data are trained and follow SOPs for data collection; verifying data management procedures are followed including reviewing data records to ensure they are consistent, correct and complete, with no errors or omissions; and reviewing the data records compared to the Data Management Plan in the study QAPP. Auditors will report their findings directly to the Lead Entity PM.
Data Verifier	Data verifiers will review the analyzed data and also potentially verify the analysis is correct and that the data being analyzed matches the data collected.

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PO Box 293 3rd Ave. Pasco, WA 99301 www.pasco-wa.gov

ATTACHMENT B – G19 CERTIFICATION

City of Pasco

G19 Certification and Signature for Stormwater Management Program Effectiveness Studies, Eastern Washington Phase II Municipal Stormwater Permit, Section /Paragraph: S8.A.2

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 gathered and evaluated 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 willful violations.

Maria L. Serra, PE CIP Manager 2/3/2021