

# City of Richland

## 2017 Stormwater Management Program Plan Update

Eastern Washington Phase II Municipal Stormwater Permit No. WAR04-6006



### Public Works Department

840 Northgate Drive

Richland, WA 99352



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## Introduction

The City of Richland's Stormwater Management Program is a living document, updated annually as needed to reflect the City's maturing programs to manage stormwater. This 2017 edition is built on the foundation of previous program documents and has been revised to reflect new activities and program requirements. The program is required by the Washington State Department of Ecology's National Pollutant Discharge Elimination System Phase II Permit for Eastern Washington (Permit). The Permit is comprised of six elements and the implementation and enforcement of the six elements is collectively referred to as a Permittees Stormwater Management Program (SWMP). The six elements are:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management for New Development and Redevelopment
6. Municipal Operations and Maintenance

In addition to these six minimum elements, Ecology requires three additional elements:

1. Compliance with Total Maximum Daily Load Requirements
2. Monitoring and Program Evaluation
3. Reporting and Recordkeeping

The SWMP is designed to reduce the discharge of pollutants from the City's Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable to satisfy the state requirement to apply "All Known, Available, and Reasonable Methods of Prevention, Control and Treatment" (AKART) prior to discharge. The Permit requires that specified activities from Permit elements be completed each year in order to achieve full compliance by the end of each Permit term.

Within this SWMP document, a description of the City's permit compliance activities can be found. This includes information about the activities that took place during the previous year along with schedules for activities in the upcoming year.

## Richland's Stormwater Utility

Richland's Stormwater Utility was created to manage and maintain stormwater related infrastructure. Chapter 16.04.020 of the Richland Municipal Code (RMC) outlines the general responsibilities of the utility; "the utility is authorized to own, construct, maintain, operate, and preserve all stormwater infrastructure as now exists and as may be added to in the future by the addition of other existing or construction of storm drainage systems." Title 16 of the RMC further

defines the authorities of the Stormwater Utility with additional chapters. These chapters outline the Stormwater Utility's authority for Illicit Discharge Detection and Elimination, Construction and Post-Construction Stormwater, Rates and Charges, and Administrative Enforcement Procedures.

## Public Education and Outreach

### Permit Requirements (S5.B.1)

- Implement a public education and outreach program for the general public, including school age children, that addresses:
  - The importance of improving water quality
  - Potential impacts from stormwater discharges
  - Methods for avoiding, minimizing, reducing and/or eliminating the adverse impacts.
- Provide information to businesses and the general public about: preventing illicit discharges, including what constitutes illicit discharges, the impacts of illicit discharges, and promoting the proper management and disposal of waste.
- Provide information to engineers, construction contractors, developers, development review staff, and land use planners about: technical standards, the development, of stormwater site plans and erosion control plans, low impact development and stormwater best practices for reducing adverse impacts from stormwater runoff from development sites.

In an effort to promote discussion and awareness about stormwater amongst the target audiences, the City of Richland continues to provide education and outreach activities throughout the year. Descriptions of the outreach activities that took place during 2016 and a schedule of the planned activities for 2017 are below.

### **Eagle Scout Catch Basin Marking Event**

In 2016 the City worked with local Eagle Scouts on a project to add curb markers to the catch basins in the Horn Rapids area of Richland. The City provided the curb markers and adhesive and coordinated with the group about which areas to apply markers to. In total, 200 curb markers were applied. These curb markers include a warning which says either, "no dumping - drains to river" or "no dumping - protect groundwater."

## HBA Home and Garden Show & Benton Franklin Fair

The City helps sponsor and staff booths at the Regional Home and Garden Show and at the Benton Franklin Fair. These booths are a joint effort between West Richland, Kennewick, Pasco, and the Franklin Conservation District. Booth visitors answer stormwater related questions to receive stormwater themed prizes. Educational brochures and handouts are also given.



**2016 Regional Home & Garden Show**  
TRAC, Pasco

Friday, Feb. 19; 10 am to 7 pm  
Saturday, Feb. 20; 10 am to 7 pm  
Sunday, Feb. 21; 10 am to 4 pm



## Water on Wheels and Wheat Weeks

The City of Richland entered into an agreement with Pasco, Kennewick, West Richland and the Franklin County Conservation district in 2010 to provide educational programs to local school children in the Tri-Cities area. These programs have continued each year since then. The Water on Wheels and Wheat Weeks programs are focused on educating the children about the environment. Topics include the water cycle, watersheds, and stormwater runoff including the impacts that it can have on the environment.

<b>2016 Water on Wheels Program Participation (Richland Schools)</b>			
<b>School</b>	<b># Students</b>	<b># Teachers</b>	<b># Of Lessons</b>
Badger Mountain Elementary	103	2	2
Sacajawea Elementary	261	14	13
White Bluffs Elementary	110	5	5
Christ the King School	135	9	6
Orchard Elementary	117	6	5
Marcus Whitman Elementary	363	16	16
<b>Totals</b>	<b>1089</b>	<b>52</b>	<b>47</b>

<b>2016 Wheat Week Program Participation (Richland Schools)</b>			
<b>School</b>	<b># Students</b>	<b># Teachers</b>	<b># Of Lessons</b>
Lewis & Clark Elementary	225	9	2
Sacajawea Elementary	80	3	1
White Bluffs Elementary	109	4	1
Wiley Elementary	105	4	1
Jason Lee Elementary	110	5	1
Badger Mountain Elementary	95	6	1
Jefferson Elementary	80	5	1
<b>Totals</b>	<b>804</b>	<b>36</b>	<b>8</b>

### **Salmon Summit**

In 2016 the City had a booth at the Salmon Summit event. This annual event is focused on student education and features multiple educational booths in Columbia Park. The kids rotate from booth to booth throughout the day, learning about a variety of topics. Approximately 250 students were able to attend the City's booth. The City's booth included a stormwater educational talk for the students. Afterwards the students completed a corn hole toss game and each was given a fish themed prize that included the City's illicit discharge hotline.



### **City Fair and National Night Out**

In 2016 the City of Richland held their annual City Fair event which provides outreach and exhibitions of the multiple departments that make up the City's operations. A booth promoting awareness of the Stormwater and Wastewater departments was held at this event. Below is a picture of this year's booth. The spin the wheel game was a big hit and we had a constant line of children during the entire fair. Each child spun the wheel, answered a stormwater or wastewater themed question and received a prize.



### **Developer, Contractor, and Engineer Outreach**

Information for developers, contractors, engineers and other consultants involved with land development is always available on the City website and in the Public Works Department office. An informational handout provided to the development community through the development department covers the construction and post-construction stormwater requirements. Along with explaining the requirements that must be met, this document provides examples and information about where to find further guidance.

### **Schedule of Public Education and Outreach Activities for 2017**

<b>Date</b>	<b>Activity</b>
Ongoing	Water on Wheels and Wheat Weeks Programs
February 24-26	HBA Regional Home and Garden Show
April 26	Salmon Summit
August	City Fair and National Night Out
August 22-26	Benton Franklin Fair & Rodeo
October	Stormwater Utility Billing Insert

## Public Involvement and Participation

### Permit Requirements (S5.B.2)

- 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.
- Implement a program or policy directive to create opportunities for the public to provide input during the decision making processes involving the development, implementation and update of the SWMP.
- Post the updated SWMP and annual report on the City's website by May 31.

The City of Richland is always open to comments from the public. The stormwater utility webpage on the City's website has contact information for both the Stormwater Manager and the Stormwater Maintenance Supervisor.

### Public Comment Period for SWMP Update

In an effort to garner comments on the SWMP Update, the SWMP was posted on the City's website with links on the front page requesting comments. A public notice was also put in the Tri-City Herald requesting comments. No comments were received during the comment period.

The screenshot shows the City of Richland Washington website. The top navigation bar includes links for Service Request, Emergency Contacts, Maps, Jobs, Bids/RFPs, eNotifications, and Contact Us, along with a search bar and social media icons. The main navigation bar features the Richland Washington logo and links for I Want to..., Government, Departments, Residents, Businesses, and What's New. The left sidebar contains links for eNotification, News List (highlighted), and Calendar. The main content area displays a 'NEWS LIST' with a 'What's New' link. The featured news item is titled '2016 Stormwater Management Program Plan Update' with a post date of 04/22/2016. The text states that in accordance with the Eastern Washington Phase II Municipal Stormwater Permit, the City of Richland has developed its Stormwater Management Program Plan Update for 2016, which is currently available for public review, input, and comments. The comment period ends on Friday, May 6, 2016. Comments can be submitted to [mmelton@ci.richland.wa.us](mailto:mmelton@ci.richland.wa.us) or mailed to the City of Richland Public Works Dept., Attn: Mark Melton, P.O. Box 190, MS 26, Richland, WA 99352. A 'Return to full list >>' link is provided at the bottom right.



## Utility Billing Insert

The October monthly utility bill included an educational stormwater insert which covered topics such as how stormwater drains and what can be done to prevent stormwater pollution.

# UNDERSTANDING STORMWATER

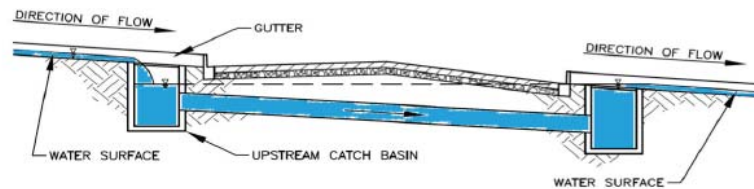
## Street Drainage System

Each year the City receives numerous calls about plugged storm drains, called catch basins. The majority of these concerns are at locations where bubbler-type storm drains exist.

The diagram below shows how a bubbler storm system works. This system collects runoff water in an upstream catch basin, then transfers this water through a pipe to a lower catch basin farther down the street. Water comes out of the lower catch basin and continues to flow down the gutter to another system. This system prevents excess water in street gutters from overflowing into street intersections. It is normal to observe these catch basins full of water, even when the streets are dry.



Normal catch basin



The drawing depicts how the catch basins typically look under the street. A bubbler system may look plugged or full on the low side of the street, when in fact, it is working correctly.

## Did You Know?

Stormwater runoff is the largest contributor to water pollution in the nation. Even in Richland's semi-arid climate, our streets collect sediment from construction sites, oil and grease from cars, fertilizers and pesticides from yards, toxic metals from cars, and bacteria from animal waste. Rainfall, snow melt, rinse water from car washing, and sprinkler overspray can carry the debris to our waterways.

## Environmental Tips

- Fix vehicle leaks
- Pick up after your pet
- Avoid lawn overspray or washing car on the street
- Avoid overspray of pesticides and fertilizers
- Report concerns to the Hot Line: 942-7480
- Keep an eye out for violators

## Community Awareness is the Best Method for Reducing Improper Disposal

If you see someone pouring paint, oil, antifreeze, etc. into the storm drain, immediately call the City's Stormwater Hotline at 942-7480, Monday through Friday from 7:00 a.m. to 3:30 p.m. After hours, weekends, or holidays, call 545-2763.

CITY OF RICHLAND STORMWATER | 555 LACY ROAD | O.RICHLAND,WA,US | 942-7480



## Program Elements for 2017

In 2017 the City will continue to provide opportunities for citizens to provide feedback on stormwater issues. In April a draft version of the SWMP Plan Update will be posted on the City website and a notification requesting public comments will be publicized. An open house may also be held to provide a chance for the public to ask questions and provide input to City staff about the SWMP Plan Update. After collecting and discussing the Public's comments and suggestions, City staff will make any necessary changes to the SWMP Plan and by May 31 will post the final version on the City website.

## Illicit Discharge Detection and Elimination

### Permit Requirements (S5.B.3)

- Continue to maintain and update a map of the MS4, showing the location of all known and new connections to the MS4 authorized or approved by the Permittee; all known outfalls; the names and locations of all waters of the state that receive discharges from those outfalls; and areas served by discharges to ground.
- Implement an ordinance or other regulatory mechanism that prohibits illicit discharges and authorizes enforcement actions, including on private property. The ordinance shall include escalating enforcement procedures and actions.
- Implement an ongoing program designed to detect and identify illicit discharges and illicit connections into the Permittee's MS4.
- Publicize a hotline for public reporting of spills and other illicit discharges.
- Implement an ongoing program designed to address illicit discharges, including spills, and illicit connections into the MS4.
- Provide training to staff who are responsible for the identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections to conduct these activities.
- Track and maintain records of the activities conducted to meet the IDDE requirements.

The City has an Illicit Discharge Detection and Elimination (IDDE) program in place to detect, investigate, and eliminate all illicit connections and discharges to the City's MS4. This program is implemented through the coordination of City staff in multiple departments. The general public also plays an important contributing role through their use of the illicit discharge hotline. The phone number for the Illicit Discharge Hotline is posted on the City's website along with contact information for the Stormwater Manager.

The City tracks the system components of the MS4 through a continuously updated GIS system. This system provides information such as pipe size, length, and location. It also provides information about outfall locations to the waters of the state. The GIS Technician works with the Maintenance Supervisor and Maintenance Staff to track information about all stormwater maintenance activities that are performed, including screening and cleaning.

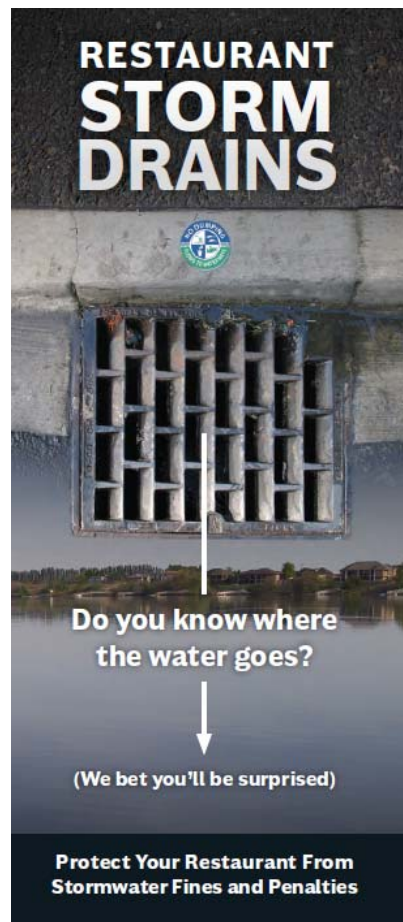
Ongoing outreach activities are completed each year to increase awareness about what constitutes an illicit discharge and the actions that can be taken to notify the stormwater utility of suspected illicit discharges. The outreach activities are covered in more detail in the Public

Education and Outreach section above. During these outreach activities, the prevention of illicit discharges and the promotion of the illicit discharge hotline is a topic of focus.

Through ongoing stormwater training, City staff has continuing conversations about the IDDE program and uses this time to discuss any changes that may need to be implemented to the program.

When necessary, the Public Works Department relies upon Title 16 of the Richland Municipal Code (RMC) to provide escalating enforcement actions including fines of up to \$100-\$5000/day. Title 16 of the RMC can be found at <http://www.codepublishing.com/WA/Richland/>. A summary of illicit discharge investigations completed during 2016 can be found in Appendix 3. In 2016 the City received complaints for 10 potential illicit discharges. A majority of the IDDE investigations and warnings were related to tracking of material onto the roadway.

In 2016 the City created a new stormwater brochure specifically for business outreach. The creation and handout of this brochure completed one of the program goals for 2016. In 2016 approximately 40 of these brochures were delivered to area businesses during the second half of the year. We anticipate that the number will be larger in 2017 since we will be handing these out all year in coordination with the City's pretreatment program.



## Program Elements for 2017

The City will continue to implement an IDDE program in 2017. As part of the continual program improvement process the City will continue to work on the full implementation of the MS4 screening procedure which was created in 2016.

## Construction Site Stormwater Runoff Control

### Permit Requirements (S5.B.4)

- 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.
- The Permittee shall implement an ongoing process for ensuring proper project review, inspection, and compliance by its own department and agencies. This process should incorporate consideration of potential water quality impacts.
- 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.
- Implement procedures for site inspection and enforcement of construction stormwater pollution control measures.
- Provide adequate training for all staff involved in permitting, planning, and review.
- Provide information to construction site operators about training available on how to install and effectively maintain effective erosion and sediment controls.

As part of the City's SWMP, an ongoing program is in place to ensure that construction site stormwater runoff is being controlled at both public and privately funded construction projects. The City has adopted regulations, located in the Richland Municipal Code (RMC), which require construction sites to comply with City of Richland Standard Design Guidelines and the Stormwater Management Manual for Eastern Washington. Furthermore all projects are required to have a Stormwater Pollution Prevention Plan (SWPPP) prepared prior to construction commencing. The portion of the RMC which applies to construction site stormwater runoff is found in Title 16, Chapter 16.06 and is published at this website, <http://www.codepublishing.com/WA/Richland/>.

Privately funded construction projects require a City of Richland issued construction permit. This permit is granted after members of the Public Works department review and approve the

construction plans, including the SWPPP. Information for consultants/contractors about construction and post construction stormwater requirements is provided in a handout posted online and available in the Public Works Department.

### **Program Elements for 2017**

In 2017 the existing program for construction site stormwater runoff control will continue without any significant changes.

## **Post-Construction Stormwater Management for New Development and Redevelopment**

### Permit Requirements (S5.B.5)

- Implement an ordinance or other regulatory mechanism that requires post-construction stormwater controls at new development and redevelopment projects.
- Implement procedures for site plan review which incorporate consideration of potential water quality impacts.
- Implement procedures for site inspection and enforcement of post-construction stormwater control measures.
- Provide adequate training for all staff involved in permitting, planning, review, inspection, and enforcement.
- Provide information to design professionals about training available on how to comply with the requirements of Appendix 1 and apply the BMPs described in the Stormwater Management Manual for Eastern Washington
- Keep records of projects, training, and information provided to design professionals.

The City's Municipal Code outlines the regulations for construction and post-construction stormwater management in Chapter 16.06. These regulations give the City the authority to:

- Require construction activities to comply with the City of Richland Design Guidelines and Construction Details and the Stormwater Management Manual for Eastern Washington.
- Require all projects to submit a Stormwater Pollution Prevention Plan.
- Require the property owner to be responsible for continual performance, operation, and maintenance of private stormwater facilities.
- Require an Operations and Maintenance plan for new, permanent stormwater facilities.
- Notifies that all permanent stormwater facilities, BMPs, O&M plans and records shall be subject to inspection by the City.

- Allows the Director, and his designee, the authority to conduct inspections, issues notices of violations, and implement other actions under this title.

City staff will continue to review site plans and stormwater pollution prevention plans (SWPPP) for all construction projects. An ongoing inspection program to determine which facilities need to be cleaned and/or repaired will continue. This inspection program will further be reinforced by the IDDE investigations and the post storm spot checks, which may provide an awareness of issues before the scheduled inspection takes place.

### **Program Elements for 2017**

The post-construction stormwater management section of the Permit has multiple, new requirements that must be met by December 31, 2017. These new requirements include implementing a policy that encourages proponents to maintain natural drainages to the maximum extent possible, allowing for the use of LID techniques, and requiring that a 10 year storm event is retained on site. These new requirements will apply to all applications submitted after December 31, 2017. A full review of these requirements, and any appropriate action needed to fulfill these requirements, will be completed in 2017.

## **Municipal Operations and Maintenance**

### Permit Requirements (S5.B.6)

- Implement a schedule of municipal Operation and Maintenance activities (an O&M Plan). The O&M Plan is to be updated by August 1, 2017.
- The O&M Plan shall include appropriate pollution prevention and good housekeeping procedures for all of the following types of facilities:
 

▪ Stormwater Collection System	▪ Industrial Activities
▪ Roads, Highways, and Parking	▪ Material, Equipment, and Maintenance Storage Areas
▪ Vehicle Fleets	▪ Flood Management Projects
▪ Municipal Buildings	▪ Other Facilities Expected to Discharge Contaminated Runoff
▪ Parks and Open Space	
▪ Construction Projects	
- The O&M Plan shall include a schedule of inspections and requirements for record keeping pursuant to S9 Reporting and Recordkeeping.
- Provide training for all employees who have primary construction, operations, or maintenance job functions that are likely to impact stormwater quality.

The City's Operations and Maintenance (O&M) Plan was written in 2010. The implementation of this plan requires the coordination of multiple City departments. This coordination is outlined in the Internal Coordination Procedures document (Appendix 1). In 2017 the City will review and

update the O&M Plan. By August 1, 2017 the updated Plan will need to be fully implemented to meet the permit requirements outlined in S5.B.5.d.

In 2017 the stormwater maintenance crew will continue their screening and cleaning activities to ensure a fully functional MS4 and to meet the O&M Plan requirements. These activities also help to meet the IDDE requirements (S5.B.3.c.iii) of field assessing at least 40% of the MS4 by December 31, 2018.

Training for all staff who have construction, operations, or maintenance job functions will also continue in 2017.

## **Compliance with Total Maximum Daily Load Requirements**

### Permit Requirements (S7)

- For applicable TMDLs listed in Appendix 2, affected Permittees shall comply with the specific requirements identified in Appendix 2.

Since the City does not outfall to any of the water bodies covered in Appendix 2 of the Permit, there are not any requirements to meet.

## **Monitoring and Assessment**

### Permit Requirements (S8)

- All Permittees shall provide, in each annual report, a description of any stormwater monitoring or stormwater-related studies conducted by the Permittee during the reporting period.
- Each city and county shall collaborate with other Permittees to select, propose, develop, and conduct Ecology-approved studies to assess, on a regional or sub-regional basis, effectiveness of permit-required stormwater management program activities and best management practices.

The City fully participates in the Eastern Washington Effectiveness Studies Group and will continue to do so.

## Reporting and Recordkeeping

### Permit Requirements (S9)

- No later than March 31 of each year beginning in 2016, each Permittee shall submit an annual report.
- Each Permittee is required to keep all records related to this permit for at least five years.
- Each Permittee shall make all records related to this permit and the Permittee's SWMP available to the public at reasonable times during business hours.

This SWMP Plan will be submitted along with the annual report questions. The annual report and this Plan will also be posted to the City's website by May 31. As always, the City will keep records to ensure full permit compliance.

## Stormwater Management Plan (Updated in 2016)

In 2015 the City hired a consultant to prepare an update to the City's long range Stormwater Management Plan (SWMP). This Plan's major focus areas are capital improvement planning, financial sustainability, and permit compliance planning. The review included both the structural components that make up the MS4 and the permit compliance programs implemented by the City. This document, has been reviewed and was adopted in 2016. The document provides a program management framework for the coming five to ten years. Reissuance of the Permit may introduce new regulatory requirements that will drive changes to the program after 2019.

The updated SWMP included recommendations for program enhancements and identified some areas that need improvement. In 2017 we will continue to work on the implementation of these recommendations.

## Stormwater Projects Completed in 2016

During 2016 the City completed five stormwater treatment projects. A brief description of each project is below. These projects were completed with the help of a Department of Ecology stormwater grant.

### **Richardson Rd. & 6<sup>th</sup> St.**

This project provides stormwater treatment to a drainage area of over 75 acres that did not have any existing treatment. Through coordination with the Port of Benton the City built an infiltration basin that was designed to infiltrate at least 90% of the annual runoff on vacant Port of Benton property.



**Sprout Road**

An infiltration trench was built at Sprout road to retain, infiltrate, and treat up to the 6-month, 24-hour SCS Type 1A storm event. The drainage basin that was addressed by this trench is a little under 5 acres with approximately 3.5 acres of impervious surface area. Previously there was not any form of stormwater treatment.

**Ferry Road**

This project provides treatment to a basin of approximately 17 acres that has a land use of low density residential. Since there was not any existing stormwater treatment in this area, the City installed an infiltration trench along Ferry Road to capture a majority of the stormwater before it reached an existing outfall that drains to the Columbia River.

**Park Street**

The drainage basin at the Park street location is approximately 24 acres in size and previously drained without any form of treatment. To address this, the City installed an infiltration trench along Park Street to capture and infiltrate a majority of the stormwater before it reached the existing outfall to the Columbia River.

**Swift Blvd. between Sanford Ave. and Stevens Dr.**

This project focused on building bio retention swales in the medians and open areas along Swift Boulevard. The goal of these swales is to retain and treat the runoff from the nearby roadway subbasins on Swift Boulevard.

## **Stormwater Effectiveness Studies**

As required by the Permit, the City submitted the ranked list of study ideas to Ecology before the June 30, 2016 deadline. Richland is the lead entity for the Permeable Pavement Sidewalk study. The ranked study list is included in Appendix 6.

## Appendix 1

# Stormwater Management Plan Inter-Departmental Coordination Procedures



## City of Richland Stormwater Management Plan Inter-Departmental Coordination Procedures

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The City of Richland has implemented a Stormwater Management Program (SWMP) to increase awareness of stormwater related issues, protect nearby rivers, and meet the permit requirements of the Eastern Washington Phase II Municipal Stormwater Permit (Permit). This Permit is administered by the Washington State Department of Ecology. In an effort to fully implement the SWMP throughout the City's multiple departments, this internal coordination document has been created to provide structure and definition to the roles that each department will fulfill. This document is intended to satisfy permit requirements as described in Section S5.A.5.b.

Full descriptions of the program components can be found in the SWMP Plan, but a basic outline is as follows:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management for New Development and Redevelopment
6. Municipal Operations and Maintenance

### Public Education and Outreach

Continually working to educate the general public, including businesses and students, about how the City's municipal separate storm sewer system (MS4) functions is an important component of the SWMP. Creating awareness that anything put into the City's MS4 could ultimately end up in the nearby Columbia and Yakima rivers is a foundational part of this outreach. Outreach activities include annual booths at local events, billing inserts, business outreach, news announcements, and website updates. In order to provide these activities, coordination is needed amongst the following positions.

Public Education and Outreach	
Public Works Department	Assistant City Manager Department
Public Works Director	Assistant City Manager
Stormwater Manager	Communications & Marketing Manager
Public Works Executive Assistant	Environmental Education Coordinator
Civil Engineer I	Communications and Marketing Specialist

### Public Involvement and Participation

Providing opportunities for the public to have input on the development of the SWMP is a requirement of the Permit. Each year the City will post a draft version of the SWMP Plan on its website and provide an opportunity for comments electronically. An open house event may also be held during this comment period to allow an opportunity for individuals to ask questions and provide feedback directly to City staff. The procedure for completing this process will require coordination with the Communications and Marketing Manager and the Public Works Executive Assistant to update the website and to inform the public of their opportunity to comment on the program. The Civil Engineer I will collect and analyze the comments and coordinate with the Stormwater Manager and the Public Works Director to determine how best to address the comments.

Public Involvement and Participation	
Public Works Department	Assistant City Manager Department
Public Works Director	Assistant City Manager
Stormwater Manager	Communications & Marketing Manager
Public Works Executive Assistant	Support Specialist
Civil Engineer I	

### Illicit Discharge Detection and Elimination

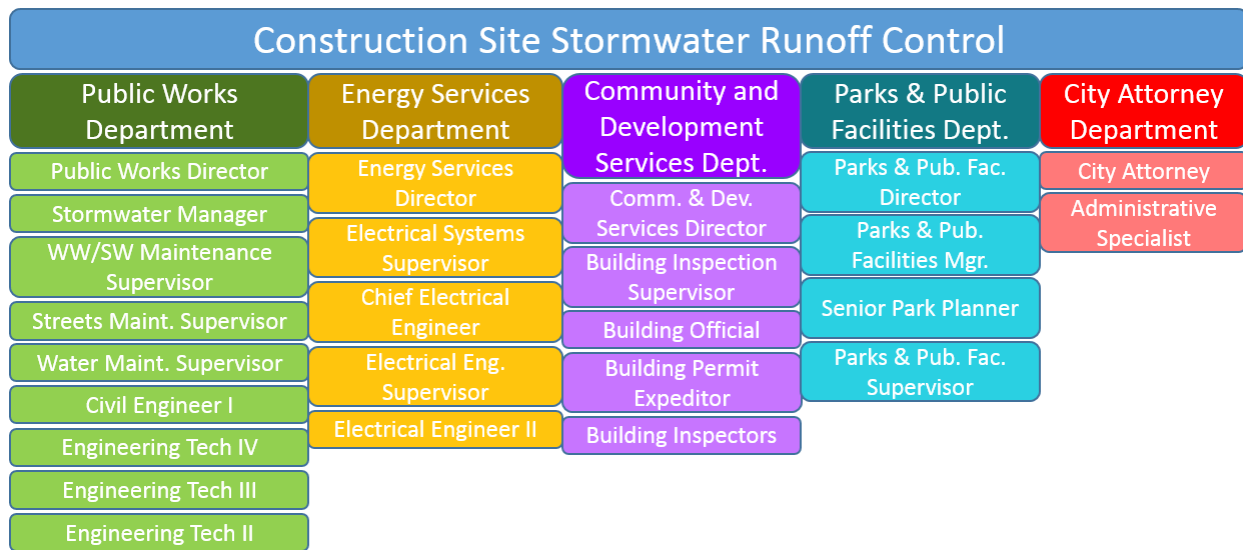
Detecting and eliminating illicit discharges is an important process needed to protect the MS4. The detection of illicit discharges is a shared responsibility of all city staff members who spend time in the field. The general public can also report illicit discharges through the illicit discharge hotline. All suspected illicit discharges reported by City employees and the general public are forwarded to the Public Works department. The investigation and resolution of these suspected illicit discharges is the responsibility of the Public Works department. In cases of continued non-compliance the City Attorney may need to participate when escalated enforcement is needed. The Public Works department is also responsible for ongoing programs to detect and identify illicit discharges, provide training to staff, and track and maintain records, including maps of the MS4.

### Construction Site Stormwater Runoff Control

The Permit requires that all permittees “implement and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities.” This requirement applies to both public and

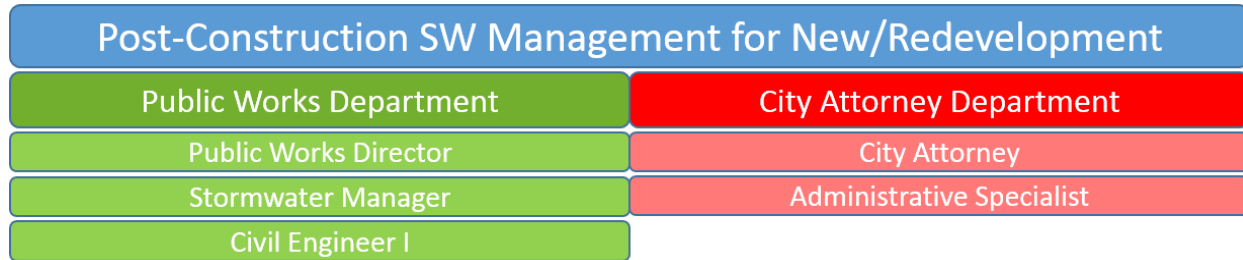
private projects. Regulatory authority for this program is found in the City’s Municipal Code, Chapter 16.06. This chapter requires that all construction activities, except for small scale maintenance work, comply with the standards found in the City of Richland Standard Design Guidelines and Construction Details and the Stormwater Management Manual for Eastern Washington. Furthermore, all projects are required to submit a Stormwater Pollution Prevention Plan (SWPPP). Before issuing a construction permit, City staff complete a full plan review to ensure that the developer/contractor has a plan in place to meet all stormwater management requirements. After the construction permit has been issued and construction begins, members of City staff provide recurring project inspections. These staff members are Certified Erosion and Sediment Control Lead (CESCL) certified. When staff encounter extreme cases of continued non-compliance, the City Attorney may need to get involved to provide elevated enforcement.

To ensure that City staff are fully prepared for their duties, the City provides ongoing stormwater training to all team members who are, or have the potential to be, involved in construction projects with stormwater runoff. Furthermore, members of City staff who work in plan review and/or complete site inspections maintain their CESCL certification. The Construction Stormwater General Permit requires that site inspections for projects one acre or larger be completed by a staff member who is CESCL certified.



### Post-Construction Stormwater Management for New Development and Redevelopment

Post-construction stormwater management is achieved through internal coordination within the Public Works department. Continued inspection of stormwater facilities in the post-construction phase is the responsibility of Public Works staff. The maintenance of publicly owned stormwater facilities is also the responsibility of the Public Works department. However, the maintenance of privately owned stormwater facilities is the responsibility of the land owner per chapter 16.06.050 of the Richland Municipal Code. In the event that the owner of a private facility refuses to address deficiencies, then coordination with the City Attorney may be needed.

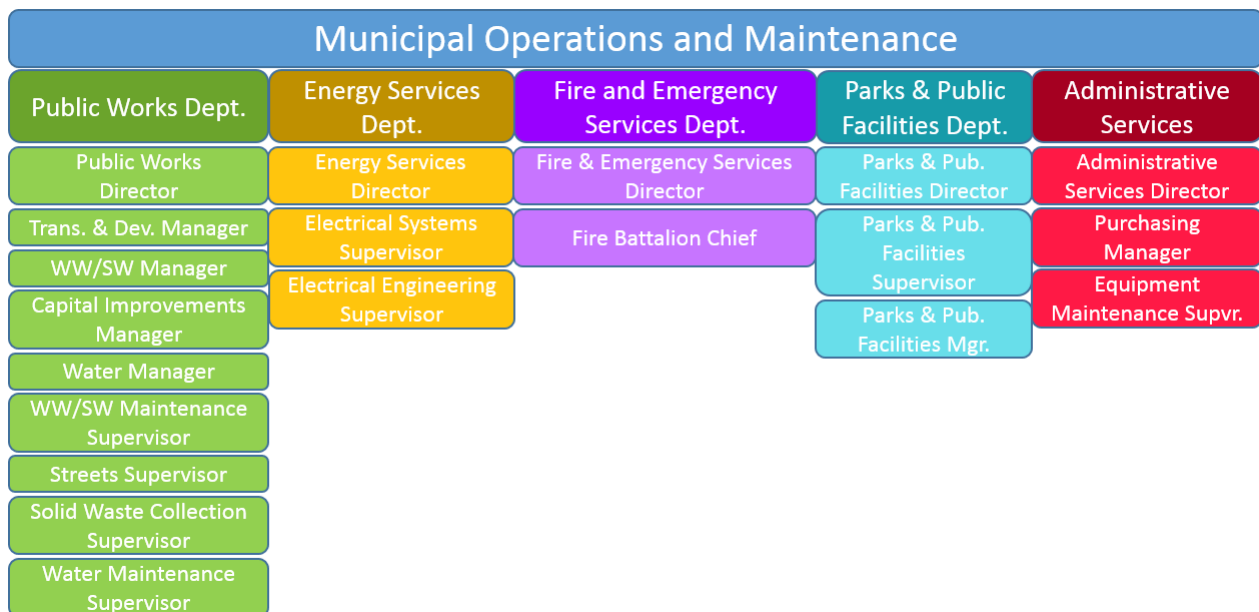


### Municipal Operations and Maintenance

Maintenance operations include ongoing training for City staff, MS4 maintenance, and the implementation of the Operations and Maintenance (O&M) Plan. This plan includes pollution prevention and good housekeeping procedures that must be implemented for:

1. Stormwater collection and conveyance system
2. Roads, highways, and parking lots
3. Vehicle fleets
4. Municipal buildings
5. Parks and open space
6. Construction projects
7. Industrial activities
8. Material storage areas, heavy equipment storage areas and maintenance areas
9. Flood management projects
10. Other facilities that would reasonably be expected to discharge contaminated runoff

Implementation of the O&M plan requires participation by multiple City departments. Provided below is an outline of the departments and managerial positions that need to participate to fully implement the O&M plan.



Also required is an ongoing maintenance program that focuses on screening and cleaning the MS4. This requires the Maintenance Supervisor to set a schedule for the maintenance team to ensure that the inspection and cleaning requirements of the Permit are met.

## **Summary**

In summary, this document has been created to provide a general outline of the positions and departments that must collaborate in order to fully implement the SWMP. As necessary, other City staff members, not listed in this document, may need to participate to increase the program's effectiveness and implementation.

## Appendix 2

### Utility Billing Stormwater Insert



# UNDERSTANDING STORMWATER

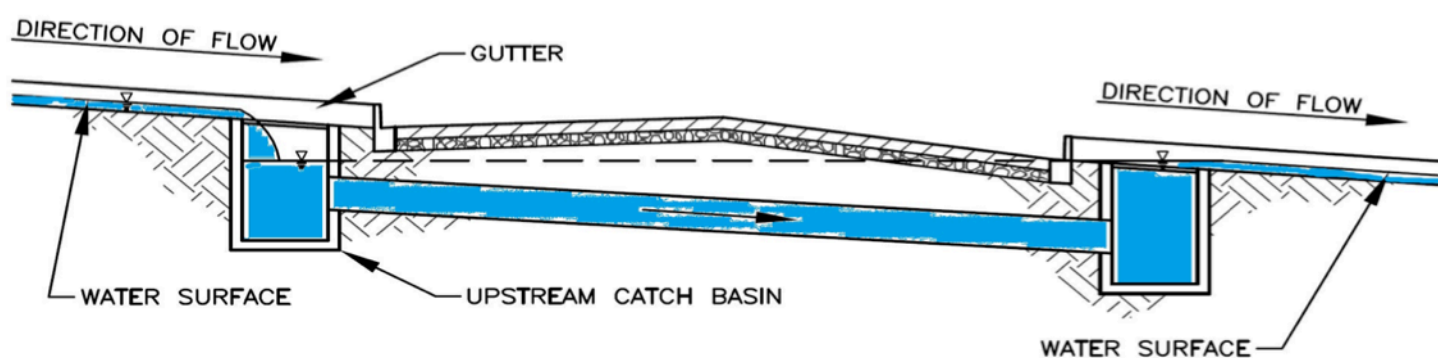
## Street Drainage System

Each year the City receives numerous calls about plugged storm drains, called catch basins. The majority of these concerns are at locations where bubbler-type storm drains exist.

The diagram below shows how a bubbler storm system works. This system collects runoff water in an upstream catch basin, then transfers this water through a pipe to a lower catch basin farther down the street. Water comes out of the lower catch basin and continues to flow down the gutter to another system. This system prevents excess water in street gutters from overflowing into street intersections. It is normal to observe these catch basins full of water, even when the streets are dry.



Normal catch basin



The drawing depicts how the catch basins typically look under the street. A bubbler system may look plugged or full on the low side of the street, when in fact, it is working correctly.

## Did You Know?

Stormwater runoff is the largest contributor to water pollution in the nation. Even in Richland's semi-arid climate, our streets collect sediment from construction sites, oil and grease from cars, fertilizers and pesticides from yards, toxic metals from cars, and bacteria from animal waste. Rainfall, snow melt, rinse water from car washing, and sprinkler overspray can carry the debris to our waterways.

## Environmental Tips

- Fix vehicle leaks
- Pick up after your pet
- Avoid lawn overspray or washing car on the street
- Avoid overspray of pesticides and fertilizers
- Report concerns to the Hot Line: 942-7480
- Keep an eye out for violators

## Community Awareness is the Best Method for Reducing Improper Disposal

If you see someone pouring paint, oil, antifreeze, etc. into the storm drain, immediately call the City's Stormwater Hotline at 942-7480, Monday through Friday from 7:00 a.m. to 3:30 p.m. After hours, weekends, or holidays, call 545-2763.

## Appendix 3

### 2016 Illicit Discharge Investigations

2016 IDDE Enforcement Tracking - City of Richland			
DATE	LOCATION	DESCRIPTION	ACTION
1/20/2016	xxxx Caliche	Tracking of mud, dirt, and rocks into public Right of Way.	Issued Notice of Violation of RMC 16.05
1/28/2016	xxx Northgate	Tracking of mud, dirt, and rocks into public Right of Way.	Issued Record of Verbal Warning and Required Cleanup
2/4/2016	xxx Northgate	Tracking of mud, dirt, and rocks into public Right of Way.	Issued Record of Verbal Warning and Required Cleanup
2/19/2016	xxxx Sunshine Ridge	Tracking of mud, dirt, and rocks into public Right of Way.	Issued Notice of Violation of RMC 16.05
4/1/2016	xxxx Nova	Tracking of mud, dirt, and rocks into public Right of Way.	Issued Notice of Violation of RMC 16.05
4/4/2016	xxxx Kensington	Tracking of mud, dirt, and rocks into public Right of Way.	Issued Record of Verbal Warning and Required Cleanup
4/4/2016	xxxx Pisa	Tracking of mud, dirt, and rocks into public Right of Way.	Issued Record of Verbal Warning and Required Cleanup
4/18/2016	xxxx Fowler	Concrete contaminated water in parking lot and draining towards catch basin. No concrete slurry found in catch basin.	Issued Record of Verbal Warning and Required Cleanup
7/6/2016	xxxx George Washington Way	Soap from car wash running off of property	Issued Record of Verbal Warning and Required Cleanup. Also required sump and trench cleanout.
8/24/2016	xxxx & xxxx Cowlitz	Tracking of mud, dirt, and rocks into public Right of Way.	Issued Notice of Violation of RMC 16.05
9/8/2016	xxxx & xxxx Cowlitz	Tracking of mud, dirt, and rocks into public Right of Way.	Issued fines for both locations.

## Appendix 4

### Port of Benton Interlocal Agreement

## INTERLOCAL AGREEMENT

This AGREEMENT, made and entered into this 4<sup>th</sup> 26<sup>th</sup> day of April February 2007, between the City of Richland, a Washington Municipal Corporation (hereafter called the "City"), and the Port of Benton, a Washington Municipal Corporation (hereinafter called the "Port"), collectively hereinafter referred to as the "PARTIES".

WHEREAS, the City created a stormwater utility in March 1998 to fund operations, maintenance, capital improvements and administration of its stormwater conveyance and treatment facilities. Operations and maintenance activities include street sweeping, inlet structure and pipeline cleaning, erosion control, etc.; and

WHEREAS, the City established stormwater rates for residential properties in 1998 and commercial properties in 2001; and

WHEREAS, the Port, as owner of commercial properties within the City limits, has been a customer of the City's stormwater utility since 2001; and

WHEREAS, the Port owns and maintains public streets and stormwater conveyance facilities within the City limits; and

WHEREAS, the United States Environmental Protection Agency (EPA) issued Phase II Stormwater regulations under the authority of the Clean Water Act and published in the Federal Register in December 1999; and

WHEREAS, the EPA's regulations name the City of Richland's municipal separate storm sewer system as subject to the Phase II regulations; and

WHEREAS, the Washington State Department of Ecology administers the Phase II regulations in Washington State and has prepared an Eastern Washington Phase II General Stormwater National Pollution Discharge Elimination System (NPDES) Permit that will enforce the Federal Phase II requirements and state water quality regulations on the City's municipal separate storm sewer system; and

WHEREAS, the Washington State Department of Ecology's Phase II NPDES General Permit requires compliance by the Port as a secondary Permittee; and

WHEREAS, the Port desires to contract for stormwater services required to comply with the EPA and Ecology regulations; and

WHEREAS, the City has used funding supplied by its stormwater utility to prepare for compliance with the EPA and Ecology regulations; and

WHEREAS, the City can cost-effectively oversee regulatory compliance for the Port-owned stormwater facilities; and

WHEREAS, RCW 39.34 authorizes interlocal agreements between Washington municipalities

**City of Richland - Port of Benton Stormwater Agreement**

**NOW THEREFORE, in consideration for the mutual covenants, conditions, and terms contained herein, the said PARTIES hereby enter into this agreement as follows:**

- 1. The City will provide, under funding from its stormwater utility, street sweeping services on Port-owned public streets to the same standards and frequency as to City-owned public streets. The Port grants the City a right of entry to Port-owned public streets to allow completion of this service.**
- 2. The City will provide, under funding from its stormwater utility, stormwater conveyance system cleaning and maintenance to the same standards and frequency as to City-owned conveyance system facilities. The Port grants the City a right of entry to its stormwater conveyance facilities to allow completion of this service.**
- 3. The City will repair damage to Port-owned streets and stormwater conveyance facilities caused by its implementation of No.'s 1 and 2 above.**
- 4. The Port will provide the City with current data on its leased properties and assist the City in developing billing practices for collecting stormwater utility revenues from Port-owned facilities.**
- 5. The City will correct stormwater utility billings for Port-owned facilities by March 1, 2007 in accordance with parcel data provided by the Port and reviewed by the City.**
- 6. The City will exempt Port-owned public streets and airport facilities utilized primarily by aircraft from the City's stormwater rates.**
- 7. The Port will fund City stormwater activities through payment of the City's stormwater utility rates as adopted by City Council. In establishing stormwater utility rates the City shall treat Port facilities the same as other properties of similar land use within the City. The Port will make payment no later than March 30, 2007 so that all City stormwater utility accounts for Port-owned properties shall be current and without delinquent charges. The City will waive any pending late payment charges on stormwater accounts for Port-owned facilities.**
- 8. Within 180 days of the date of this agreement the Port will provide the City with its most current stormwater facility mapping data for inclusion into the City's stormwater facilities geographical information system (GIS) maps. After the City inputs the Port facilities into its GIS maps the Port will review the maps for accuracy and direct the City to any required corrections.**
- 9. Within 180 days of execution of this agreement the City shall inspect Port-owned stormwater conveyance facilities. The City shall notify the Port of all detected defects. The Port shall be responsible for correction of all identified defects. Once Port repairs are accepted by the City, the City will perform ongoing maintenance and repairs of Port-owned conveyance facilities.**

**Since the scope and cost of the defects are unknown at the date of this agreement the City and Port agree that they will evaluate the list of defects after they are identified by the City. The City and Port may elect to negotiate a schedule for completion of repairs or to terminate this agreement if:**

- a. The Port determines that the investment required to repair its system defects is too high to justify the benefits provided by the City's stormwater services.**
  - b. The City determines that the cost of ongoing maintenance of Port facilities is too high to justify extending stormwater services to the Port.**
- 10. The Port shall indemnify and hold the City harmless from and against all claims, damages, losses and expenses including attorney fees and court costs, for injury to persons or damage to property which results from or is caused by the negligent or willful act or omission of the Port, its agents or employees.**

**City of Richland - Port of Benton Stormwater Agreement**

**The City shall indemnify and hold the Port, its employees and agents harmless from and against all claims, damages, losses and expenses including attorney fees and court costs, for injury to persons or damage to property which results from or is caused by the negligent or willful act or omission of the City, its subcontractors, agents or employees.**

**In the event it is determined that the injury to persons or damage to property is caused in part by the negligent act or omission of both the Port and City, then each party shall be liable only to the extent of its percentage of fault. Each party shall contribute to the payment of damages, attorney fees and costs in the same percentage as its percentage of fault in causing the injuries or damages.**

- 11. The City will, through funding from its stormwater utility, apply its NPDES Phase II General Stormwater Permit compliance programs to Port-owned stormwater conveyance system facilities. The City agrees to create and administer programs to achieve compliance with Section S6 of the NPDES Phase II permit for Port-owned facilities. The City will prepare program documents and reports as required by the NPDES Phase II permit for Port owned facilities. The Port will cooperate by supplying the City information about its operations and facilities necessary for preparation of compliance documents.**
- 12. The Port will supply the City with all data necessary to achieve compliance with the Washington State Department of Ecology Underground Injection Control Rule for Port-owned stormwater drywells and stormwater injection facilities.**
- 13. The City will include Port-owned stormwater conveyance facilities in any updates to its City-wide Stormwater Management Plan. The City's first Stormwater Management Plan was completed in 2005. There is no scheduled update as of the date of this agreement. The City shall submit any updates to its Stormwater Management Plan for Port review and approval. Port approval of a City Stormwater Management Plan shall not be unreasonably withheld.**
- 14. The City will fund and complete capital improvements to Port-owned stormwater conveyance facilities required by EPA and Ecology regulations or included in a Council adopted Stormwater Management Plan. The City shall submit proposed capital improvements to Port-owned facilities to the Port for review and approval. Port approval of a capital improvement to Port-owned facilities shall not be unreasonably withheld.**
- 15. The Port shall grant the City, without cost to the City, easements and rights-of-way required to implement stormwater construction and maintenance activities.**
- 16. The Port may terminate this agreement by giving the City ninety (90) days written notice of termination. Upon termination, the City shall be relieved of the obligation to provide the services specified in this agreement and the Port shall be responsible for compliance with all stormwater regulations affecting the Port property and facilities.**

**This agreement shall not be deemed or construed to be an agreement by the Port as to the validity or enforceability of the Stormwater ordinances adopted by the City or as a waiver of any rights of the Port or its tenants or lessees to contest or challenge the City's Stormwater ordinances.**

**IN WITNESS WHEREOF, the PARTIES hereto have executed this AGREEMENT as of the day and year above written.**

**CITY OF RICHLAND**

By:

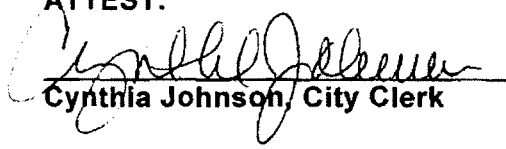
  
\_\_\_\_\_  
**John C. Darrington,  
City Manager**

**PORT OF BENTON**

By:

  
\_\_\_\_\_  
**Scott D. Keller,  
Executive Director**

**ATTEST:**

  
\_\_\_\_\_  
**Cynthia Johnson, City Clerk**

**APPROVED AS TO FORM:**

  
\_\_\_\_\_  
**Thomas O. Lampson, City Attorney**



## Appendix 5

### 2016 Annexation Documents

**WHEN RECORDED RETURN TO:**

Richland City Clerk  
P.O. Box 190 MS-05  
Richland, WA 99352

PID# 1-20982011585003

**ORDINANCE NO. 68-16**

**AN ORDINANCE of the City of Richland, Benton County Washington, annexing approximately 2.3 acres of land located north of Cowlitz Boulevard and east of Dallas Road, providing for assumption of existing City indebtedness, and amending the Official Zoning Map.**

**WHEREAS, the City received a notice of intent from Ramamohan Anatatmula, the sole owner of the real property legally described in Exhibit A attached hereto, to commence annexation proceedings for annexation into the City of Richland; and**

**WHEREAS, a meeting was held on May 17, 2016 between the initiating parties of this annexation and the City Council of the City of Richland, at which time the Council adopted Resolution No. 112-16, accepting the notice of intention to commence annexation proceedings for the real property legally described in Exhibit A attached hereto, subject to simultaneous adoption of the Comprehensive Plan for the proposed annexation area, and the assumption of the appropriate share of all existing City indebtedness; and**

**WHEREAS, Resolution No. 112-16 further authorized and directed the Richland Planning Commission to propose and forward a recommendation to the City Council as to the most appropriate zoning designation for the area proposed to be annexed; and**

WHEREAS, the Richland Planning Commission held a public hearing on May 25, 2016 to consider an appropriate zoning designation for the proposed annexation area, and recommended adoption of Single Family Residential R-1-10 zoning for the property; and

WHEREAS, a notice of intention to annex was duly filed with the Benton County Boundary Review Board. Jurisdiction of the Boundary Review Board was not invoked within 45 days of filing, and thus, the proposed annexation was deemed approved by the Boundary Review Board on July 25, 2016; and

WHEREAS, on September 6, 2016, Richland City Council adopted Resolution No. 173-16, authorizing the circulation of an annexation petition for annexation of the real property legally described in Exhibit A attached hereto; and

WHEREAS, a petition was circulated and signed by the sole owner of the proposed annexation area, thereby exceeding the state requirement that owners representing at least sixty percent (60%) of the value of the proposed annexation area petition the City for annexation, with such value determined according to the assessed valuation for general taxation; and

WHEREAS, the Richland City Council held a public hearing to consider the annexation on November 15, 2016, which hearing was duly noticed by the City Clerk through publication in a newspaper of general circulation and through the mailing of notice to all property owners within the annexation area, specifying the time and place of the hearing and inviting interested persons to appear and voice approval or disapproval of the annexation; and

WHEREAS, the matter was duly considered by the City Council of the City of Richland, and the Council has determined that the annexation would be of general benefit to the residents of the City of Richland.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Richland as follows:

Section 1. The real property legally described in Exhibit A attached hereto is hereby annexed to the City of Richland and is hereby declared to be within the corporate limits of the City of Richland, Benton County, Washington (the "Annexed Area").

Section 2. The Richland Comprehensive Plan, adopted October 6, 1997 by passage of Ordinance No. 26-97, shall serve as the comprehensive plan for the Annexed Area. All properties within the annexation shall be designated as "low density residential" under the land use map that is part of the comprehensive plan.

Section 3. The property within the Annexed Area shall be assessed and taxed at the same rate and on the same basis as other property within the City, including assessments or taxes in payment for all or of any portion of the outstanding indebtedness of the City, approved by the voters, contracted, or incurred prior to, or existing at the date of annexation.

Section 4. Title 23 of the City of Richland Municipal Code (RMC) and the Official Zoning Map of the City as adopted by Section 23.08.040 of said title, hereby amends Sectional Map Nos. 59 which is one of a series of maps constituting said Official Zoning Map, bearing the number and date of passage of this ordinance and by this reference made a part of this ordinance and of the Official Zoning Map of the City.

Section 5. It is hereby found, as an exercise of the City's police power, that the best zoning for the properties included in the Annexed Area shall be R1-10 Single Family Residential, as depicted on Exhibit B, when consideration is given to the interest of the general public.

Section 6. The City Clerk is directed to file a copy of this annexation with the Board of Commissioners of Benton County and the State of Washington in the manner required by law. The City Clerk is also directed to file with the Auditor of Benton County, Washington, a copy of this ordinance and shall attach the amended sectional map, as necessary, and an amended Annexation map, duly certified by the Clerk as a true copy.

Section 7. As authorized and required by RCW 35.13.280, the City shall negotiate a new franchise with the solid waste collection service provider currently serving the Annexed Area on terms that are acceptable to the City and that comply with the City's Solid Waste Management Plan.

Section 8. This ordinance shall be effective immediately following the day after its publication in the official newspaper of the City.

PASSED by the City Council of the City of Richland on this 6<sup>th</sup> day of December, 2016.

  
\_\_\_\_\_  
ROBERT J. THOMPSON  
Mayor

ATTEST:

  
\_\_\_\_\_  
MARCIA HOPKINS  
City Clerk

APPROVED AS TO FORM:

  
\_\_\_\_\_  
HEATHER KINTZLEY  
City Attorney

Date Published: December 11, 2016

## **EXHIBIT A**

### **Legal Description for Cowlitz/Dallas Road Annexation**

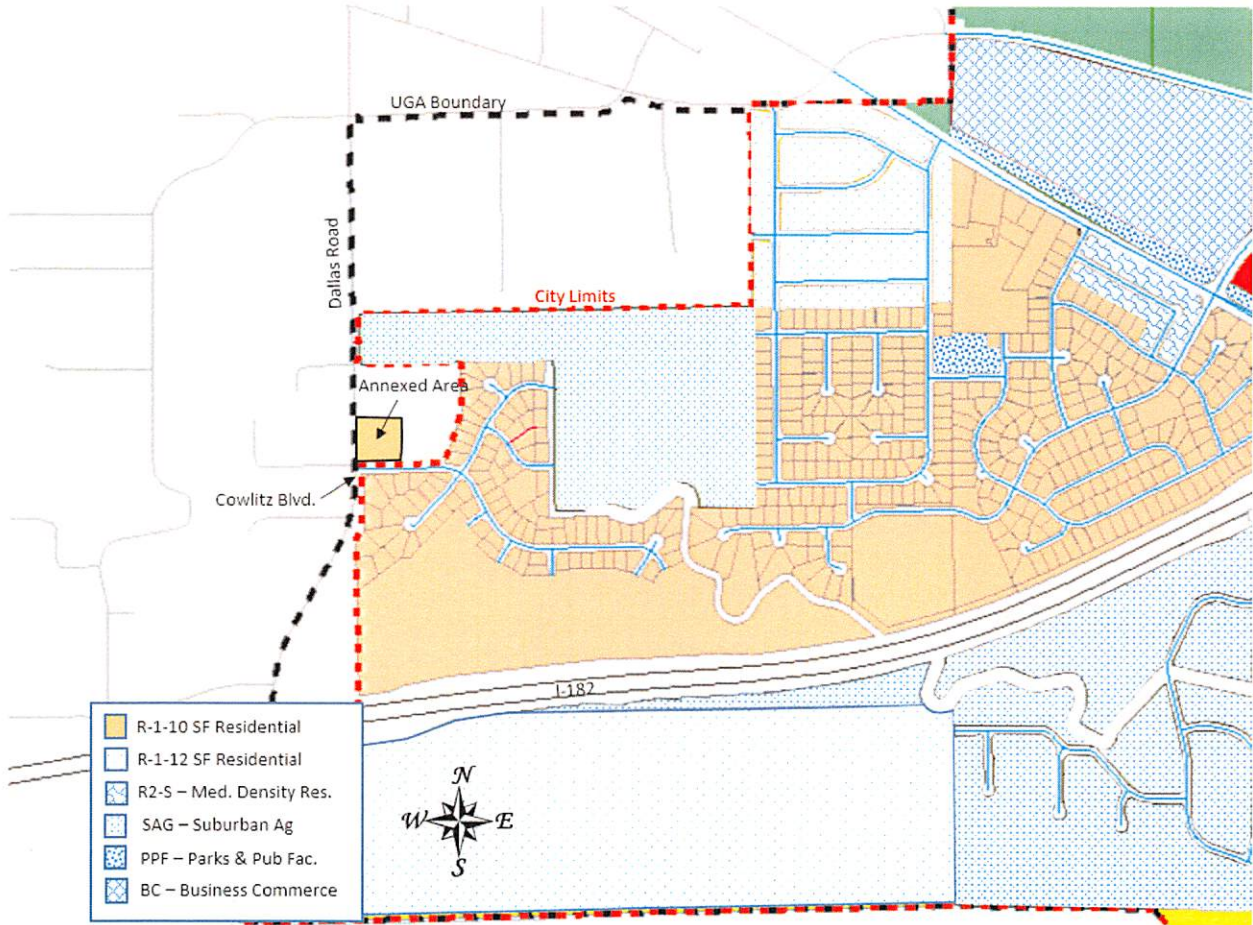
LOT 3 OF SHORT PLAT NO. 1585 IN SECTION 20, TOWNSHIP 9 NORTH, RANGE 28, E.W.M.

*Contains 2.3 acres more or less.*

*This description includes the following **County Parcel Identification Number:***

1-20982011585003

# EXHIBIT B



## ZONING FOR COWLITZ/DALLAS ROAD ANNEXATION

## Appendix 6

### Ranked Effectiveness Study List



June 23, 2016

Mr. Mark Peterschmidt  
Washington State Department of Ecology  
Water Quality Program, Central Regional Office  
1250 W. Alder St.  
Union Gap, WA 98903

Dear Mark:

Subject: Monitoring and Assessment, Permit Compliance Letter  
Eastern Washington Phase II Municipal Stormwater Permit, Section/Paragraph S8.B.2, S8.B.3  
Submittal of Ranked Study Idea List

Enclosed is a final list of study ideas that have been ranked by Eastern Washington jurisdictions. This list has been completed to meet the conditions of the Eastern Washington Phase II Municipal Stormwater Permit, specifically paragraphs S8.B.2 and S8.B.3. These conditions are the next parts of the Stormwater Management Program Effectiveness Studies program and required our jurisdiction to review, discuss and collaborate on potential study ideas with other Eastern Washington permittees.

The list includes a scoring breakdown showing the ranking of each study by jurisdiction, by region and by all participating Eastern Washington permit holders. All study ideas on this list are deemed important to the cities and counties that participated in this collaboration, and all have a jurisdiction that is willing to lead that study effort. All studies have interested participating permittees, as well.

A group representing stormwater staff from the municipal permittees is currently continuing to work on the next requirements of the S8.B program. This includes moving forward on producing detailed study design proposals for eight to twelve of the top-ranked ideas that are forwarded to Ecology today under this letter. These proposals are to be completed by June 30, 2017.

If you have any questions with regards to this submittal, please feel free to contact me at (509) 942-7481 or via email at: [jbykonen@ci.richland.wa.us](mailto:jbykonen@ci.richland.wa.us).

Sincerely,

A handwritten signature in blue ink that reads 'John Bykonen'. The signature is fluid and cursive, with the first and last names clearly legible.

John Bykonen  
Wastewater/Stormwater Manager

enc. (1)

cc: Pete Rogalsky, PE, Director of Public Works



**Final Ranked List of Study Ideas for Eastern Washington**

EWGS Rank	Study Idea #	Study Idea Title	City of Richland	City of Kennewick	City of Pasco	West Richland	Yakima County***	Selah***	Union Gap***	Sunnyside***	City of Yakima	City of Wenatchee*	Douglas County**	Chelan County*	City of East	City of Spokane	Spokane County	City of Spokane Valley	Asotin****	Asotin County****	Clarkston****	Elliensburg	Walla Walla County	City of Walla Walla	City of Pullman	City of Moses Lake	Quad-Cities	Yakima Regional	Wenatchee Regional	Spokane Regional	Asotin Regional	ESWG Score	Brief Summary of Data Collection Required	Lead Entity (LE)	Participating Permittees	
1	1	Modernizing Education and Outreach Strategies	2	3	2	2	3	3	3	3	3	3	3	2	3	2	3	2	3	3	3	2	2	2	2	3	1	2.3	3.0	3.0	2.3	3.0	2.58	Data will be collected through surveys (multiple choice and yes/no questions) disseminated through multiple methods including mailers, websites, and social media.	City of Kennewick	Asotin, Clarkston, Kennewick, Pasco, Pullman, Selah, Spokane Valley, Sunnyside, Union Gap, Wenatchee, Yakima
2	20	Use of Non-vegetative Swale with Native Soils	3	3	3	3	3	3	3	3	3	3	3	2	3	2	3	3	3	3	3	1	2	3	3	3	3.0	2.8	1.5	2.7	3.0	2.54	Water quality samples taken below the treatment columns of BMPs will be compared to water quality samples of incoming stormwater to determine the treatment effectiveness of each BMP	Pasco	Asotin, Spokane, Yakima	
3	15	Street Sweeping and Catch Basin Cleaning Comparison	2	3	2	3	2	2	2	3	3	3	3	3	2	2	2	2	3	3	3	3	3	3	3	3	2.5	2.2	2.5	2.3	3.0	2.50	Sediments depths will be collectively measured and averaged once a month at a number of catchbasins.	City of Ellensburg	Asotin, Douglas, Walla Walla, Yakima	
4	2	Mobile Contractor Illicit Discharge Education	2	3	3	2	3	3	3	3	3	3	3	3	3	1	1	3	2	2	2	3	1	2	2	2.5	3.0	3.0	1.7	2.0	2.42	Data regarding mobile contractors will be collected (before and after the education campaign is launched) through surveys, interviews, and/or focus groups.	City of Wenatchee	East Wenatchee, Ellensburg, Kennewick, Pasco, Pullman, Selah, Spokane Valley, Sunnyside, Union Gap, Walla Walla, Wenatchee, Yakima		
5	28	Sand Filter Vault BMP	2	2	1	3	2	2	2	2	2	2	2	2	1	1	3	2	2	2	2	2	1	2	3	2.0	1.8	2.0	2.3	2.0	2.04	The influent and effluent concentrations will be analyzed and compared to determine the reduction of each pollutant using 12 rainfall (qualifying) events.	Spokane County	Moses Lake, Pullman, Spokane Valley, Wenatchee, West Richland		
6	9	BMP Inspection and Maintenance Responsibilities	2	3	3	2	3	3	3	3	3	3	3	3	3	2	1	1	1	1	1	1	2	3	1	2.5	2.8	2.0	1.3	1.0	2.00	A survey will cover questions related to the how municipalities verify private BMP maintenance program (i.e. inspection strategies and frequency, funding, BMP access, etc.). Stormwater managers perceptions of their programs success will also be collected.	Yakima County	Pasco, Selah, Spokane Valley, Sunnyside, Union Gap, Wenatchee, Yakima		
6	16	Seasonal Differences in Street Sweeping Material Removal	2	2	2	1	1	1	1	1	2	3	2	3	2	1	1	3	3	3	3	3	2	3	1	2	1.8	1.2	2.5	1.7	3.0	2.00	Data collected will include street dirt prior to and directly after sweeping, material gradation, organic vs inorganics, street type and conditions, land use data would be collected	City of Spokane Valley	Asotin, Clarkston, East Wenatchee, Ellensburg, Kennewick, Pasco, Pullman, Spokane Valley, Walla Walla, Wenatchee, Yakima	
6	18	Catch Basin Retrofit Device Placement	2	2	3	1	2	2	2	2	2	2	2	2	2	1	2	2	1	2	2	2	1	2	3	2.0	2.0	2.5	1.3	2.0	2.00	At specific intervals the quantity of stormwater pollutants of concern will be estimated in the catch basins in both test catchments. The total amount of material removed would be quantified for each system.	Asotin County & City of Spokane Valley	Asotin, Clarkston, Kennewick, Pullman, Spokane Valley, Wenatchee		
9	7	Stormwater BMP Owner Awareness	2	3	3	1	2	2	2	2	2	2	3	2	3	1	1	1	1	1	1	3	3	1	3	2.3	2.0	2.5	1.0	1.0	1.92	Data will be gathered through a survey to gauge the BMP owner's awareness of the maintenance and inspection requirements of the BMPs on their property.	City of Wenatchee	East Wenatchee, Ellensburg, Kennewick, Pasco, Pullman, Spokane Valley, Wenatchee, Yakima		
10	29	Determining Pollutant Contributions from Municipal Stormwater in Eastern WA using GIS	1	2	1	1	2	2	2	2	2	2	2	1	2	1	2	3	3	3	3	2	1	1	2	1.3	2.0	1.5	2.0	3.0	1.79	Stormwater system mapping, information on land use(s), topography, basins discharging to surface waters, climate, etc.	City of Spokane Valley	Asotin, Clarkston, East Wenatchee, Moses Lake, Spokane Valley, Yakima		
11	27	27a Media Thickness Study	3	3	1	1	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	1.5	1.7	2.3	2.3	2.3	1.78	Influent and effluent from each of the treatment cells will be collected during qualifying storm events using automated sampling techniques. Samples will be analyzed for identified constituents of concern (TSS, metals, total nitrogen, total phosphorus, fecal coliform, total petroleum hydrocarbons).	Spokane County	Richland, Spokane Valley		
11	24	27b Media Component Study	3	3	1	1	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	1.3	1.2	2.0	2.7	2.0	1.67	Sample data collection of the permeable pavement will include durability, water quality (influent and effluent), and infiltration rates.	City of Spokane	Spokane, Spokane Valley		
12	14	Sharp Avenue Porous Pavement Study	2	1	1	1	1	1	1	1	2	2	2	2	2	3	3	2	2	2	2	2	1	2	1	1.3	1.2	2.0	2.7	2.0	1.67	Stormwater sample collection before and after treatment through the biochar media and analysis of sample data.	City of Spokane	Spokane, Spokane Valley		
12	24	Biochar Media Stormwater Treatment Study	2	3	1	1	2	2	2	2	1	2	1	2	1	3	3	2	1	1	1	1	1	2	2	1.8	1.8	1.5	2.7	1.0	1.67	The infiltration rates at multiple locations of each test segment. A qualitative visual assessment would also be completed annually to track the durability of the pavement.	City of Spokane	Spokane, Spokane Valley		
14	12	Long-term Permeable Pavement Sidewalk Infiltration Performance	2	1	1	1	1	1	1	1	1	1	2	1	2	1	2	2	2	2	2	2	2	1	2	1.3	1.0	1.5	1.7	2.0	1.42		City of Richland	Richland, Selah, Spokane Valley, Sunnyside, Union Gap		

\*City of Wenatchee and Chelan County share scores; \*\*City of East Wenatchee and Douglas County share scores; \*\*\*Yakima County, Selah, Union Gap, and Sunnyside share scores; \*\*\*\*Asotin, Asotin County, and Clarkston share scores