

Draft

NPDES Phase II Municipal Stormwater Management Program Plan

Prepared for



February 2019

Prepared by
Parametrix

NPDES Phase II Municipal Stormwater Management Program Plan – Draft

Prepared for

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CERTIFICATION

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.



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KEY TERMS

AKART	all known, available and reasonable methods of treatment
Basin Plan	Mid-Puyallup Basin Plan
BMPs	best management practices
CESCL	Certified Erosion and Sediment Control Lead
City	City of Orting
Ecology	Washington State Department of Ecology
Ecology Manual	Stormwater Management Manual for Western Washington
Group	Orting Stormwater Public Input Group
IDDE	Illicit Discharge Detection and Elimination
LID	Low Impact Development
MEP	maximum extent practicable
NOI	Notice of Intent
PCD	Pierce Conservation District
Permit	2014 Western Washington Phase II Municipal Stormwater Permit
SWMP	Stormwater Management Program
SWPPPs	Stormwater Pollution Prevention Plans
USGS	U.S. Geological Survey
WAC	Washington Administrative Code
WWTP	wastewater treatment plant

1. INTRODUCTION

1.1 Overview and Background

This document is an update to the previous version of the City of Orting (City) 2010 Stormwater Management Program (SWMP) Plan. This document reflects requirements from the 2014 Western Washington Phase II Municipal Stormwater Permit (Permit). The elements required for the SWMP Plan based on Section S5 of the Permit include the following components:

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

The Permit requires the City to report annually (March 31 of each year) on progress in Program implementation for the prior year. The Permit also requires submittal of documentation that describes proposed Program activities for the coming year. Implementation of various Permit conditions was phased throughout the 5-year Permit term from August 1, 2013, through July 31, 2018.

This report updates the City's 2010 SWMP Plan through July 31, 2019, to comply with Section 5 of the 2014 Western Washington Phase II Municipal Stormwater Permit. This 2019 SWMP Plan update describes actions Orting is taking to maintain permit compliance.

1.2 Phased Implementation of Permit Requirements

The Washington State Department of Ecology (Ecology) began work on the Phase II Municipal Stormwater Permit for Western Washington in the fall of 2004. Ecology issued the final Permit on January 17, 2007. The 2007 Permit issued by Ecology became effective on February 16, 2007; and expired on February 15, 2012. The most recent Western Washington Phase II Municipal Stormwater Permit was issued on August 1, 2012, with modifications made in 2014. The 2012 Permit issued by Ecology became effective on August 1, 2013; and expired on July 31, 2018. Ecology extended the current (2013-2018) Western Washington Permits for one year. The permits will reissue on July 1, 2019; and be effective from August 1, 2019 to July 31, 2024.

Ecology is phasing in many of the Permit requirements over the 5-year Permit term. On March 31 of each year, beginning in 2015, the City must:

1. Submit an annual report documenting Permit compliance activities for the previous calendar year.
2. Keep all records related to the Permit and the SWMP Plan for at least 5 years.
3. Make all records related to the Permit and the SWMP Plan available to the public.

Additional Permit information is located on Ecology’s website:

<https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Western-Washington-Phase-II-Municipal-Stormwater>

1.3 Document Organization

The content in this document is based upon Permit requirements and Ecology’s *Draft Guidance for City and County Annual Reports for Western Washington Phase II Municipal Stormwater Permits*. The remainder of the SWMP Plan is organized similarly to the Permit:

- Section 2.0 addresses Permit requirements for Public Education and Outreach for 2014.
- Section 3.0 addresses Permit requirements for Public Involvement and Participation for 2014.
- Section 4.0 addresses Permit requirements for Illicit Discharge Detection and Elimination for 2014.
- Section 5.0 addresses Permit requirements for Controlling Runoff from New Development, Redevelopment, and Construction Sites for 2014.
- Section 6.0 addresses Permit requirements for Municipal Operations and Maintenance for 2014.

Each section includes a summary of the relevant Permit requirements and a description of current and planned compliance activities.

2. PUBLIC EDUCATION AND OUTREACH

The Western Washington Phase II NPDES Permit required that the City develop a public education and outreach program by February 15, 2009. Per the Permit, the public education and outreach program must target the general public, businesses, homeowners and property managers, engineers, contractors, developers, review staff, and land use planners. Additionally, the City is required to track and maintain records of public education and outreach activities. This chapter summarizes the activities that the City is undertaking to meet the requirements of this portion of the NPDES Phase II Permit.

The City developed a public education and outreach program in conjunction with the 2010 SWMP Plan. The design of the education and outreach program is to reduce or eliminate behaviors that contribute to adverse stormwater impacts. It should also encourage the public to participate in stewardship programs. The subsections below include the 2010 public education and outreach program with 2019 updates to be in conformance with the 2014 Western Washington Phase II Municipal Stormwater Permit.

2.1 Current Public Education and Outreach Program

(Permit Requirement S5.C.1.a)

The City has an ongoing public education and outreach program. This program is comprised of a variety of approaches, which includes providing educational literature, staffing outreach kiosks at community events, conducting talks and training, as well as partnerships with groups such as The Puyallup River Watershed Council. With regards to literature, the City has drafted outreach materials to educate both the general public and businesses. These materials deal with general best management practices (BMPs) for stormwater runoff and preventing illicit discharges into the stormwater system. The City maintains literature related to stormwater at the City's library that is available for check out by the general public.

The City regularly performs outreach at community events including fairs and festivals. City staff members work at information booths to provide public education regarding environmental matters including stormwater. The City regularly provides outreach at the following Orting events: Daffodil Parade, Summer Fest, Pumpkin Fest, the Emergency Preparedness Fair, and the Western Washington Fair. The City is a member of the Pierce Conservation District (PCD) and regularly participates with the PCD at the Western Washington Fair. The PCD booth informs people about work the PCD does including Farm Planning and Agricultural Assistance, Water Quality Improvement and Monitoring, Habitat Improvement and Environmental Education, and Harvest Pierce County. At events in August and October of 2008, the City used the information booth approach as a venue to issue its first stormwater management survey. The survey will be discussed in greater detail in the following section.

City staff members provide training and education to the Orting community via both the telephone and on-site visits. City staff provide stormwater education during visits to homes, businesses, and construction sites. At construction sites, City staff instruct workers on proper erosion control and best management practices. Additionally, to further educate the general public and to prevent illicit discharges to storm drains, the City now requires that all new storm drains be stenciled "Dump No Waste, Drains to Stream."

The City is committed to community stormwater education at the student level as well. City staff give talks to students regarding erosion and other stormwater-related issues.

2.2 Creating Stewardship Opportunities

(Permit Requirement S5.c.1.b)

The City provides a means for the community to be involved in volunteer programs. This is important in fostering a sense of ownership so that the community actively participates in improving and maintaining the quality of Orting’s stormwater.

2.2.1 Volunteer Programs

(Permit Requirement S5.C.2.a)

Catch Basin/Curb Marking Program – Orting has a catch basin/curb marking program in which volunteer groups mark catch basins and storm drains with signage indicating that the structure drains to a nearby surface water body. This program improves public awareness regarding stormwater pollution and its impact on surface waters and supplements the City’s ongoing program of marking storm drains with “Dump No Waste, Drains to Stream.”

Stream Clean-Ups – City staff members organize an annual Spring River Clean-Up. This event utilizes volunteers to clean up near-stream areas. Flyers are distributed to businesses and the high school, event details are published on the City website, and information is displayed on the reader-board to promote interest in the event. The river cleanup event not only improves the water quality and aquatic habitats of the Puyallup and Carbon Rivers, it also serves as a useful tool in demonstrating to the community the connection between pollution and surface water quality. In 2018, a fisherman organization arranged their own river cleanup, so the City did not sponsor one.

Car Wash Program – The City has purchased an environmentally friendly carwash kit, which it provides to groups performing car washing events. The carwash kits have brochures about fish-friendly car washes. The kit includes a catch-basin insert to prevent wash water from entering storm drains. It also includes a pump to transport wash water to either nearby grassy areas or the sanitary sewer. The City also requires the use of non-toxic, biodegradable, or phosphate-free soaps.

2.2.2 Future Volunteer Programs

Rainfall Monitoring Program – Currently, the City’s wastewater treatment plant (WWTP) has rainfall monitoring equipment. Additionally, the U.S. Geological Survey (USGS) has a rain gauge on the Carbon River. In the future, volunteers could be utilized to collect rainfall data at various locations within the city. By combining data from across the city, Orting rainfall patterns could be analyzed and used to identify areas susceptible to erosion, as well as for flooding prediction and modelling.

Noxious Weed Control – The City is a member of the Pierce Conservation District, with the citizens of Orting being assessed yearly property taxes. With this program, the citizens can participate in volunteer events to remove noxious/invasive vegetation from riparian areas. Removal of noxious vegetation improves riparian and aquatic habitat and improves overall water quality. Additionally, it teaches participants the benefits of healthy, native riparian vegetation in improving water quality.

2.3 Measuring Program Effectiveness

(Permit Requirement S5.C.1.c)

The Phase II NPDES Permit requires that a permittee must assess the effectiveness of its public education and outreach program. In August of 2008, the City developed a survey to measure the baseline understanding of stormwater-related issues by various groups within the city of Orting. The

survey collected demographic information and asked survey respondents a series of twelve questions related to stormwater issues. The survey was administered to a group of business owners at a Chamber of Commerce meeting in August 2008, to the general public at community events in August and October 2008, and via the City’s annual Stormwater Letter in October 2008. Surveys were collected and scored using a rating system. Data from scored surveys was entered into an Excel spreadsheet for analysis and report generation. The City used the results to direct education and outreach sources most effectively and evaluate changes in adoption of the targeted behaviors.

2.3.1 Survey Results

Results from the 2008 stormwater survey are summarized in Table 2-1. The survey identified existing levels of knowledge for many stormwater-related matters. The findings of the survey have been used to identify current and future needs for stormwater education and outreach.

Table 2-1. 2008 City of Orting Stormwater Survey Results

Q1. Do you know if there is a river, creek or other waterbody near your home or business?				
Yes	No	Not Sure	No Response	
87%	7%	4%	2%	
Q2. If you have a river, creek or other waterbody near your home or business, what term(s) best describe your opinion of its water quality?				
Very Good	Somewhat Good	Bad	Not Sure	No Response
26%	37%	9%	17%	11%
Q3. Have you used a pesticide or weed-killer in the last year at your home or business?				
Yes	No	No Response		
56%	43%	2%		
Q4. If you did use a pesticide or weed-killer within the last year, how did you dispose of the remainder of it?				
None Left	Remainder Stored	Taken to Hazwaste	Other	No Response
58%	23%	0%	7%	10%
Q5. Do you have a pet at home that you take for regular walks outside?				
Yes	No	No Response		
43%	54%	4%		
Q6. If you do have a pet at home you take for regular walks, how do you dispose of pet waste?				
Bagged	Left in Place	No Response		
60%	32%	8%		
Q7. Do you change your own vehicle oil at home?				
Yes	No	No Response		
22%	76%	2%		
Q8. If you do you change your own vehicle oil at home, how do you dispose of your used oil?				
Household Waste Collection	Garbage	Ground	Other	No Response
31%	0%	0%	69%	8%

(Table Continues)

Table 2-1. 2008 City of Orting Stormwater Survey Results (Continued)

Q9. Do our community’s storm drains and sewer system share the same underground pipe system?			
Yes	No	No Response	
6%	78%	17%	
Q10. Do water and other substances that flow through storm drains go to a treatment plant to be processed to remove pollutants?			
Yes	No	No Response	
33%	50%	17%	
Q11. Do you know of any stormwater detention ponds near your home or business?			
Yes	No	No Response	
43%	52%	6%	
Q12. What type of treatment do you believe that stormwater receives after it leaves a stormwater detention pond?			
Treatment Plant	Direct Discharge	Natural Filtration	No Response
20%	11%	48%	19%

2.3.2 Future Program Measurement

(Permit Requirement S5.C.1.c)

In order to measure the effectiveness of the stormwater public education and stormwater program, the City issued its questionnaire again in the fall of 2009. Since 2009, the survey has been set out at many Orting events, but there is a lack of interest to take the time to complete it. The results of the 2009/2010 stormwater survey are summarized in Table 2-2. The results were compared to the 2008 results to identify if audience behaviors and/or understanding of stormwater-related issues have measurably improved since issuance of the 2008 survey. The results of this comparison are used to direct needs for future public education and outreach activities.

Table 2-2. 2009/2010 City of Orting Stormwater Survey Results

Q1. Do you know if there is a river, creek or other waterbody near your home or business?				
Yes	No	Not Sure	No Response	
79%	11%	11%	0%	
Q2. If you have a river, creek or other waterbody near your home or business, what term(s) best describe your opinion of its water quality?				
Very Good	Somewhat Good	Bad	Not Sure	No Response
42%	21%	0%	32%	5%
Q3. Have you used a pesticide or weed-killer in the last year at your home or business?				
Yes	No	No Response		
58%	42%	0%		

(Table Continues)

Table 2-2. 2009/2010 City of Orting Stormwater Survey Results (Continued)

Q4. If you did use a pesticide or weed-killer within the last year, how did you dispose of the remainder of it?				
None Left	Remainder Stored	Taken to Hazwaste	Other	No Response
21%	26%	21%	5%	26%
Q5. Do you have a pet at home that you take for regular walks outside?				
Yes	No	No Response		
58%	42%	0%		
Q6. If you do have a pet at home you take for regular walks, how do you dispose of pet waste?				
Bagged	Left in Place	No Response		
53%	16%	32%		
Q7. Do you change your own vehicle oil at home?				
Yes	No	No Response		
47%	53%	0%		
Q8. If you do you change your own vehicle oil at home, how do you dispose of your used oil?				
Household Waste Collection	Garbage	Ground	Other	No Response
11%	11%	11%	21%	47%
Q9. Do our community's storm drains and sewer system share the same underground pipe system?				
Yes	No	No Response		
21%	88%	21%		
Q10. Do water and other substances that flow through storm drains go to a treatment plant to be processed to remove pollutants?				
Yes	No	No Response		
42%	32%	26%		
Q11. Do you know of any stormwater detention ponds near your home or business?				
Yes	No	No Response		
53%	42%	5%		
Q12. What type of treatment do you believe that stormwater receives after it leaves a stormwater detention pond?				
Treatment Plant	Direct Discharge	Natural Filtration	No Response	
26%	11%	53%	11%	

2.3.3 Future Public Education and Outreach

(Permit Requirement S5.C.1.c)

Based on the survey results shown in Tables 2-1 and 2-2, the majority of Orting citizens understand how storm drain systems in their area operate. However, the people may benefit from education on proper disposal of waste that can be detrimental to the local waterways. Approximately one third of people that walk their pets in their neighborhood leave the pet waste in place. This waste can easily be transported into the storm drain collection system via surface runoff and eventually end up in one of the two local rivers. Additionally, many people do not know where their stormwater goes and what sort of treatment it receives. The City adapts education materials to meet the needs of the public.

The public involvement section of this document lists several options that Orting has used previously, and some that Orting continues to implement to involve the public in stormwater-related matters. Most of these public involvement options include a public education component. Public involvement in stormwater-related activities is an effective tool for educating the public regarding stormwater issues. The City attempts to conduct these types of education activities whenever practicable.

2.4 Recordkeeping

The City began to track and maintain records of public education and outreach activities in 2011 and continues to track these activities on an annual basis. A spreadsheet was developed for tracking and maintaining these records. Records of public education and outreach activities are maintained at the City's public works building.

3. PUBLIC INVOLVEMENT AND PARTICIPATION

The Western Washington Phase II NPDES Permit requires the City to provide ongoing opportunities for public involvement using methods such as advisory councils, watershed committees, participation in developing rate structures, and other similar activities. The following section details the City’s current and future efforts to involve the public in stormwater-related issues.

3.1 Current Public Involvement Activities

The City currently involves the public through participation in the development of the Stormwater Management Program and other stormwater related policies. This method is important in fostering a sense of ownership so that the community actively participates in improving and maintaining the quality of Orting’s stormwater.

3.1.1 Stormwater Policy Development

(Permit Requirements S5.C.2.a & b)

City Web Page – The City posted the 2010 SWMP Plan and Annual Report on its website and collected input from Orting residents in the form of written and email feedback. This input was reviewed and responded to with regards to incorporation into the City’s 2010 SWMP Plan. The Western Washington Phase II NPDES Permit requires the City to post their SWMP Plan and annual report no later than May 31 of each year. The City may choose to submit the updated SWMP Plan to Ecology to be posted on Ecology’s website.

Orting Stormwater Public Input Group – In February 2008, the City had a public meeting and formed the Orting Stormwater Public Input Group (Group). The Group was comprised of City Council Members and members of the general public who have an interest in surface water issues. The Group reviewed and provided comments on the development and implementation of the City’s Stormwater Management Program. The Group was consulted regarding the development and implementation of stormwater-related issues. After completion of the 2010 SWMP Plan, the Group was no longer needed.

Orting Council Meetings – Residents are invited to the second and last Wednesday Council meetings each month. Those that attend can voice public comments at the Council meetings. Public hearings are also advertised. When the SWMP Plan was on the agenda for adoption by City Council, an advertisement was sent to residents prior to the meeting. The advertisement encouraged community members to voice their opinions and comments.

4. ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Western Washington NPDES Phase II Permit requires that the City has a program that addresses the prevention, detection, characterization, tracing, and elimination of illicit connections and discharges into its municipal separate storm sewer system (MS4). To that end, the City is required to meet several minimum performance measures related to Illicit Discharge Detection and Elimination (IDDE). The following section details the City's current and future efforts to comply with the IDDE portion of the Permit. The minimum performance measures for IDDE are summarized below:

- Current municipal storm sewer system maps.
- An ordinance or other regulatory mechanism that prohibits non-stormwater, illicit discharges to the City's storm sewer system.
- An ongoing IDDE program designed to detect and identify non-stormwater discharges and illicit connections to the City's storm sewer system.
- An ongoing program designed to address illicit discharges, including spills and illicit connections, to the City's storm sewer system.
- Training of City staff on IDDE-related subjects including identification, investigation, termination, cleanup, and reporting and responding of illicit discharges.
- Recordkeeping by the City to track and maintain records of the activities conducted to meet the IDDE requirements of this section.

4.1 Municipal Storm Sewer System Mapping

(Permit Requirement S5.C.3.a)

Per the Phase II Permit, the City is required to have a storm sewer map that details the location of outfalls, discharge points, tributary conveyances, connections, geographic areas, land use, receiving waters, and structural BMPs by February 2, 2018. The Stormwater Comprehensive Plan prepared for the City in May 2002 has a detailed stormwater system inventory for eight sub-basins delineated within the city, and a mapping system that accurately depicts the stormwater system inventory as it existed at that time.

The storm sewer system map has been updated to include detailed information regarding all stormwater infrastructure that has been added since 2002. Updates to the map include the location and labeling of all catch basins, stormwater treatment facilities, stormwater outfalls, and structural BMPs. Additionally, the City has updated the map to include information regarding the location of stormwater piping and what different type of pipe material is present. The City's mapping system also includes the location of its two receiving waters, as well as land use information. The City continues to update its stormwater map on a routine basis to ensure that it accurately depicts all known stormwater system infrastructure owned, operated, or maintained by the City. Recently, the City updated its stormwater map and implemented a GIS based mapping system.

4.2 IDDE Ordinance

(Permit Requirement S5.C.3.b)

As required by the Phase II Permit, the City was required no later than August 16, 2009, to develop and implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illegal discharges, and/or dumping into the City’s municipal separate storm sewer system to the maximum extent allowable under State and Federal law. The City has existing ordinances that prohibits illicit discharges to the City’s storm sewer. Illicit discharges are defined in Title 9-5A-4 of the City’s code, while Titles 9-5A-9.F and -9.G prohibit illicit discharges. Inspection, enforcement, and penalties are currently regulated based on Titles 9-5B-011, -12, and -13 of the City’s code.

4.3 IDDE Program Implementation

(Permit Requirements S5.C.3.c & d)

The Phase II NPDES Permit requires that the City develop and fully implement an ongoing program to detect, identify, and address non-stormwater discharges and illicit connections into the City’s storm sewer system. The requirements for the program are multifaceted and have a range of deadlines. The following subsections detail the City’s current and future efforts for complying with the IDDE program implementation portion of the Phase II Permit.

4.3.1 Field Screening Methodology

(Permit Requirement S5.C.3.c.i)

In accordance with the Permit, the City is required to implement a field screening methodology appropriate to the characteristics of the MS4. The City has developed a draft methodology for screening for illicit connections in accordance with the *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004*. This methodology is detailed in the City’s IDDE Inspection Field Manual.

The City’s methodology includes completing site inspections, report writing, conducting containment and cleanup measures, and sending the report to Ecology. Public Works staff are trained and re-trained annually. Blank inspection records with Ecology contact information is kept in each public works vehicle in the event there is an IDDE to report.

Historically, the City has had an inspection program that included identification of, and response to, complaints of illicit discharges. The City has now expanded and formalized this program to include location of priority areas where potential illicit discharges may occur. Priority areas for consideration include fueling stations, auto repair facilities, restaurants, and other commercial facilities that have potential for spills and related stormwater impacts. The City has identified the area of the Orting-zoned mixed-use town center and the three outfalls (Outfalls 4, 5, and 6) that convey stormwater from the town center as priority areas for illicit discharge investigation. Outfall 4 discharges to the Puyallup River and is located at the Kansas Street Extension. Outfalls 5 and 6 discharge to the Carbon River. Outfall 5 is located near River Avenue NE and Outfall 6 is located near the Orting High School.

As specified in the Permit, the City was required to prioritize receiving waters for visual inspection by February 16, 2010; and perform visual inspections of three high priority waterbodies by February 16, 2011. The City has only two receiving water bodies, the Puyallup River and the Carbon River. These receiving waters are currently, and will continue to be, inspected visually at least annually. Additionally,

while the City has only two receiving water bodies, the City will perform annual visual inspections at the three outfall locations along the Carbon River and the four outfall locations along the Puyallup River, for a total of at least seven visual inspections annually.

Note that although six additional outfall locations are present within the city limits along the Puyallup River near the Soldiers Home location. These outfalls are owned, operated, and maintained by Pierce County and will continue to be the County’s responsibility with regards to Phase II NPDES Permit requirements.

Field screening for at least 40 percent of the MS4 had to be completed by December 31, 2017; and 12 percent each year thereafter. As of March 31, 2018, 100 percent of the MS4 coverage area has been screened.

4.3.2 Public Hotline

(Permit Requirement S5.C.3.c.ii)

The City of Orting maintains a hotline for reporting illicit discharges and spills. The City’s public telephone number is (360) 893-2219 x133. The hotline is connected to a City voice mailbox, which records complaints 24 hours per day, 7 days per week. The hotline is responded to during normal business hours Monday through Friday, excluding holidays. Messages left on weekends or holidays are answered on the following business day. The City maintains records of all calls received and the associated follow-up actions performed. The City will include a summary of these records in its annual report.

4.3.3 Training Program

(Permit Requirement S5.C.3.c.iii)

The Permit requires the City to have a training program for all municipal field staff who might come in to contact with an illicit discharge or connection to the MS4 during normal job activities. Public Works staff are trained on an annual basis.

4.3.4 Public Education

(Permit Requirement S5.C.3.c.iv)

The NPDES Phase II Permit requires that the City inform public employees, businesses, and the general public of the hazards associated with illicit discharges and improper disposal of waste to the City’s storm sewer system. This requirement includes distribution of appropriate information to target audiences, as well as the creation and maintenance of a public hotline for reporting spills and illicit discharges.

As discussed in Section 1, Orting has an ongoing public education and outreach program. This program includes education regarding the hazards associated with illicit discharges and improper disposal of waste. The City issues its annual stormwater letter, which includes various stormwater educational topics such as illicit discharges and disposal of waste to the storm sewer system. Additionally, the City has created public education materials in a poster format regarding polluted stormwater runoff hazards, which is distributed to targeted audiences. The City will continue to create materials related to illicit discharges as a part of its public education and outreach program and distribute the materials as needed. The City annually attends several events in the community to promote BMPs. The City discusses the importance of maintaining the MS4s. Promotional items, such as coloring books that describe IDDEs

to children, and flyers are handed out to the public. As described in the public outreach section of this plan, the City will document all public education and outreach activities.

4.3.5 Illicit Discharge Characterization

(Permit Requirement S5.C.3.d.i)

The City has an ongoing program of characterizing illicit discharges. This includes characterizing the potential public or environmental threat posed by any illicit discharge found by the City. The City's procedure to address the evaluation of whether the illicit discharge should be immediately contained, and steps taken for containment, are included below.

The City has an ongoing program of responding to illicit discharges which includes both complaint-based and City staff-initiated investigations. To ensure full compliance with the Phase II Permit, the City will respond within 7 days, on average, to any complaints, reports, or monitoring information that indicates a potential illicit discharge, spill, or illegal dumping to its storm sewer system. Additionally, the City will respond immediately to problems or violations that are determined to be emergencies, or otherwise characterized as urgent or severe.

4.3.6 Tracing Illicit Discharges

(Permit Requirement S5.C.3.d.ii)

The City's current program of illicit discharge investigation includes determination of illicit discharge sources. The City's program is being expanded to include the ability of camera investigation of storm sewer lines and collecting and analyzing water samples when necessary. The City will ensure that staff is trained in the usage of any new investigation and monitoring equipment that is implemented. Additionally, protocols for the usage of any new techniques will be summarized and included in the City's IDDE Inspection Field Manual.

4.3.7 Illicit Discharge Source Removal

(Permit Requirement S5.C.3.d.iii)

The City currently has procedures for removing illicit discharge sources. These procedures include notifying the responsible party and/or property owner, notification of any other authorities including Ecology, technical assistance for discharge elimination, performing follow-up inspections, and a process of escalating enforcement and legal actions if the discharge is not eliminated.

As discussed in the IDDE ordinance section above, the draft revisions to the City's ordinances give Orting the legal authority to escalate enforcement actions against responsible parties. In the future, the City will initiate investigations no later than 21 days after a report or discovery of suspected illicit connections to the storm sewer system. The City will use its enforcement authority to ensure that any illicit connections are terminated within 180 days of an illicit connection being confirmed.

4.4 IDDE Training for Municipal Field Staff

(Permit Requirement S5.C.3.e)

By August 16, 2009, the City was required by the Phase II Permit to ensure that all field personnel responsible for identification, investigation, termination, cleanup, and reporting of IDDE-related

incidents are properly trained to perform those duties. In addition, by February 16, 2010, the Phase II Permit required that the City develop and implement an ongoing training program for all municipal field staff that might come in to contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system. Follow-up training must be provided to address any changes in procedures, techniques, or requirements.

The City has conducted training for its field staff regarding its IDDE program and how to properly identify and address illicit discharges. The City will continue this training program for its new field personnel and continue to address updates to procedures, techniques, and requirements. The City documents and maintains records of the training provided and staff trained.

4.5 Recordkeeping

(Permit Requirement S5.C.3.f)

The City tracks and maintains records of the activities included in this section.

5. CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT, AND CONSTRUCTION SITES

The Western Washington Phase II NPDES Permit has several requirements to address controlling runoff and reduce pollutants in stormwater runoff from new development, redevelopment, and construction site activities. These requirements are listed below. The following sections within this chapter detail the City's current and planned activities to comply fully with the Phase II Permit.

Requirements for controlling runoff from new development, redevelopment, and construction sites include:

- An ordinance that addresses the minimum requirements, technical thresholds, and definitions in Appendix 1 of the Phase II Permit; a site planning process and BMP selection, design, and infeasibility criteria that will protect water quality and reduce the discharge of pollutants to the maximum extent practicable (MEP) using all known, available and reasonable methods of treatment (AKART) and prevention and control; Low Impact Development (LID) competing needs criteria, BMP limitations; and the legal authority to inspect and enforce maintenance standards for private stormwater facilities.
- A permitting process with plan review, inspection, and enforcement capability to meet the standards required by the Permit.
- Provisions to verify adequate long-term operation and maintenance of stormwater treatment and flow control BMPs and facilities.
- Make available all copies of the Notice of Intent (NOI) for both construction and industrial activities to representatives of proposed new development and redevelopment. The City will continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.
- Verify that all staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct those activities. Training shall be documented, and records of training maintained for staff trained.
- Incorporate and require LID principles and LID BMPs to meet LID code-related requirements.
- Identify a stormwater management strategy to result in hydrologic and water quality conditions that fully support “existing uses” and “designated uses” throughout the stream system, as defined in WAC 173-201A-020.

5.1 Stormwater Ordinances

(Permit Requirement S5.C.4.a)

The City has finalized revisions of its ordinances to incorporate requirements under the Phase II Permit with regards to controlling runoff. Title 9-5A-9 in Orting's City Code addresses runoff from new development, redevelopment, and construction sites. Ordinance revisions have been completed for the following:

- Maintenance responsibility.
- Maintenance schedule.

- Enforcement.
- Adopting a manual equivalent to the Washington State Department of Ecology *2014 Stormwater Management Manual for Western Washington* (Ecology Manual). The 2014 Ecology Manual is currently in the process of being reviewed for adoption. Orting’s City Code is being updated to reflect LID implementation.
- Thresholds for stormwater management and stormwater site plan preparation and review.

5.2 Stormwater Permitting Process

(Permit Requirement S5.C.4.b)

The City’s stormwater program contains a permitting process that includes plan review, inspection, and enforcement capability.

Plan review of stormwater site plans for proposed development activities is performed by the City’s engineers. The City inspects all development and construction sites for compliance with BMPs, Stormwater Pollution Prevention Plans (SWPPPs), and stormwater rules.

Permitted development sites are inspected prior to, during, and after construction. All permitted development sites with a high potential for sediment transport are inspected prior to clearing and construction. All permitted development sites are inspected during construction to ensure proper installation and maintenance of required erosion and sediment controls. Additionally, permitted sites are inspected upon completion of construction to ensure that stormwater facilities and BMPs are in place. Any noncompliance discovered during inspections is addressed through enforcement activities as needed. Site inspection conditions are documented on a Site Inspection Checklist. Hard copies of inspection reports are maintained by the City. Notices of Intent (NOIs) are submitted by the applicant to Ecology, and copies of these NOIs are maintained by the City.

5.3 Verification of Long-Term Operation and Maintenance of Post-Construction Stormwater Facilities and BMPs

(Permit Requirement S5.C.4.c)

As mentioned in Section 3.1, the City has adopted ordinances which include maintenance responsibility, maintenance schedules, and enforcement procedures related to post-construction stormwater facilities and BMPs. The City has adopted maintenance standards for stormwater facilities as specified in the Ecology Manual. Annual inspections are performed on all stormwater treatment and flow control facilities unless maintenance records are available that justify alternative inspection frequencies. Additionally, new flow control and water quality treatment facilities are conducted every 6 months during the period of heaviest house construction to determine maintenance needs and to enforce maintenance standards.

Per the requirements in the Permit, maintenance is performed after an inspection identifies an exceedance of the maintenance standard with the following timeframes: within 1 year for typical maintenance facilities, within 6 months for catch basins, and within 2 years for maintenance that requires capital construction of less than \$25,000.

City staff performs inspections at new development, redevelopment, and construction sites. Site inspection conditions are documented on a Site Inspection Checklist. Hard copies of inspection reports

are maintained by the City. A sample Ecology Construction Stormwater Site Inspection Form is attached as Appendix A.

5.4 Notices for Stormwater-Related Activities

(Permit Requirement S5.C.4.d)

The City maintains copies of the “Notice of Intent for Construction Activities” and “Notice of Intent for Industrial Activities.” The City provides copies of NOIs to representatives of proposed new development and redevelopment activities.

5.5 Staff Training

(Permit Requirement S5.C.4.e)

The City maintains a Certified Erosion and Sediment Control Lead (CESCL) for conducting inspections of stormwater control facilities at new development, redevelopment, and construction sites. The City also employs trained contract construction observers during construction activities, who work under the oversight of City staff. All staff responsible for stormwater runoff control activities, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. The City documents and maintains records of the training provided and the staff trained.

5.6 Low Impact Development

(Permit Requirement S5.C.4.f)

The Permit requires the City to review, revise, and make effective local development codes to incorporate and require LID principles and LID BMPs. LID principles and LID BMPs are included in Title 9-5A-9C of the Orting Code. Constructed and proposed LID practices are included in the Code. The LID practices are designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all new development.

5.7 Watershed-Scale Stormwater Planning

(Permit Requirement S5.C.4.g)

The Permit requires the City to identify a stormwater management strategy that results in hydrologic and water quality conditions that fully support existing and designated uses throughout the stream system. Existing and designated uses are as defined in Washington Administrative Code (WAC) 173-201A-020.

The City of Orting is included in the Mid-Puyallup Basin, which is part of the Puyallup-White River Basin. Pierce County leads the watershed planning for the Mid-Puyallup Basin. The Mid-Puyallup Basin Plan (Basin Plan) was adopted in 2005 and acts as a comprehensive guide to surface water management in areas in the Mid-Puyallup Basin. The City is an identified stakeholder in the Basin Plan.

6. POLLUTION PREVENTION AND OPERATION AND MAINTENANCE FOR MUNICIPAL OPERATIONS

The Western Washington Phase II Municipal Stormwater Permit requires the following to address pollution prevention and operation and maintenance for its municipal operations:

- Establish maintenance standards that are as protective, or more protective, of facility function than those specified in Chapter 4 of Volume V of the *2014 Stormwater Management Manual for Western Washington*. Maintenance shall be performed within the timelines as described in S5.C.5.a.ii of the Permit.
- Annually inspect all municipally owned or operated permanent stormwater treatment and flow control facilities, other than catch basins.
- Conduct spot checks of potentially damaged permanent treatment and flow control facilities after major storm events (greater than 24-hour, 10-year recurrence interval rainfall). If spot checks reveal widespread damage/maintenance needs, inspect all stormwater treatment and flow control facilities that may be affected.
- Inspect all catch basins and inlets owned or operated by the City every 2 years. Clean the catch basins, if needed, based on inspection to comply with the Ecology Manual maintenance standards.
- Inspect at least 95 percent of all sites where inspection is required (according to the above) either cyclically or storm event related as described above.
- Establish and implement practices to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City and road maintenance activities conducted by the City. This includes streets, parking lots, roads, highways, buildings, parks, open space, road rights-of-way, maintenance yards, and stormwater treatment and flow control BMPs and facilities.
- Develop and implement an ongoing training program for employees of the City whose construction, operations, or maintenance job functions may impact stormwater quality. Follow-up training shall be provided as needed to address changes in procedures, techniques, or requirements.
- Develop and implement a SWPPP for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City in areas that are not required to have coverage under another authorizing NPDES permit.
- Records of inspections and maintenance or repair activities conducted by the City shall be documented.

The City has a proactive maintenance program, which involves periodic, routine maintenance of all stormwater treatment and conveyance structures including storm drains, catch basins, stormwater ponds, stormwater pipe, and outfalls. The following information details the City's current pollution prevention and operations and maintenance activities, as well as future actions that the City may implement to ensure continuance of effective stormwater treatment.

6.1 Maintenance Standards

(Permit Requirement S5.C.5.a)

The City has adopted maintenance standards for stormwater treatment facilities through adoption and implementation of Volume V, Chapter 4 of the 2005 Ecology Manual. These standards are followed for all routine operation and maintenance activities performed at City stormwater treatment facilities. Maintenance is performed per Permit requirements within 1 year for typical maintenance facilities, within 6 months for catch basins, and within 2 years for maintenance that requires less than \$25,000 in capital construction. The maintenance standards will be reviewed and updated as required as the City reviews the 2014 Ecology Manual or equivalent for adoption.

6.2 Annual Inspections

(Permit Requirement S5.C.5.b)

All 23 City owned or operated stormwater treatment facilities, excluding catch basins, are inspected at least annually. All stormwater retention/detention ponds are inspected and maintained at least twice during the summer. Stormwater outfalls are inspected annually in the fall before the start of the wet season, and during and after major storm events. Photographs of the outfalls are taken on a regular basis. Site investigations at all stormwater facilities are documented on inspection forms and maintained at the public works building. The City has implemented an electronic database of inspection and maintenance or repair activities at City owned or maintained stormwater facilities. The use of a database aids in tracking past operation and maintenance activities, as well as helping to dictate future facility inspection schedules.

6.3 Treatment Spot Checks

(Permit Requirement S5.C.5.c)

The City performs spot checks on treatment and flow facilities after major storm events. Any problems noted with facilities after these events are addressed as quickly as possible. If the spot checks indicate widespread damage or maintenance needs, all the potentially affected facilities are inspected.

6.4 Catch Basin Inspections

(Permit Requirement S5.C.5.d)

The City inspected all 1,147 catch basins prior to the August 1, 2017, deadline and will continue to monitor every 2 years thereafter. The City has updated its stormwater facilities map, which includes all catch basin locations. The updated map categorizes stormwater facilities by basin and the City is now performing inspections by drainage basin.

6.5 Inspection Requirement Compliance

(Permit Requirement S5.C.5.e)

The City currently inspects at least 95 percent of its stormwater facilities annually. As mentioned in the previous subsection, the City now performs inspections by drainage basin, which improves inspection efficiency and further ensures that the 95-percent inspection goal is met annually.

6.6 Stormwater Impact Reduction Practices

(Permit Requirement S5.C.5.f)

The City has methods in place to reduce stormwater impacts associated with runoff from lands owned or maintained by the City including streets, parking lots, roads, and highways. These practices include periodic street cleaning, pipe cleaning, ditch maintenance, dust control, and cleaning of culverts that convey stormwater in ditch systems. Records of these types of activities are tracked and maintained at the public works building. In order to ensure full compliance with the Phase II Permit, the City will continue to assess the need for further stormwater impact reduction practices including, but not limited to, road repair and resurfacing, snow and ice control, utility installation, pavement striping maintenance, and roadside area maintenance.

6.7 Ongoing Training Program Development and Implementation

(Permit Requirement S5.C.5.g)

City staff currently receives training regarding stormwater control via on-the-job training. The City has developed a formalized training program to educate workers who perform job functions that may impact stormwater quality and has conducted training for its staff. Additionally, the City will perform training as needed to address changes in procedures, techniques, or requirements. The City documents and maintains records of staff training.

6.8 Stormwater Pollution Prevention Plans (SWPPPS)

(Permit Requirement S5.C.5.h)

The City has developed and implemented SWPPPs for the City's maintenance yard, WWTP, City Shop, and City Hall. The SWPPPs will be followed by the City to ensure that activities conducted in these areas do not adversely impact stormwater quality.

6.9 Inspections and Maintenance/Repair Recordkeeping

(Permit Requirement S5.C.5.i)

The City maintains logs for all inspection and maintenance actions performed at City owned and operated stormwater facilities. The City maintains an electronic database of these activities. The use of the database aids in tracking past operation and maintenance activities, as well as helps dictate future facility inspection schedules.

Appendix A
Department of Ecology
Stormwater Site Inspection Form



Construction Stormwater Site Inspection Form

Project Name _____ **Permit #** _____ **Inspection Date** _____ **Time** _____

Name of Certified Erosion Sediment Control Lead (CESCL) or qualified inspector if *less than one acre*
 Print Name: _____

Approximate rainfall amount since the last inspection (in inches): _____

Approximate rainfall amount in the last 24 hours (in inches): _____

Current Weather Clear Cloudy Mist Rain Wind Fog

A. Type of inspection: Weekly Post Storm Event Other

B. Phase of Active Construction (check all that apply):

Pre Construction/installation of erosion/sediment controls	<input type="checkbox"/>	Clearing/Demo/Grading	<input type="checkbox"/>	Infrastructure/storm/roads	<input type="checkbox"/>
Concrete pours	<input type="checkbox"/>	Vertical Construction/buildings	<input type="checkbox"/>	Utilities	<input type="checkbox"/>
Offsite improvements	<input type="checkbox"/>	Site temporary stabilized	<input type="checkbox"/>	Final stabilization	<input type="checkbox"/>

C. Questions:

- | | | | |
|--|-----|----|--|
| 1. Were all areas of construction and discharge points inspected? | Yes | No | |
| 2. Did you observe the presence of suspended sediment, turbidity, discoloration, or oil sheen | Yes | No | |
| 3. Was a water quality sample taken during inspection? (<i>refer to permit conditions S4 & S5</i>) | Yes | No | |
| 4. Was there a turbid discharge 250 NTU or greater, or Transparency 6 cm or less?* | Yes | No | |
| 5. If yes to #4 was it reported to Ecology? | Yes | No | |
| 6. Is pH sampling required? pH range required is 6.5 to 8.5. | Yes | No | |

If answering yes to a discharge, describe the event. Include when, where, and why it happened; what action was taken, and when.

*If answering yes to # 4 record NTU/Transparency with continual sampling daily until turbidity is 25 NTU or less/ transparency is 33 cm or greater.

Sampling Results: _____ Date: _____

Parameter	Method (circle one)	Result			Other/Note
		NTU	cm	pH	
Turbidity	tube, meter, laboratory				
pH	Paper, kit, meter				

Construction Stormwater Site Inspection Form

D. Check the observed status of all items. Provide "Action Required" details and dates.

Element #	Inspection	BMPs Inspected			BMP needs maintenance	BMP failed	Action required (describe in section F)
		yes	no	n/a			
1 Clearing Limits	Before beginning land disturbing activities are all clearing limits, natural resource areas (streams, wetlands, buffers, trees) protected with barriers or similar BMPs? (high visibility recommended)						
2 Construction Access	Construction access is stabilized with quarry spalls or equivalent BMP to prevent sediment from being tracked onto roads?						
	Sediment tracked onto the road way was cleaned thoroughly at the end of the day or more frequent as necessary.						
3 Control Flow Rates	Are flow control measures installed to control stormwater volumes and velocity during construction and do they protect downstream properties and waterways from erosion?						
	If permanent infiltration ponds are used for flow control during construction, are they protected from siltation?						
4 Sediment Controls	All perimeter sediment controls (e.g. silt fence, wattles, compost socks, berms, etc.) installed, and maintained in accordance with the Stormwater Pollution Prevention Plan (SWPPP).						
	Sediment control BMPs (sediment ponds, traps, filters etc.) have been constructed and functional as the first step of grading.						
	Stormwater runoff from disturbed areas is directed to sediment removal BMP.						
5 Stabilize Soils	Have exposed un-worked soils been stabilized with effective BMP to prevent erosion and sediment deposition?						

Construction Stormwater Site Inspection Form

Element #	Inspection	BMPs Inspected			BMP needs maintenance	BMP failed	Action required (describe in section F)
		yes	no	n/a			
5 Stabilize Soils Cont.	Are stockpiles stabilized from erosion, protected with sediment trapping measures and located away from drain inlet, waterways, and drainage channels?						
	Have soils been stabilized at the end of the shift, before a holiday or weekend if needed based on the weather forecast?						
6 Protect Slopes	Has stormwater and ground water been diverted away from slopes and disturbed areas with interceptor dikes, pipes and or swales?						
	Is off-site storm water managed separately from stormwater generated on the site?						
	Is excavated material placed on uphill side of trenches consistent with safety and space considerations?						
	Have check dams been placed at regular intervals within constructed channels that are cut down a slope?						
7 Drain Inlets	Storm drain inlets made operable during construction are protected.						
	Are existing storm drains within the influence of the project protected?						
8 Stabilize Channel and Outlets	Have all on-site conveyance channels been designed, constructed and stabilized to prevent erosion from expected peak flows?						
	Is stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes and downstream conveyance systems?						
9 Control Pollutants	Are waste materials and demolition debris handled and disposed of to prevent contamination of stormwater?						
	Has cover been provided for all chemicals, liquid products, petroleum products, and other material?						
	Has secondary containment been provided capable of containing 110% of the volume?						
	Were contaminated surfaces cleaned immediately after a spill incident?						
	Were BMPs used to prevent contamination of stormwater by a pH modifying sources?						

Construction Stormwater Site Inspection Form

Element #	Inspection	BMPs Inspected			BMP needs maintenance	BMP failed	Action required (describe in section F)
		yes	no	n/a			
9 Cont.	Wheel wash wastewater is handled and disposed of properly.						
10 Control Dewatering	Concrete washout in designated areas. No washout or excess concrete on the ground.						
	Dewatering has been done to an approved source and in compliance with the SWPPP.						
	Were there any clean non turbid dewatering discharges?						
11 Maintain BMP	Are all temporary and permanent erosion and sediment control BMPs maintained to perform as intended?						
12 Manage the Project	Has the project been phased to the maximum degree practicable?						
	Has regular inspection, monitoring and maintenance been performed as required by the permit?						
	Has the SWPPP been updated, implemented and records maintained?						
13 Protect LID	Is all Bioretention and Rain Garden Facilities protected from sedimentation with appropriate BMPs?						
	Is the Bioretention and Rain Garden protected against over compaction of construction equipment and foot traffic to retain its infiltration capabilities?						
	Permeable pavements are clean and free of sediment and sediment laden-water runoff. Muddy construction equipment has not been on the base material or pavement.						
	Have soiled permeable pavements been cleaned of sediments and pass infiltration test as required by stormwater manual methodology?						
	Heavy equipment has been kept off existing soils under LID facilities to retain infiltration rate.						

E. Check all areas that have been inspected. ✓

All in place BMPs All disturbed soils All concrete wash out area All material storage areas
 All discharge locations All equipment storage areas All construction entrances/exits

Construction Stormwater Site Inspection Form

F. Elements checked "Action Required" (section D) describe corrective action to be taken. List the element number; be specific on location and work needed. Document, initial, and date when the corrective action has been completed and inspected.

Element #	Description and Location	Action Required	Completion Date	Initials

Attach additional page if needed

Sign the following certification:

"I certify that this report is true, accurate, and complete, to the best of my knowledge and belief"

Inspected by: (print) _____ (Signature) _____ Date: _____

Title/Qualification of Inspector: _____