CITY OF BEND

2015-2016 ANNUAL REPORT

STORMWATER NPDES PERMIT NO. 102901
STORMWATER UIC WPCF PERMIT NO. 103052

National Pollutant Discharge Elimination System
Municipal Separate Storm Sewer Annual Report

Underground Injection Control System Annual Report









November 1, 2016

City of Bend

Certification Regarding the City of Bend NPDES Municipal Stormwater Annual Report

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

Jon Skidmore
Assistant City Manager, Operations
City of Bend
October 31, 2016

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ACRONYMS AND ABBREVIATIONS

ACWA	Association of Clean Water Agencies
APWA	Association of Public Works Agencies
ASCE	American Society of Civil Engineers
AWWA	American Water Works Association
BEDAB	Bend Economic Development Advisory Board
BMPs	Best Management Practices
BOPA	Batteries, Oil, latex Paint, and Antifreeze
City	City of Bend, Oregon
CMP	Congestion Management Plan
CPESCL	Certified Professional in Erosion and Sediment Control Lead
COBA	Central Oregon Builders Association
COIC	Central Oregon Intergovernmental Council
COSM	Central Oregon Stormwater Manual
CTF	Stormwater Utility Fee Citizen's Task Force
DEQ	Oregon Department of Environmental Quality
DHS	Oregon Department of Health Services
DWPA	Drinking Water Protection Areas
EPA or US EPA	United States Environmental Protection Agency
ERU	Equivalent Residential Unit
FOG	Fats, Oil, Grease
FTE	Full Time Equivalent
FY	Fiscal Year
GIS	Geographic Information System
GPS	Geographical Positioning System
HHW or HHHW	Household Hazardous Waste
IAC	Utility Infrastructure Advisory Committee
IECA	International Erosion Control Association
IPM	Integrated Pest Management
ISWMP	Integrated Stormwater Management Plan
LID	Low Impact Development
MEP	Maximum Extent Practicable
Monitoring Plan	*City of Bend Water Quality Monitoring Plan*
MS4	Municipal Separate Storm Sewer System
NHD	High-Resolution National Hydrography Data Set
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O & M	Operation & Maintenance
OEC	Oregon Environmental Council
OLCA	Oregon Landscape Contractors Association
PAG	Stormwater Quality Public Advisory Group
PCBs	Polychlorinated Biphenyls

PCOs	Pest Control Operators
PEO	Professional Engineers of Oregon
PIP	Public Involvement and Participation
PNCWA	Pacific Northwest Clean Water Agencies
POCs	Pollutants of Concern
	City of Bend Ambient Water Quality Monitoring Project
QAPP	Quality Assurance Project Plan
SWAT	Stormwater Action Team
SWMP	Storm Water Management Plan or Program
SWPPP	Storm Water Pollution Prevention Plan
TDM	Transportation Demand Management
TMDL	Total Maximum Daily Load
UDWC	Upper Deschutes Watershed Council
UGB	Urban Growth Boundary
UIC	Underground Injection Control; drywell or drill hole
USGS	United States Geologic Survey
WHPA	Wellhead Protection Area
WPCF	Water Pollution Control Facility

1.0 INTRODUCTION

Background

The City of Bend is both a National Pollutant Discharge Elimination System (NPDES) designated small Municipal Separate Storm Sewer System (MS4) owner and operator, and a stormwater underground injection control (UIC) owner and operator. As such, the City is required to meet the requirements of NPDES Permit No. 102901 (DEQ File No. 113602) that it received on February 26, 2007 from the Oregon Department of Environmental Quality and of Water Pollution Control Facility-Underground Injection Controls (WPCF-UIC) Permit No. 103052 (DEQ File No. 112361) that it received on May 14, 2013.

The NPDES permit requirements are based on the federal Clean Water Act (33.U.S.C. ∫1342(p)), as amended, along with federal Environmental Protection Agency (EPA) regulations for MS4 discharges. The permit authorizes the discharge of stormwater from all municipal separate storm sewer system outfalls owned and operated by the City. The City has 30 outfalls to the river that serve a portion of the City along the Deschutes River and West Hills. Privately owned and maintained entities, such as the Old Mill District and specific subdivisions in town that do not discharge to the City's MS4 system, are outside of the City's direct jurisdiction with respect to the NPDES permit. The City has applied for renewal of its NPDES permit and is working with DEQ to negotiate the terms for the next five year permit, which is expected now to be a statewide general permit. In the meantime, the City's permit coverage is extended through the negotiation period under the existing permit, and so the City must continue to implement the Integrated Stormwater Management Plan (2006) during this time.

Per item 1 of the NPDES permit's Schedule C, Compliance Conditions and Schedules, initial implementation of the approved stormwater management plan (the City's *Integrated Stormwater Management Plan* (ISWMP)), was required to begin by July 31, 2007. The ISWMP (2006) described the activities the Program would implement during the City's first 5-year NPDES permit period. These activities are divided among the following major components of the Program:

- Overall Program Administration, Planning and Financing;
- Public Education and Outreach;
- Public Involvement and Participation;
- Illicit Discharge Detection and Elimination;
- Construction Site Stormwater Management;
- Post-Construction Stormwater Management in New and Redevelopments;

- Municipal Operations and Maintenance—Pollution Prevention and Good Housekeeping;
- Monitoring;
- Drinking Water Protection Areas: Investigation, Re-Delineation and Management.

On May 14, 2013, the City received its first Water Pollution Control Facility Permit (WPCF) for Underground Injection Controls (UIC) under the federal Safe Drinking Water Act and Oregon Administrative Rules. This permit covers the City's drywells and drill holes that inject stormwater into the ground. The WPCF permit allows the City to operate Underground Injection Control systems to manage stormwater. Starting in FY2013-14, the City began implementing the Integrated Stormwater Management Plan 2022 (2012) that was accepted under the City's WPCF-UIC permit and is being considered for the NPDES permit reissuance negotiation.

Contents of the Annual Report

This represents the tenth Annual Report submitted to the DEQ and describes stormwater quality and pollution prevention activities implemented by the City during Fiscal Year 2015-2016 (July 2015 through June 2016). As quoted from item 2 of the NPDES permit's Schedule B, Monitoring and Reporting Requirements, the annual report must contain the following:

> a) The status of compliance with permit conditions, an assessment of the appropriateness of the identified BMPs, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP (maximum extent practicable), and the measurable goals for each of the minimum control measures;
>
> b) Results of information collected and analyzed, if any, during the reporting period, including evaluation criteria used to assess the success of the program at reducing the discharge of pollutants to MEP;
>
> c) A summary of the stormwater activities the permittee plans to undertake during the next reporting cycle, including a schedule for implementation;
>
> d) A description of changes made to the SWMP, including changes to BMPs or measurable goals identified in the SWMP;
>
> e) Information on all new additions or removals of annexed areas that result in an expansion or contraction of the MS4's boundaries;

f) Notice that the permittee is relying on another government entity to satisfy some of the permittee's permit obligations (if applicable); and,

g) Number and nature of enforcement actions taken.

Per subsection 4. of the City WPCF-UIC permit, the annual Underground Injection Control System Report must:

a. Include stormwater monitoring reports conducted in accordance with their Stormwater Monitoring Plan, including a spreadsheet of all data from sampled UICs provided in the analytical laboratory reports;
b. Discuss any action level exceedances (outlined in Permit Table 1) and actions taken to address the exceedances;
c. Describe any actions taken to implement the Underground Injection Control System Management Plan required in Schedule D, condition 5, any proposed modifications to the Underground Injection Control System Management Plan, and any additional actions taken to manage the City's injection systems to ensure groundwater protection;
d. Describe any actions described in your Underground Injection Control System Management Plan that you were not able to complete and why;
e. Identify any injection systems that you closed, retrofitted, or installed during the year;
f. Describe your future (in the next year) known plans to install, modify, convert, or close any underground injection systems; and
g. Provide one hard copy and one electronic copy of the annual Underground Injection Control System Report to DEQ.

The Annual Report contains detailed information on each component required by both permits, including the purpose and general strategy of the component; the tasks completed; an assessment of the effectiveness of activities conducted in reducing or preventing stormwater pollution; and a summary, by individual component, of modifications proposed to the ISWMP per the review conducted this fiscal year. Tables or documents produced under each task are presented in an appendix at the end of each component section. At the end of each task header throughout the report, a notation is included as to whether the task applies to the City's Municipal Separate Storm Sewer System (MS4), which is the piped system that drains to the Deschutes River or other surface waterbody, or to Underground Injection Controls (UIC) or both. The stormwater quality regulatory requirements are different depending on whether the stormwater discharges through an MS4 or UIC system.

2.0 OVERALL PROGRAM MANAGEMENT AND LEGAL AUTHORITY

Introduction

This section describes the overall administrative and management support functions that the City provides to operate and manage the stormwater quality program. This section also describes activities to ensure adequate legal authority and facilitate enforcement of the City's environmental codes related to water quality. In general, the City's stormwater staff are responsible for the overall coordination of the Integrated Stormwater Management Plan (ISWMP) (2006) and ISWMP 2022 (2012). However, several City departments assist the stormwater utility staff with the coordination and implementation of the tasks, taking direct responsibility for some tasks.

Tasks Completed (ISWMP (2006))

The following ISWMP standard and steady improvement tasks have been completed or are ongoing:

Task II.1 Administration and Coordination (MS4/UIC)

Stormwater Coordinators. The City exceeded the requirement of having interdepartmental stormwater coordination meetings at least four times per year in FY2015-16. Stormwater Coordinators consist of multiple intra-agency groups that focus on coordinating on stormwater issues, taking the duties of the now-defunct Stormwater Action Team (SWAT) that was active in the initial years of the utility. Stormwater Coordinators are comprised of Stormwater Liaisons, and those department heads and in higher management attending a direct reports meeting to the assistant City Manager, Jon Skidmore, discussing topics including stormwater that would previously be covered by the now-defunct Economic Development and Infrastructure Strategic Management (EDISM), and subgroups of these. The direct reports meeting occurs twice monthly.

The Stormwater Liaisons consists of representatives from multiple departments that focus on stormwater issues. Stormwater items that require coordination at the highest department-head level are handled through the standing meetings with the assistant City Manager or other City management and department head level coordination meetings. Such high level meetings this year discussed utility budgeting and rates. For efficiency, the City continued having targeted meetings with subgroups of this Liaisons group and other sub group members on specific issues.

Stormwater Liaisons meetings included:

- Stormwater Liaisons Meetings (10/19, 4/15, 6/15)
- Stormwater Liaisons—Streets/Stormwater (5/16)

Meeting agendas and sign-in sheets for Stormwater Liaisons meetings are included in Appendix A.

Stormwater coordination inclusive meetings included:

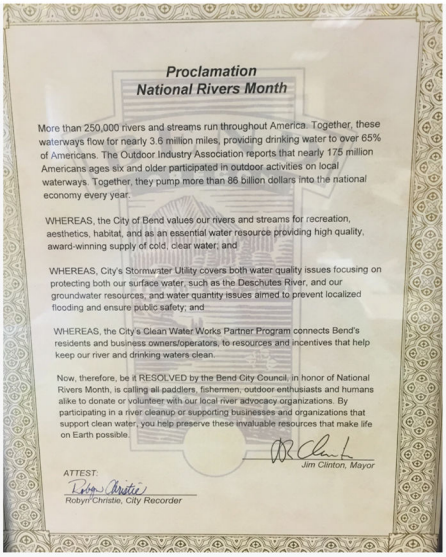
- Interdepartmental Supervisor/Manager Meetings (EIPD, Streets, Utilities) (Monthly)
- Storm Drain Art Proposal Review (7/2)
- Quest at the Fest Planning (7/7)
- Stormwater Billing Audit (7/27)
- Private Drainage Facility Mapping Data Need (7/29)
- Clean Water Works Public Outreach Campaign (7/14, 7/21, 7/28)
- Utility Inspection Coordination Meetings (monthly as needed) (8/6, 9/1, 10/14, 11/9, 1/5, 2/8, 4/5)
- Stormwater Regulatory, O&M, Lab, and Sweeping Coordination (8/5, 9/2)
- FY 2014-15 Stormwater Sampling Review (10/2)
- Group Redline Plan Review (Utilities, Private Engineering) (weekly as needed)
- Stormwater Budget Analysis (1/16)
- Flow Monitoring Coordination (4/1, 4/4, 4/11, 5/4)

City staff also continued to participate in the SE Interceptor, Galveston Corridor Improvement project, 14th Street, and South Awbrey Butte stormwater planning efforts. The Galveston Corridor project purpose is "to create a collective effort of business owners, property owners, and neighboring residences to enhance economic vitality, improve pedestrian and bicycle safety and effectively manage stormwater along the Galveston corridor (See http://www.bend.or.us/index.aspx?page=1240 for project details).

Organization charts of stormwater utility staff are included in Appendix A.

City Council. In FY2015-16, the City Council:

- Made a National Rivers Month proclamation and discussed stormwater as part of the Galveston improvement project (see July 2015 agenda: http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=348),
- Decided on revisions to Part V-Construction Observation and Inspection Requirements of the City of Bend Public Improvement Procedure Standards and Specifications revised 8/2015 that involves having the engineer of record signing off on right-of-way improvements (http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=351);
- Approved a Bend Addendum to the 2015 Deschutes County Multi-



Proclamation
National Rivers Month

More than 250,000 rivers and streams run throughout America. Together, these waterways flow for nearly 3.6 million miles, providing drinking water to over 65% of Americans. The Outdoor Industry Association reports that nearly 175 million Americans ages six and older participated in outdoor activities on local waterways. Together, they pump more than 86 billion dollars into the national economy every year.

WHEREAS, the City of Bend values our rivers and streams for recreation, aesthetics, habitat, and as an essential water resource providing high quality, award-winning supply of cold, clear water; and

WHEREAS, City's Stormwater Utility covers both water quality issues focusing on protecting both our surface water, such as the Deschutes River, and our groundwater resources, and water quantity issues aimed to prevent localized flooding and ensure public safety; and

WHEREAS, the City's Clean Water Works Partner Program connects Bend's residents and business owners/operators, to resources and incentives that help keep our river and drinking waters clean.

Now, therefore, be it RESOLVED by the Bend City Council, in honor of National Rivers Month, is calling all paddlers, fishermen, outdoor enthusiasts and humans alike to donate or volunteer with our local river advocacy organizations. By participating in a river cleanup or supporting businesses and organizations that support clean water, you help preserve these invaluable resources that make life on Earth possible.

Jim Clinton, Mayor

ATTEST:
Robyn Christie, City Recorder

National Rivers Month Proclamation, July 2015.

Jurisdictional Natural Hazards Mitigation Plan addressing joint response for cases such as flooding, winter storms, etc. in September 2015 (http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=351);

- Received updates on Galveston and 14th Street projects and selected a consultant for Galveston in January 2016 (http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=364; http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=365);
- Discussed in February a riparian upgrade project from the Upper Deschutes Watershed Council, Covered Loads, and Commute Options "Open Streets" project concept (http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=366; http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=367);
- Authorized the South Awbrey Butte Drainage study contract with HDR in April (http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=375);
- Adopted the FY2016-17 fee schedule in June 2016. (http://bend.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=379)

As in past years, City staff notified City Council of stormwater updates through a written message in the weekly City Manager memorandum to Council, such as an analysis of the Clean Water Works program (see Appendix A for an example). City Council was also kept appraised of Mirror Pond project updates, which include proposals for stormwater improvements.

Other. Coordination also occurred external to City staff. This included coordination of the Stormwater Quality Public Advisory Group and participation in other local, regional and statewide groups.

Public Advisory Groups. The City's Stormwater Quality Public Advisory Group (PAG) provided input to staff on stormwater quality issues and projects during the year; see Task IV-1 for more details.

Regional and Statewide Groups. City staff served on the Board of the Oregon Association of Clean Water Agencies (ACWA), and participated on the Groundwater Committee, Stormwater Committee, and Public Education committees. Staff also continued to lead the illicit discharge detection and elimination outreach subgroup that is working to revise and develop multiple best management practices fact sheets and booklets to aid in minimizing illicit

discharges. Drafts of several fact sheets and other outreach were created and reviewed by three ACWA committees for content during FY2015-16 in preparation for graphic layout final drafts.

Additionally, City managerial staff actively participated in the Pacific Northwest Clean Water Association (PNCWA) with the City's Utilities Operations and Maintenance Manager Shannon Ostendorff serving as PNCWA president. City staff also participated in the statewide DEQ MS4 Advisory Committee for the Phase II NPDES MS4 permit.

City staff presented to national and statewide groups with regards to sharing program components with other agencies and regulators to improve efficiencies and understanding through information sharing. On November 18, 2015 the City Stormwater Program Manager participated in a webinar for the Center for Watershed Protection regarding "Post-Construction Stormwater Controls—Behind the Scenes in Bend" (see Appendix F) to 88 sites including private consultants, Phase II and other municipalities, and state governments. In May 2016, the City Stormwater Program Manager provided a presentation at the annual ACWA Stormwater Summit on social marketing in relation to the Clean Water Works partnership program (see Appendix B).

The City of Bend is an Accredited Public Works Agency, which it earned through the American Public Works Association. The accreditation process includes review of the City of Bend's stormwater activities and processes.

Effectiveness. As described above, there continued a large amount of coordination in FY2015-16, but with a continuance of emphasis on more focused meetings to increase efficiency as workload pressures continued to remain high. Together the Stormwater Coordinators (which have taken the place of the former Stormwater Action Team) well exceeded the measurable goals for FY2015-16. The City has effectively worked to further incorporate ad hoc task groups to improve efficiency and effectiveness with key staff people on smaller implementation projects.

Task II.2 Legal Authority (MS4/UIC)

The goal of this task is to ensure that the City has the legal authority to implement the various elements of the ISWMP. Securing adequate legal authority has been a top priority in developing the stormwater quality program. On December 6, 2006, the Bend City Council adopted the Integrated Stormwater Management Plan. Since the adoption of the ISWMP, the Bend City Council has passed several resolutions establishing the stormwater utility and ensuring adequate funding will be available to the stormwater utility.

In 2011, the City adopted an updated Standards and Specifications that

strengthened and clarified stormwater requirements and adopted the Central Oregon Stormwater Manual (August 2010). On January 4, 2012 the City Council adopted Bend Code Title 16 a comprehensive management stormwater ordinance covering clearing, grading and erosion control on construction sites; stormwater management design standards and maintenance controls; illicit discharge controls; well drilling; and stormwater drainage utility. (See Appendix A of the FY2011-12 Annual Report for the full title).

The City finalized the City's first formal Stormwater Master Plan on August 6, 2014 by unanimous decision. The Stormwater Master Plan formed the basis for the City's first Stormwater Public Facilities Plan, developed by the City to meet State land use OARs Goal 11. The City adopted its first Stormwater Public Facilities Plan (PFP) and Findings at the December 17, 2014 City Council meeting and has been acknowledged by the Oregon Department of Land Conservation and Development (DLCD). These documents have both helped the City meet State Goal 11 requirements.

On August 14, 2015, a new provision added to Bend Code 11.16.120 became effective related to requiring secure, lockable, leak-proof oil and /or grease containers to prevent spillage and dumping (see Appendix A).

Effectiveness. The City has met its measurable goals for all subtasks. Over the initial NPDES MS4 permit term, the City has successfully passed resolutions and an ordinance to set up the stormwater utility, adopted the improved standards and specifications, and adopted the new stormwater ordinance, Bend Code Title 16. The City continues to work in a thorough, planned approach to address stormwater improvement opportunities as they arise.

Task II.3 Financing (MS4/UIC)

Over the course of the Integrated Stormwater Management Plan (2006) planning period, the City has adopted several resolutions and Title 16 that established a stormwater utility with enterprise funding through monthly service charges based on impervious surface coverage. The rate in FY2015-16 was increased to $5 per equivalent residential unit (ERU), and another increase, to $5.15/ERU, was passed in June 2016 for FY2016-17. The increases are in line with the funding needed for the projects outlined in the City's Stormwater Master Plan, adopted by City Council on August 6, 2014. The Stormwater Utility brought in revenues of $3.2 million in FY2015-16 to cover quantity and quality issues.

The City operates on a biennial budget. The FY2015-17 budget report related to stormwater is included in Appendix A of the FY2014-15 annual report. Finally, staff kept abreast of federal and state rule changes that could impact or influence legal authority and requirements including the EPA's proposed Waters of the

U.S. Rule, and federal lawsuits related to Total Maximum Daily Loads (TMDLs).

Effectiveness. The City has successfully established a stormwater utility service charge, and began collecting fees in July 2007. Fees were effectively raised for the first time to $5/ERU starting in July 2015 to meet the needs of the adopted Stormwater Master Plan, and again as part of the fee resolution in 2016. Starting July 2016, the stormwater service charge will be $5.15/ERU. The FY2016-17 anticipated revenue including rate, non-rate, and interest is $3.4 Million. The City Budget Committee and City Council supported the budget and rate increases. The fees cover stormwater quality and regulatory compliance activities, stormwater facility operation and maintenance, half the City's street sweeping program due to the stormwater quality benefits of street sweeping, as well as capital improvement projects and maintenance projects.

The City has been conducting a periodic audit of its billing as a result of the last aerial photograph for quality assurance. As of March 2016, 203 audit-related changes to the billing system have been made as a result to ensure accuracy.

Task II.4 Planning (MS4/UIC)

In the fall of FY 2006-07, the City underwent a thorough review and rewrite of its original stormwater management plan. City Council adopted the revised Integrated Stormwater Management Plan on December 6, 2007. Per the NPDES permit requirements, implementation of the Integrated Stormwater Management Plan had to begin by July 31, 2007. In July 2011, the City submitted a draft Integrated Stormwater Management Plan 2022 as part of its NPDES permit reissuance renewal application for DEQ review. The City released the draft in October 2011 for full public review through January 2012. The City incorporated those comments along with modifications based on changes to the WPCF-UIC permit template. The City resubmitted the revised draft ISWMP 2022 to DEQ for consideration as the management plan for both its piped system to the river (NPDES permit SWMP) and for drainage to dry wells and drill holes (UIC management plan) in December 2012. DEQ accepted the ISWMP 2022 for the WPCF-UIC permit after holding its own public review period, and is still reviewing it for the City's NPDES Phase II permit reissuance. Therefore this annual report summarizes efforts to implement both ISWMPs. A review of the ISWMP this year resulted in no recommended changes.

The City continues to prepare for future regulations by participating on the DEQ NPDES Phase II MS4 Advisory Committee (MAC), and by staying appraised of TMDL regulatory issues.

Since July 2007, the City of Bend voluntarily retains

American Public Works Association (APWA) Accreditation, a certification that the City complies with the recommended practices in the APWA Public Works Management Practices Manual. One full chapter in the APWA Manual focuses on stormwater and includes several water quality-related sections.

Annexations. In FY2015-16, there were no annexations.

Urban Growth Boundary. In 2009, the City of Bend submitted a proposal to expand the City's urban growth boundary (UGB) to the Oregon Department of Land Conservation and Development (DLCD) for approval. In 2010, the Oregon Land Conservation and Development Commission (LCDC) issued an order that partially acknowledged and remanded the proposal back to the City for further work, which is continuing. The City is on track to have both the City Council and the Deschutes County Board of Commissioners adopt a final UGB amendment in FY2016-17. City stormwater staff continues to track the ongoing process (see: http://www.bend.or.us/index.aspx?page=1290 for UGB updates).

Effectiveness. The City effectively met the August 2011 deadline for submittal of its NPDES Permit reissuance package for DEQ review. The City obtained its Water Pollution Control Facility Permit for stormwater underground injection controls on May 14, 2013. The NPDES permit reissuance is still actively being developed as a statewide general permit with public review and finalization planned in FY2015-16.

Task II.5 Annual Reporting (MS4/UIC)

This annual report, covering FY2015-16, is the tenth annual report prepared by the City and serves to cover ISWMP (2006), describing continuing activities and achievements made to meet the water quality requirements of the NPDES permit and ISWMP 2022 which has been approved by DEQ as the management document for the WPCF-UIC permit. This is the third annual report submitted to DEQ for activities required by the WPCF-UIC permit. Descriptions of effectiveness are included under each task. Per the City's stormwater permits, the annual reports are due by November 1 of each year. A summary of performance standard implementation status to date for all components is included in Appendix A. This annual report was created with input and review from Stormwater Liaisons members representing several municipal departments and Stormwater Quality Public Advisory Group (PAG) members representing various community interests (see Appendix C). All annual reports are posted on the City's website (www.bendoregon.gov/stormannualreport), and City staff are open to comments and suggestions for improvements.

Effectiveness. The completed report signifies that this task has been met for the current fiscal year. The review of the draft by the Stormwater Quality Public Advisory Group and internal departments helped improve the quality of the final

document.

Task II.6 UIC Registration (UIC[1])

The City's GIS geodatabase includes all known City-owned stormwater facilities, an impervious surface area layer and drinking water protection area layers. A copy of the most recent (September 2016) UIC registration list is included in Appendix I. This provides information on new UICs, as well as UICs that have been closed or retrofitted. The City's UIC facilities and wellhead protection areas are included on the City's mapping services website, using Geoblade and transitioning to BOOM, located at: http://www.bendoregon.gov/index.aspx?page=463. Additionally the City has street level imagery that staff can use for internal research purposes.

Effectiveness. This is an ongoing task, but the City continues to update and improve its base map of existing structures and knowledge of its facilities. The City's database now includes 4,951 drywells (up from 4,804 dry wells last year); 974 active drill holes, 4 drain fields, 184 swales and 10,914 catch basins and additional storm facilities. The database also includes the location of bioswales, the direction of pipe flows, and dry well test report data.

City staff have developed a standard operating procedure for registering and incorporating public UICs under the City's permit under one facility, which has been helpful for maintaining the accuracy of the City's UIC database. With the receipt of the permit, some procedures have been modified to reflect the permit registration requirements.

Tasks Completed (ISWMP 2022)

The City's WPCF-UIC permit recognized the ISWMP 2022. Whereas several of the tasks mirror those in the original ISWMP (2006), some are different. For those that mirror, we direct you to the ISWMP (2006) task status update.

BMP II-1. Administration and Coordination (MS4 and UIC)
See ISWMP 2006 Task II.1 Administration and Coordination (MS4/UIC).

BMP II-2. Legal Authority (MS4 and UIC)
See ISWMP 2006 Task II.2 Legal Authority (MS4/UIC).

BMP II-3. Financing (MS4 and UIC)
See ISWMP 2006 Task II.3 Financing (MS4/UIC).

BMP II-4. Planning (MS4 and UIC)
See ISWMP 2006 Task II.4 Planning (MS4/UIC).

[1] See BMP V-5 for MS4-related mapping.

BMP II-5. Annual Reporting (MS4 and UIC)
See ISWMP 2006 Task II.5 Annual Reporting (MS4/UIC).

Summary Assessment of Effectiveness

Since adoption of the ISWMP (2006), the City has (a) formed a stormwater utility, (b) obtained reliable funding for that utility, (c) staffed the utility, currently with a program manager, a program analyst, 4 dedicated stormwater field staff, 3 FTE sweeper staff, 1/2 FTE management/administration staff, support to Engineering and Infrastructure Planning Department for stormwater capital projects, and additional temporary staff as needed. The City is actively coordinating internally, as well as with the public through the Stormwater Quality Public Advisory Group and stormwater quality staff participate on other city planning task groups as invited. Additionally, the City is also actively coordinating with other municipalities in the state (through the Oregon Association of Clean Water Agencies (ACWA), Pacific Northwest Clean Water Association (PNCWA), and Association of Public Works Agencies (APWA), to improve effectiveness, knowledge and efficiencies. The internal meeting summaries included in Appendix A are evidence of continued coordination among departments.

The City was effective in improving its stormwater-related legal authority as per regulatory requirements including for construction site management, post-construction controls, utility and financial stability, and illicit discharge. Efficiency could increase if the City could operate under just one Integrated Stormwater Management Plan 2022 rather than the dual plans given the permit reissuance timing, but the City appreciates the efficiencies of being able to submit one annual report for both permits, given that the systems are interrelated.

ISWMP Revisions/Future Improvement Tasks

The City has reviewed the ISWMP 2022 tasks and has the following updates to the ISWMP 2022 itself at this time. As the EDISM group has morphed into the Assistant City Manager's direct reports meetings, the ISWMP 2022 description should be modified eventually to reflect this; however the tasks themselves are broad enough where they can be met need for permit change.

With regards to responsible personnel (Table II-1 in ISWMP 2022), the following changes have occurred since 2012:

- Public Works has been split into three different departments: Streets, Utilities, and Engineering and Infrastructure Planning Department (EIPD). The Directors of each of these departments report to Assistant City Manager Jon Skidmore.
- Paul Rheault is now the Utilities Director rather than the Public Works Director.

- David Abbas is the Streets Department Director.
- Tom Hickmann is now the Engineering and Infrastructure Planning Department Director.
- Ryan Oster is the City Engineer.
- Mel Oberst has retired; Russell Grayson is the City's Community Development Director.
- Sonia Andrews has left the City and Sharon Wojda is the Finance Director.
- Anne Aurand is the new Communication Director, replacing Justin Finestone.
- Hardy Hanson retired; Charles Swann oversees Street supervision.
- Terry Burks retired. The Utilities Manager role has disappeared, but the duties are now handled by Interim Assistant Utility Director Teresa Ristoff.

For FY2016-17, the City will be proposing modifications to the UIC Stormwater Monitoring Plan for consideration due to different methodologies needed given a new contract lab, removal of extra analytes not required in the permit, and a proposed change in sampling location within the same corporation yard site due to installation of a new treatment device.

The City continues to seek to have one stormwater quality management plan to address both its surface water and underground discharges, thus an integrated stormwater management plan. The City submitted to DEQ by the August 3, 2011 NPDES Permit reissuance submittal deadline, a fully updated draft Integrated Stormwater Management Plan 2022 for DEQ NPDES staff review. The draft ISWMP 2022 public review period ran from October 2011-late January 2012, and included a public meeting. The City revised the document (November 30, 2012) based on comments received and submitted it to DEQ as part of the WPCF-UIC permit issuance package in December 2012. This revised copy was also provided for consideration by DEQ NPDES permit staff. As part of the WPCF-UIC permit issuance, the draft ISWMP 2022 underwent a public review period conducted by DEQ and was accepted without change. The City began implementing the ISWMP 2022 in FY2013-14 under the WPCF-UIC Permit that was issued in May 2013, and carries through a 10-year planning period to coincide with that permit.

A major review will be conducted at the five year planning mark of the UIC permit (by FY2018-19) as well as when the NPDES Phase II General Permit, designed to take the place of the existing individual NPDES Phase II MS4 permits, is released. While DEQ staff continue to develop the NPDES MS4 permit the City must by NPDES permit regulations also continue to implement the original ISWMP (2006). City staff are effectively meeting the initial performance standards based on the timeline adjustments noted in the ISWMP 2022 given the date of acceptance and permit issuance (see Appendix A for an implementation status summary of performance standards within ISWMP 2022).

3.0 PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

Introduction

The purpose of this component is to implement a program to distribute educational materials to the community or conduct equivalent outreach activities about stormwater discharge impacts on water resources, including both surface waters and groundwater, and the steps that the public can take to reduce such pollutants in stormwater runoff. The City is committed to providing a strong public outreach component for this program to provide the public a basic understanding of what stormwater is and why using best management practices (BMPs) matter.

Tasks Completed (ISWMP (2006))

The following tasks have begun or continued implementation in FY2015-16.

Task III.1 Utility Bill Inserts, Brochures or Posters (MS4/UIC)

Utility Bill Inserts. The Our City newsletter is included with utility bills. The July 2015 newsletter encouraged readers to download the City's Annual Water Quality Report that includes mention of the stormwater quality program (see http://bendoregon.gov/Modules/ShowDocument.aspx?documentid=23625 and www.bendoregon.gov/waterreport). The August 2015 version included an article on New Utility Rates, discussing the increases to utility rates including stormwater. The same edition included an article offering free irrigation sprinkler inspections, a program put on by the Utility Water Conservation group that can help reduce dry weather stormwater flows as well (see http://bendoregon.gov/Modules/ShowDocument.aspx?documentid=23920).

Clean Water Works Campaign. In spring of 2015, the City kicked off its new Clean Water Works campaign, which it continued with a Clean Water Works partnership program through December 2015. As part of the Clean Water Works campaign, the City incorporated an identifier and several new outreach pieces including illicit discharge fact sheets for residents and businesses, lead reduction fact sheet, sediment reduction fact sheets, food service outreach update, business inspection checklist, a commercial vehicle wash fact sheet, and distributed a Kids Activity Guide that was developed in April 2015 (see Appendix B). Several outreach sheets were based on the information in the City's own pollution prevention trainings, for which the Public Advisory Group suggested that

they be extended to the public. In August 2015, the City staff provided Clean Water Works Partner materials to all partners. These included point of purchase displays, discount cards, and partner water bottles and bags to 23 businesses.

The City continued to post a call for entries for the City of Bend, Zolo Media and BendFilm Clean Water Works video contest for students for both August 2015, and then again in the spring for a separate 2016 contest. In spring 2016, the City worked with BendFilm to distribute the 2016 contest flyer electronically to area schools with students in the age range of the contest (5th-12th grade) as part of BendFilm's Future Filmmakers outreach. And staff again provided an electronic copy to the local Home School outreach group to post to their members. The City also posted at Quest at the Fest one 3'x10' and two 3'X 8' banners that included the Clean Water Works logo and pollution prevention messages for use starting in FY2015-16 (see below). The banners are being used primarily for displays at outreach booths at events.

The City implemented a Clean Water Works Partnership Program (see Chapter 4 for details) that included distribution of discount cards and/or Clean Water Works educational materials at Stream Stewardship Day (August 8) City offices, Munch n Movies booth (September 11), CJ Lovejoys for a neighborhood road opening celebration (September 13), Octoberfest (September 16-18), and as part of Discover Nature Festival via Environmental Center staff (September 26), and distributed educational materials at the City's Earth Day parade and festival booth in April 2016. The City provided a presentation on the effort at the annual ACWA Stormwater Summit in May (see Appendix B)

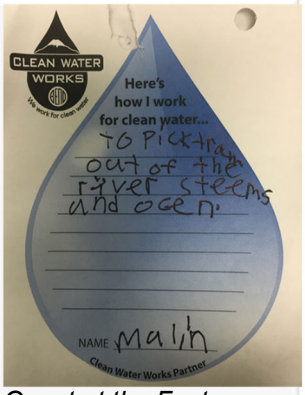


Clean Water Works Banner (3'X10').

Targeted Mailouts. The City conducted a targeted mailout to car washes in June 2015, and then separate targeted mailouts to all developers, food service, carpet cleaner facilities with a Bend Business License at the beginning of July to invite them to join the Clean Water Works Partner program. As part of this effort, the City sent a mailing with an introductory letter, fact sheet, partnership form, and Clean Water Works sticker inviting them to participate (see Appendix D). The targeted mailings were sent to businesses that were selected based on the campaign pollutants of focus (illicit discharges in general, lead, and sediments).

"It's All Connected" Outreach. As a sub-message in Clean Water Works messages, the City continued to use the "It's All Connected" message to illustrate to the public the connections between stormwater, drinking water and river water quality, and the importance of not polluting. The City distributed illicit discharge flyers and Illicit Discharge Minimization Manuals with the "It's All Connected" graphic. Additionally, the sound bite from the 30-second public service announcement that is included on the City's You Tube and web page (http://www.bendoregon.gov/index.aspx?page=290) is played on the City's public works telephone "hold" music. The storm drain art and film contest used an "It's All Connected" theme as well (see Section 4 Public Involvement for more information)

Other Outreach/ Distribution. On Saturday, July 11, 2015, City staff included the watershed diorama and introduced the new working UIC diorama at Quest at the Fest, the City's area at Summerfest festival and instituted a clean water pledge that received 96 pledges handwritten by visitors (see picture at right for an example, and Appendix B for a summary).



Quest at the Fest Clean Water Works Pledge Sheet example.

The City also distributed training opportunity and other announcements by email using the City's Stormwater Stakeholder email list; and made announcements on the City's website and social media including Facebook and Twitter.

City stormwater staff stocked information holders at public areas throughout the City (Boyd Acres, 15th Street, City Hall, Finance Department) with one or more of the following:

- Kids Activity Guide
- ACWA "Protecting Your Watershed" (English and Spanish)
- Considering Stormwater—Time and Moneysaving Considerations at the Conceptual Planning Stage
- ACWA Construction Site Stormwater Guide—Illustrated Best Management Practices
- ACWA UIC brochures (Clean Water Tips for the Home and Clean Water Tips for Business and Industry)
- APWA "P.W. Paws Rain of Terror" comic book
- Bend's Better Site Design Walking tour—Ideas for Keeping Water Quality in Mind When Developing Sites
- Training Webinar Announcements
- Illicit Discharge Manual
- Pressure Washing and Surface Cleaning Brochure
- Oregon Rain Garden Guide with revised Plant List

City staff continued to provide outreach that discussed the importance of not discharging Fats, Oil, and Grease (FOG) into sewer or storm drains (see webpage at http://www.bend.or.us/index.aspx?page=190).

The City staff led an ACWA IDDE outreach project that included developing a draft of a pressure washing fact sheet and booklet, and landscaper outreach, together with several other outreach still under development.

City staff provided a presentation as part of a nationwide webinar by the Center for Watershed Protection on post construction controls in November 2015, an information sharing presentation to a joint ACWA Groundwater/ Stormwater/ Public Education Committee meeting in February 2016 on the Clean Water Works Partnership program, and a presentation entitled "Community Based Social Marketing—Clean Water Works Campaign" at the ACWA Stormwater Summit on May 11, 2016 (see Appendices A and F).

Effectiveness. The City of Bend conducted a pre-Clean Water Works campaign survey in spring 2015 and a post campaign survey conducted in October 2016 with the report completed in April 2016 (see Appendix A, specifically appendix to City Manager Memorandum to City Council). The survey was designed to include baseline questions to compare the effectiveness of the stormwater program over time. This was the first time the City has paid for a stormwater specific statistically significant professional survey. Statistically significant findings occurred between the baseline and final survey. See summary assessment at the end of the chapter for a summary.

The City chooses long-standing guides like the Bend Park and Recreation District's Recreation Guides to display its educational outreach messages because these are more likely to be kept around for a while before being discarded, lending to additional chances to be viewed multiple times by the target audience.

City staff used additional resources to spread the stormwater pollution prevention message this year, including the Upper Deschutes Watershed Council, Environmental Center, the Bend Arts, Beautification and Culture Commission, and several volunteers participating in the Clean Water Works Partnership Program. This helped reach the word beyond typical channels.

Task III.2 Stormwater Pollution Prevention Web Site (MS4/UIC)

The City continued to update the stormwater website www.bendoregon.gov/stormwater by revamping the site to incorporate and keep up to date the Clean Water Works campaign a www.bendoregon.gov/cleanwaterworks. The Clean Water Works website includes buttons for home and garden resources;

kid's page; businesses; and discounts and partners. The website includes general stormwater quality information as well as topics of interest to the general public. The rest of the stormwater site remains organized into interest areas, including: What's New?, About Stormwater, Business Resource, Home Resources, Regulations, Stormwater Master Plan, Get Involved, and Frequently Asked Questions. The "Get Involved" section includes several outreach resources for interested consumers. The City announces new- and redevelopment-related stormwater webinar workshops through the City's stormwater webpage, as well as posting outreach materials (www.bendoregon.gov/stormwaterbmp) and City infrastructure projects like Galveston (http://www.bendoregon.gov/index.aspx?page=1375) and South Awbrey Butte Drainage Study (http://www.bendoregon.gov/index.aspx?page=1351) and existing long term plans such as the Stormwater Master Plan (www.bendoregon.gov/stormwatermp). There was continues to be a site for the Third Street Underpass project (see http://www.bendoregon.gov/index.aspx?page=645). The City also continued to use other communication tools, such as Facebook, Twitter, and an internal City intranet site to distribute announcements.

Effectiveness. Overall, the use of the website has again increased over the past year (see table on page 3-5). The exception to this is the Business and Home page, which makes sense given that the page was split this year with the Home and Garden section moved onto its own page. Keeping the stormwater website updated is a continual process. The City has included a link on the website to comment on the stormwater pages and no comments from that link were received during FY2015-16. Over 190 people are on the City News email update list. Although still relatively small in relation to population size, the City's Facebook presence continues to grow. The City has over 9,577 likes in FY2015-16, up from 6,628 Likes on its Facebook page last year. Twitter following continues to trend upward. The City currently has 5,502 followers on Twitter, up from 4,292 in FY2014-15 and 2,921 followers in FY2013-14 and 1,177 followers in FY2012-13. Increasing trends means social media is becoming an increasingly useful media to incorporate into campaigns. As Table 3.1 illustrates, the Clean Water Works partnership efforts were useful in increasing the number of hits to the Clean Water Works page showing a year to year increase in visits of over 130%.

Table 3.1 Web Page View Comparison (FY2014-15 to FY2015-16)

Page Title	Date Range	Visits	Pageviews	Avg Time	% Exit
City of Bend : Clean Water Works					
	7/1/2014-6/30/2015	86	723	0:01:18	11.48%
	7/1/2015-6/30/2016	205	1,234	0:01:19	16.45%

Page Title	Date Range	Visits	Pageviews	Avg Time	% Exit
	% Change	138.37%	70.68%	1.00%	43.29%
City of Bend : Stormwater					
	7/1/2014-6/30/2015	164	1,150	0:00:49	13.83%
	7/1/2015-6/30/2016	231	1,566	0:00:45	14.30%
	% Change	40.85%	36.17%	-8.80%	3.40%
City of Bend : Stormwater Utility Fee					
	7/1/2014-6/30/2015	133	369	0:01:46	35.23%
	7/1/2015-6/30/2016	171	402	0:02:17	41.54%
	% Change	28.57%	8.94%	29.33%	17.91%
City of Bend : Stormwater Master Plan					
	7/1/2014-6/30/2015	235	610	0:03:37	37.87%
	7/1/2015-6/30/2016	163	399	0:02:55	40.35%
	% Change	-30.64%	-34.59%	-19.21%	6.55%
City of Bend : About Stormwater					
	7/1/2014-6/30/2015	65	267	0:01:08	23.97%
	7/1/2015-6/30/2016	73	302	0:01:42	22.52%
	% Change	12.31%	13.11%	50.09%	-6.05%

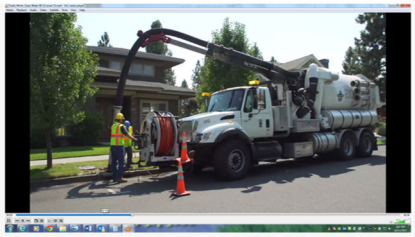
Task III.3 City News Broadcast Stormwater Quality Messages and Press Releases (MS4/UIC)

As part of the Clean Water Works campaign the City continued to air the 30-second TV commercial developed in spring 2015 introducing the Clean Water Works campaign, including at Munch 'n' Movies in August and September 2015 and on television. The commercial is also posted on the City web site

http://www.bendoregon.gov/modules/showdocument.aspx?documentid=22500 and on the City's YouTube channel.

The City continued to post on the City's website and play some of the three 60-second radio public service announcements (PSAs)—one focusing on illicit discharge reduction; one focusing on what our stormwater utility service charge covers; and one focusing on sediment reduction during the fall 2015 as the City completed additional radio advertisements promoting Clean Water Works partners with four clean water radio advertisements that also ran in the fall. These were identical except for the names of different partners in the middle (example: http://www.bendoregon.gov/modules/showdocument.aspx?documentid=24366). The radio PSAs are posted on the City web site www.bendoregon.gov/cleanwaterworks at the bottom of the home and garden page under "Audio;" and on the "Discounts and Partners" page. The City's Stormwater Program Manager also provided a 5-7 minute interview on KBNW radio in November 2016 to promote the Clean Water Works program.

The City also produced two commercials in FY2015-16, one promoting Clean Water Works partners efforts; and the other resulting from the Clean Water Works video contest. These both aired on television during the first half of the fiscal year.



Freeze frame from Clean Water Works Partners television commercial that aired in September.

The City continues to utilize City Edition to provide updates on the stormwater utility and its programs with two segments developed in FY2015-16:

- Stream Stewardship Day/Clean Water Works Partnership kickoff (126 views online)
- Clean Water Works Student Video contest.

Older segments and additional video outreach remain available on the City's YouTube channel or website and still received views in FY2015-16:

- The school education program that included footage taken during the stormwater quest field trip (spring 2015) (www.youtube.com/watch?v=pOXo5Z



KTVZ media coverage of artist Lisa Sipes working on her storm drain art installation "It's All Connected" in August.

OrIUc) currently has 100 views
- Third Street Stormwater Project
- Vactor Truck Operations (separate video; not CityEdition)
- It's All Connected commercial ((see http://www.youtube.com/watch?v=fMMDbsMJ3Zg).

Additionally, City efforts garnered news media attention such as the Storm Drain Art Contest that the stormwater program used to help promote Stream Stewardship Day (see photo).

The public, including school children, were able to view stormwater equipment, the watershed diorama and other public works equipment during Quest at the Fest event, which was located downtown adjacent to the Bend Summer Fest on July 11, 2015. Volunteers worked the watershed diorama and provided outreach materials.

The City released some stormwater quality related news releases/articles in FY2015-16. A news release on July 2, 2015 was titled "Comment on new construction inspection process." The Source Weekly included City Quest at the Fest information in July 2015. The City prepared an article in the Bend Chamber of Commerce's newsletter on the Clean Water Works partnership program in November 2015. The City announced those earning their Certified Erosion and Sediment Control Lead in a press release to the Cascade Business News (not picked up) and distributed to the City's Better Business Bend website; and the City's sprinkler inspection program was picked up by KTVZ (see Appendix B).

The City's newsletter *Our City: A Newsletter for Bend Citizens*, distributed with monthly utility bills and posted on the website, included the following articles (Electronic copies of *Our City* are available on the City's website at: www.bendoregon.gov/index.aspx?page=649&parent=3243):

- City Drinking Water Meets or Exceeds Standards (July 2015) (included section on Clean Water Works program)
- New Utility Rates (August 2015);
- Free Irrigation Sprinkler Inspections (August 2015) (water conservation program that helps reduce dry weather flows)

The City continued to purchase advertising space in the Bend Park and Recreation Guides, the advertisements include a stormwater pollution prevention "Clean Water Works" message in each guide (See Appendix B). The guides were chosen as a useful outreach tool as people tend to keep them to refer to for recreational activities throughout the quarter rather than recycling them immediately as with a newspaper.

The City displayed the "Clean Water Works" movie slide prior to several films at

the Bend Film Festival, held in October, 2015. The City also advertised the "Clean Water Works" 30-second public service announcement at Munch 'n' Movies as well.

Effectiveness. The City exceeded the measurable goals for this task, which was to post at least one stormwater quality-related message per year during each permit year, and to submit either locally or as part of a regional effort at least three news releases regarding stormwater issues to media outlets per year.

The school education program "Water Resource Education" City Edition segment has received 76 views on You Tube as of August 21, 2015, as well as additional views in City Hall and cable television.

The City's You Tube News channel now has 497 subscribers, up from 401 subscribers last year. COTV is shown on BendBroadband in Bend, Redmond, Sisters, Black Butte Ranch, Tumalo, Sunriver, and Powell Butte. The Bend DMA rank which covers this area and beyond is 193 with a cable penetration of 60% according to Zolo Media quoting a 2013 PSU study (Zolo Media, 2014).

The Clean Water Works commercial has 102 website views, the Stream Stewardship River Cleanup Program with Clean Water Works discount card announcement has 126 views, and the Clean Water Works student video contest has 297 views as of October 2016. The Vactor Truck Stormwater Operations video has had 7,904 (+1574) views in the six years it has been on the channel. The Bend Downtown Stormwater first published in January 2015 has 217 views. The "3rd St. Stormwater Project" that was published on October 31, 2013 has received 324 (+39) views while the "3rd St. Underpass Change" has 251 views on the channel. The video includes information on drill hole spill control measures as well. In May 2016 the City received notification that the City's initial "Clean Water Works" commercial won the American Water Works Association's Pacific Northwest Section's Excellence in Communications Award 2016 in the category "video Communications—Large Utility."

The Bend *Bulletin* has a daily circulation of 27,547 Monday through Friday, 28,924 on Saturday and 29,997 on Sundays according to the Oregon Newspaper Publisher's Association (August 2012). In addition to Bend, the *Bulletin* is delivered to Gilchrist, LaPine, Sunriver, Sisters, Redmond, Terrebonne, Prineville, Madras, and Warm Springs, so the City's efforts may have benefits beyond the City limits.

The Source Weekly has a net weekly circulation of 15,000 and a total readership of 37,500 weekly (Source Weekly, 2013 Distribution and Circulation). It is distributed in Bend, Redmond, Prineville, Madras, Sisters, Sunriver, and LaPine.

The newsletter is distributed monthly with the approximately 35,000 utility bills, is

made available on the City's website and is emailed out to email subscribers. The City's Facebook page has 9,577 Likes (up from 6,596 Likes a year before) and 5,502 followers and 174 likes on Twitter.

According to its 2016 sponsorship packet, the Bend Film Festival routinely brings in 8,000+ attendees, 73% of whom are from the Bend Area and 8% from other parts of Oregon for approximately 80+ screenings of movies over four days at 6 venues. The gender breakdown is 67% female, and the age of attendees includes 9% in the 22-34 year age range; 13% in the 35-44 year age range, 49% in the 45-64 year age range and 27% who are 65 years or older. Per 2014 data, education levels of attendees indicate that 38% hold post-graduate degrees and 96% attended college. The slide is shown multiple times prior to a screening, and thus is an effective tool for getting our pollution prevention message to people in a cost-effective manner. Although the costs have been rising and the percentage of Bendites has fallen 7% since 2014, the total number of attendees has increased by 3,000 in that same time period and the slides are shown multiple times.

City continued with "Clean Water Works" video shown before Munch n' Movies showings this year, deemed effective as it is a local family-friendly event; the attempt at the booth was not as effective as it received very few visitors although distributing Clean Water Works Discount cards at the event was effective.

Task III.4 Stormwater/Watershed Diorama (MS4/UIC)

The City again made its watershed and UIC dioramas available to lend to local school teachers for use in their classrooms and it received use from local environmental centers and watershed councils together with the High Desert Museum and interested parties. The stormwater/watershed diorama includes both surface water and groundwater components. City staff continued to use additional setup pieces that included a gas station, apartment building to promote additional urban setting pollution prevention discussions. The new UIC model depicts a city street that drains into four catch basins cut-aways. Two of the basins are connected to a drywell and the other connect to a drill hole. In FY 2015-16, the dioramas were used at several events as well including Quest at the Fest (July 2015) where the UIC model was debuted and Earth Day (April 2016).



UIC model.

Effectiveness. Both dioramas have been well received as interactive, visual,

three-dimensional learning tools. Using the unit at Quest at the Fest and other events is especially effective as it draws families in to learn about pollution prevention in an enjoyable manner. The models were also loaned out for events that staff could not attend, such as at the High Desert museums Water festival in October 2015, and the Environmental Center's use of the watershed diorama at the Days of Nature festival at Riverbend Park in September 2016.

Task III. 5 Performance Standards (MS4/UIC)

The new ISWMP 2022, containing the completed performance standards, was approved by DEQ as part of the WPCF-UIC permit issuance. Baseline implementation status is being met in full. A summary of Performance Standards and implementation status is available in Appendix A.

Effectiveness. The City met its ISWMP (2006) goal of completing the performance standards task for inclusion in the ISWMP 2022 draft that was accepted by DEQ for the WPCF-UIC permit in FY2012-13, and continues implementing the new performance standards as part of the ISWMP 2022. A summary of implementation status efforts is included in Appendix A. The City is on schedule with implementation considering the City received its WPCF-UIC permit in May 2013.

Tasks Completed (ISWMP 2022)

BMP III-1. Develop and Implement Strategic Outreach Plan Targeting Pollutants of Focus for the Public and City Employees (MS4 and UIC)

City staff worked with the Stormwater Quality Public Advisory Group (PAG) to develop and finalize the strategic outreach plan in November 2013, and began implementation thereafter (see Annual Report FY2013-14 Appendix B).

Substantial progress continued to be made on all implementation goals noted in the strategic outrace plan for FY2015-16 mainly incorporated into the Clean Water Works partnership program:

- Distribution of fact sheets to support tail-gate meeting training (5-15 minutes) for City Staff, and initial distribution that was upgraded as a continual improvement project to being conducted online via the City's COMPLI continued in FY2015-16 to improve training reach and recordkeeping (Message I) (see Appendix D). The following topics are covered:

Table 3.2 Staff Stormwater Pollution Prevention Training

Topic	Suitable for Applicable Staff:	Number Trained in FY2015-16
Vehicle and Equipment Washing	Garage, Utility, Streets; EIPD	0
Leaky Equipment and Fueling Training	Garage; Utility, Streets	144
Spill Prevention, Control and Cleanup Training	Garage; Utility, Streets, EIPD field	144
Utility/Road Repair & Maintenance Training	Streets, Utilities, EIPD field	161
Paint Use and Disposal Training	Streets, Utilities	144
Landscape Maintenance Training	Streets, Utilities (Stormwater)	0
Illicit Discharge Follow-up Stormwater Training	Stormwater Program Staff only	0
Illicit Discharge Recognition and Reporting	All City Staff	0
Pressure Washing/ Surface Cleaning	Streets, Utilities, Garage, Facilities	114
Winter Road Care	Streets	30
Street Sweeping	Streets	0
Concrete Use and Disposal	Utility, O&M, Streets, EIPD, Inspectors	0

Those topics not trained via Compli in FY2015-2016 will be trained in FY2016-17. In addition, supervisors were provided copies of the fact sheets when first developed for their use in informal training.

- Acronyms and Abbreviations distributed at front counters, on the website under "What's New," and upon request (Message II)
- Development and use of a new UIC diorama model together with the watershed model completed (Message II)
- Advertising at BendFilm Festival and Munch n Movies (see Appendix B), and worked with BendFilm and Zolo Media to jointly host a Clean Water Works student film contest together with Future Filmmakers. Conducted advertising to schools with contest-aged children (6th to 12th grade in summer 2015 and extended to 5th-12th grade in 2016) (Message II)
- Banner messages were developed and three new banners with the Clean Water Works message were used at outreach events (Message II)
- Single-family Residential Site Plan and ACWA Erosion and Sediment Control guide, and regulatory flow charges included on City's website (www.bendoregon.gov/stormwaterbmp) and distributed by private engineering (Messages II and III)
- Print advertising continued in Parks and Recreation Guide (Message II)

- Incorporating stormwater considerations and sizing into Central Oregon Landscape brochure still under development (Message III).
- Business related section including type of business specific and general illicit discharge fact sheets for both residents and businesses are posted on the Clean Water Works website (Message I and III)
- Significant storm drain marking occurred in FY2014-15 with most of Awbrey Butte covered in markers as part of a large scale volunteer effort coordinated by a Boy Scout as his Eagle project (see Chapter 4.0 of the FY2014-15 annual report for details). Permanent messaging of manhole covers continued in FY2015-16 (Message III)
- City staff provided a training on post construction controls for the Center for Watershed Protection November 2015 webinar and encouraged local attendance (Messages III (infiltration) and V)
- Conducted an incentive program with a discount card for various businesses in summer-winter 2015, with car washes, construction industry contractors, food service establishments, and carpet cleaners the first business groups to be targeted with an offer. This wasn't scheduled until later years, but we flipped the schedule with the pilot incentive program entitled "Stormwater Facility Maintenance Assistance Program" that was developed in late FY2013-14 released to purchasing for review and distribution in July 2014 but that has gotten delayed due to purchasing division staffing shortages. City stormwater staff are still awaiting review and approval to come in line with a new workable timeline considering the separate Clean Water Works incentive program with discount cards that is occurring during summer-winter 2015 (Message IV)
- Include drinking water protection areas on City mapping web site (Message IV)
- City staff offered IECA webinars and an onsite training in March 2016 to improve knowledge of effective erosion and sediment control; continued to distribute ACWA Construction Site Guide and distributed a sediment fact sheet for both residents and businesses (Message IV)
- Clean Water Works Partnership Program outreach focused on and included new and existing targeted fact sheets with BMPs specifically related to reducing pollutants of concern (Message V).
- Work to improve illicit discharge coordination and reporting internally began in FY2013-14 and continued with development and deployment of the fact sheets with input from operation staff. Illicit discharge minimization ongoing training using Compli software was setup and began taking place in late FY2014-15 continuing into FY2015-16 (Message V)
- City staff contracted with a consulting firm to assist with TMDL preparedness and modified the scope of work in early 2014 to include a review of best management practices and structural controls specific

to local stormwater pollution concerns that was completed in FY2015-16 (Message V).

The Clean Water Works campaign that launched in April 2015 was developed keeping the following objectives noted in the public outreach strategic plan in mind:

- Use positive messages throughout the campaign.
- Continue watershed/stormwater awareness, but move more towards actions
- Conduct evaluation surveys to research the levels of awareness in the city and effectiveness of the programs
- Increase awareness of sediment impacts to storm drainage facilities and the Deschutes River/Tumalo Creek
- Through a media campaign, educated residents and businesses about the link between lands use activities and water quality/flooding as well as about the City's role in protecting water resources and managing stormwater.
- Increase awareness of potential pollutants from automotive vehicles and options to minimize these pollutants
- Increase awareness of what constitutes an illicit discharge and how to prevent spills and encourage behaviors to reduce illicit discharges.

Effectiveness. The City is effectively implementing the Strategic Outreach Plan for stormwater education.

BMP III-2 Stormwater Pollution Prevention Web Site (MS4 and UIC)

See ISWMP (2006) Task III.2 Stormwater Pollution Prevention Web Site (MS4/UIC).

BMP III-3. Media Relations: City News Broadcast Stormwater Quality Messages and Press Releases (MS4 and UIC)

See ISWMP 2006 Task III.1 Utility Bill Inserts, Brochures or Posters (MS4/UIC) and ISWMP 2006 Task III.3. City News Broadcast Stormwater Quality Messages and Press Releases (MS4/UIC)

BMP III-4. School/Enrichment Activity Outreach: Stormwater/Watershed Diorama (MS4 and UIC)

The City actively assists with the Upper Deschutes Watershed Council's outreach to school children by (a) making the watershed diorama available; (b) providing copies of the Kid's Activity Guides and highlighters/pens available for distribution to appropriate grade levels; (c) making Worldwide Monitoring Day

sampling kits available, notifying of available grants and helping sponsor Stream Stewardship Day. In return UDWC assists by distribution City materials such as the video contest flyers (see task IV.3). City staff also provided the UIC model to High desert Museum Staff at the Water Festival held October 6 -9, 2016, and City stormwater staff participated in the Teacher's Night event at the High Desert Museum in October 2015 to share our lending library and available materials with teachers.

In FY2015-16, the City again entered into a contract with the Environmental Center developing a school outreach program entitled "A Journey through Bend Youth Education Partnership" with regards to the Utility Department focus on wastewater, drinking water, and conservation, and stormwater pollution prevention. Staff shared the availability of a PNCWA school outreach grant availability and one school was able to obtain that to help them participate in the program. The event included a Stormwater quest field trip along with distribution of materials and outreach to elementary and middle school aged children. See program materials in Appendix B.

See also ISWMP 2006 Task III.4 Stormwater/Watershed Diorama (MS4/UIC) and Task IV.3.

Effectiveness. The stormwater education program has increased effectiveness over the last two years since the City Utility Department as a whole has made it a priority to develop a One-Water type program covering all aspects of the water cycle with which the City is involved, and hiring a consultant to conduct that work. Being able to directly meet with area wide teachers at the High Desert Museum's Teacher's Night Out is an effective way to share our offerings in a face-to-face manner. The school outreach partnership program with the Environmental Center reached 1,490 Bend students the first year and a similar number this fiscal year.

BMP III-5. Implement Performance Standards (MS4 and UIC)

See ISWMP 2006 Task III.5 Performance Standards (MS4/UIC) and Appendix A.

Summary Assessment of Effectiveness

The City exceeded the measurable goals for implementation of required permit activities. The main focus this year was establishment of the Clean Water Works Partnership program, a pilot project to determine if such level of effort could be effectively performed at a single mid-size city given that the other locations it has been tried have been major metropolitan areas with several municipalities participating. This summary focuses on the overview and effectiveness of this effort.

Goals. The campaign was based around several goals.

- Cost-effectively increase educational awareness of the importance of water pollution prevention focusing on addressing key pollutants.
- Increase educational awareness on the roles and services of the stormwater utility in advance of the proposed rate increase.
- Establish partnerships to work together in an incentive-based manner to ensure clean water through Bend, focusing on addressing key pollutants.
- Implement City of Bend Stormwater Quality Strategic Education Outreach Campaign developed per the City's Integrated Stormwater Management Plan 2022 for NPDES and WPCF stormwater permit compliance, and in congruence with Bend 2030 Vision elements. Address the following four of six minimum control measures related to the NPDES permit: public education; public participation; illicit discharge elimination; construction site activities.

Key Pollutants Addressed. The campaign focused on the following:

- Sediment
- Lead
- Illicit Discharges (General Prevention Education)

Approach. A multi-based approach was used.

- Provide value-added television and radio advertising
- Link with existing efforts to provide added attention
- Include outreach at events (printed materials, banners, slides, videos, giveaways) with standard identifier
- Incorporate volunteer partners for mutual benefits incentive programs
- Include spring education program and fall education/partnership program

*Effectiveness Public Survey***.** Key statistically significant findings from public surveys conducted in April 2015 and October 2015:

- An increased amount of citizens show concern for pollution in drinking water (up 6%) and surface water (up 9%)
- Fewer respondents believe all or most of Bend's stormwater is treated at the Water Reclamation Facility (sewer treatment plan) (5% decrease)
- More residents understand what the stormwater service charge covers
    - "Unsure" dropped from 71% (April) to 63% (November)
    - "Operation and Maintenance" cited rose from 8% (April) to 14% (November)
    - "Quality/Protection" rose from 4% (April) to 7% (November)

Among those who did recall stormwater education efforts, TV commercials, TV news, and new articles or press releases were the most common sources (all in the 40s% range), followed by Clean Water Works identifiers, advertisement in the long-lasting BPRD recreation guides (in the 30-39% range), and then Radio,

eventers or awards ceremonies, displays at partner organizations, and promotion giveaways (in the 20s% range).

Questions designed to measure key pollutants targeted, found:

- 92% of respondents felt "Careful use of garden fertilizers and pesticides would have a large (69%) or some (23%) impact on improving stormwater quality.
- 89% felt "Reducing litter and waste on the streets and sidewalks" would have a large (56% or some (33%) beneficial impact.
- 83% felt "Taking measure to keep lead out of dirt and water" would have a large (55%) or some (28%)



Pacific Northwest American Water Works Association Award for "Clean Water Works" TV Commercial.

- 78% felt "Preventing soils from getting into streets and drains" would have a large (36%) or some (41%) impact on improving stormwater quality.

Evaluation results suggest that citizens tend to remember more often messages that have been used over time (several years). Public Advisory Group members feel the program should be continued, but for a year in length before making long-term decisions. The effort took a substantial amount of staff time, and much was incorporated in house due to the fact that the Utility Department fortunately happens to have a communication technician who once owner her own marketing firm in town. This greatly saved on costs, although the program cost levels did face scrutiny and cutbacks at the highest management levels given overall City priorities, needs, and perceptions. Long-term viability at these levels are unclear, although with several outreach materials developed future level of effort needed is expected to be reduced and partners seemed willing to participate again based on survey results.

Because City staff understand the importance of effective outreach and education for stormwater quality, stormwater education and outreach will continue to be a priority in the upcoming years.

4.0 PUBLIC INVOLVEMENT AND PARTICIPATION

Introduction

The goal of the public involvement and participation (PIP) component is to work with City residents, public employees, businesses, and government officials concerning the importance of and methods for controlling pollutants in urban runoff. Ultimately, community involvement in implementing pollution prevention practices and in evaluating and documenting conditions within the watershed is the only hope of achieving meaningful change in the quality of urban runoff.

Tasks Completed (ISWMP (2006))

The following tasks are completed or ongoing routine tasks conducted during FY 2015-2016:

Task IV.1 Public Advisory Group (MS4/UIC)

During FY2015-16 the Stormwater Quality Public Advisory Group (PAG) met 3 times (October 27, April 7, and June 13) providing input on the annual report, strategic planning, the Clean Water Works campaign, and illicit discharge pollution prevention. (See Appendix C for a list of PAG members, and meeting agendas/summaries).

Effectiveness. The City exceeded its goal of convening the Public Advisory Group at least semiannually. The City strives for bimonthly to quarterly meetings but often takes a break during the summer months given the scheduling challenges with vacations. City staff continues to find the Public Advisory Group very helpful in providing input and new perspectives to new materials and concepts and thereby directly helps improve the effectiveness of the stormwater program. Both groups have proven effective with the PAG focused on providing input to stormwater staff and the IAC focused on providing input and recommendations to the City Council.

Task IV.2 Public Meeting (MS4/UIC)

This task refers to holding public meetings when updating the ISWMP. However, the City is not currently in the process of updating the ISWMP—the ISWMP 2022 did go through a public review process and was accepted by DEQ for the UIC permit. Similarly a public meeting was held for the original ISWMP adopted in 2006 as necessary for the City's NPDES Phase II MS4 permit. DEQ has recently released a public draft NPDES Phase II MS4 general permit designed to replace the individual existing permits for stormwater drainage to surface water. Once that is completed, the City will begin a process to refine the ISWMP and

incorporate a public meeting at that time.

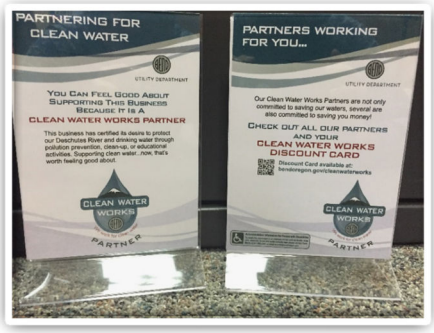
In FY2015-16, public input was solicited on and public hearings were held at City Council meetings on the proposed changes to inspection certification in the Standards and Specification and on the stormwater utility service charge.

Effectiveness. Past public meetings have proven successful in obtaining input to improve the City's integrated stormwater management plans/

Task IV.3 Stormwater Quality Volunteer Opportunities (MS4/UIC)

In addition to the standing volunteer efforts such as the work of the City's Volunteer Coordinator on storm drain marking and landscape maintenance and modifications over time, the City stormwater Program implemented an innovative social marketing campaign to increase volunteer participation for clean water.

Clean Water Works Partnership Program. The City sought to include more behavior change buy-in by promoting a multiple incentive partnership program. Those businesses or groups that met specific criteria (e.g., had a Bend Business License, were willing to run through a short fact sheet of best management practices training or, in some cases, had volunteered at least three hours for clean water, etc.) were invited to participate in the voluntary program. Those participating were rewarded with radio and television advertising, website acknowledgement, received point of purchase advertising, and a thank you bag of goods including water bottles and window decals to note their participating. They were also able to specify a discount of their choice to be included on the Clean Water Works Partner Discount Card. Citizens could then visit the Clean Water Works webpage and download the discount card for free, or pick one up through various means such as at events or City offices. This initial partnership program ran from August through December and had benefits to City (best management practices outreach had an improved chance of being read and disseminated; business owners were pledging to care for our clean waters); had benefits to the business owners (advertising, discount card to attract more business, positive connotations); and the public benefited by being able to more easily recognize those who pledged to be a good player and discounts at local businesses. This was not a certification program, but a voluntary pledge incentive program. By the end of July 23 businesses signed up to participate, and additional signed up in August.



Clean Water Works Partnership Program Point of Purchase Displays (Front and Back).

Storm Drain Art Contest. The City of Bend Communication Department worked with the Streets, City Recorder, and Bend Arts and Beautification Commission and Stormwater Utility to create the storm drain art contest. Artists were sought to compete in a contest to paint four drains in high foot-traffic areas that drains to the river. Winners were selected based off of submittals and worked to complete their paintings prior to Stream Stewardship Day. Three artists completed murals on four storm drains, garnering media attention or both their efforts but also to promote Stream Stewardship river clean up day participation on August 8. An added bonus was the number of stormwater questions City staff, volunteers, and artists received while they were painting. See:



News coverage of artist David Kinker preparing his design bordering Harmon Park. Source: KTVZ.

- KTVZ—Local Artists Picked for Bend Storm Drain Painting: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwiK_bX4sdbPAhXmwVQKHUbWC2kQFggcMAA&url=http%3A%2F%2Fwww.ktvz.com%2Fnews%2FLocal-artists-picked-for-Bend-storm-draining-painting%2F34225118&usg=AFQjCNG-Gv4_UeKa40H_RfSP0-gXr-THZg&bvm=bv.135475266,d.cGw
- Bend Bulletin: Bend Selects Storm Drain Artists: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0ahUKEwiK_bX4sdbPAhXmwVQKHUbWC2kQFggyMAM&url=http%3A%2F%2Fwww.bendbulletin.com%2Flocalstate%2F3352467-151%2Fbend-selects-storm-drain-artists&usg=AFQjCNHPE3g1-d8bmCf7vo23yAv5-4s2JA&bvm=bv.135475266,d.cGw
- KTVZ—Artists Paint Storm Drains: http://www.ktvz.com/video/local/artists-paint-storm-drains/69009643
- Bend Chamber Newsletter: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=9&cad=rja&uact=8&ved=0ahUKEwiK_bX4sdbPAhXmwVQKHUbWC2kQFghQMAg&url=http%3A%2F%2Fbendchamber.org%2Ftag%2Fdeschutes-brewery%2F&usg=AFQjCNFsCqDVkrrrMCgMQikgqgw3Fzldkw&bvm=bv.135475266,d.cGw
- KTVZ—Public Art Offers Green Message: http://www.ktvz.com/video/local/public-art-offers-green-message/69031608

Lisa Sipe posted details on her "Its All Connected" efforts (see her photo at left) on her website: http://www.lisamariesipe.com/2015/10/01/storm-drain-art/ Lisa states:

> *I spent 8 hours brainstorming and putting the initial proposal together for the City of Bend, 6 hours creating my custom stencil for the project and 3 days or about 15 hours of painting the sidewalk on site. I wanted to share this with you because often we see art that looks simple but that doesn't mean it didn't take a lot of time to create.*



Photo Credit: L. Sipe



Artist Nick Malthius completing his mural on Galveston.

City's Volunteer Program. The City's Volunteer Coordinator continues working with several members of the community including high school students, landscape architects, contractors and nursery experts to modernize landscaping and public facilities to be water and maintenance friendly, and incorporating designs that use and demonstrate stormwater features to address a stormwater localized flooding problem. The City stormwater staff continued to work with the Bend Beautification Program staff to coordinate volunteers from service clubs, private individuals, church groups, Neighborhood Associations and other groups for litter pickup, vegetation management, and storm drain marking (see Figure 5-1 and also FY2014-15 Annual Report).

City staff make maps, keep bags stocked and track and ensure directions are followed or this ongoing program. Staff are monitoring the marker installations by date installed to track their longevity.

The City both actively participated in and helped to sponsor the Stream Stewardship Day (see Appendix C). This annual event was coordinated by the Upper Deschutes Watershed Council (UDWC), and was held on August 8, 2015. The event included REI, and the Old Mill District as sponsors as well, among others who helped advertise the event. The City announced the event via its Facebook site and posted event posters. To encourage City staff support, the stormwater division had staff available to help collect and dispose of bags of litter collected by local dive teams and riparian area collection efforts. Announcements of the event were also made on local radio stations. The Upper Deschutes Watershed Council reported the following results:

- 186 Volunteers
- 34 bags of weeds removed
- 22 bags of instream debris removed (plus lots of large items such as patio umbrellas, bikes, pieces of metal, etc.)
- At least 6 media hits (TV spot on KTVZ, interview on KPOV, City Edition, The Source, the Bulletin, Old Mill Guide)
- Lots of positive feedback from many partners and volunteers! Many very fulfilled faces at the end of the day!

School Outreach. In spring 2015, the City worked to invite students to participate in the Clean Water Works Video contest. See Section III.1 and Appendix C for more details.



City of Bend and BendFilm Clean Water Works student video contest winner Makenzie Hice works with her actress Elli Hobson to produce the grand prize winning "Clean Water Works" video contest winner into a public service announcement at Zolo Media's studios in September. The commercial was debutted at the BendFilm festival as well as on air in October/ November.

The City worked through the Upper Deschutes Watershed Council to help outreach to schools by restocking and repeatedly lending out the City's watershed diorama for their watershed education efforts, which culminate in a watershed summit for students (see http://www.nuggetnews.com/main.asp?SectionID=8&SubSectionID=8&ArticleID=22358). Additionally, the City continued its popular diorama lending program to area teachers and others interested. The City also provide copies of its new Kid's Activity Guide and giveaways for Upper Deschutes Watershed Council to use in their teachings.

In FY2015-16 the City of Bend Utility Department again partnered with the Environmental Center who worked with local school teachers to develop and implement the "Our Water Program, a Journey Through Bend" (see Appendix B for the summary report). The overall program includes five lesson plans related to all aspects of water, one of which was a Stormwater Quest (see Appendix C of the FY2014-15 annual report for details and www.youtube.com/watch?v=pOXo5ZOrlUc from last year which currently has 100 views). The Quest took place at Riverbend Park along the Deschutes River with teachers, parents, and Environmental Center staff helping to lead the efforts. Students worked to solve puzzles as they visited stormwater facilities located in the park. The City Edition video that captured the event and is highlighted on the City's YouTube channel.

Effectiveness. The Clean Water Works partnership programs proved challenging, rewarding, and successful. An online survey of Clean Water Works Partners was taken using Survey Monkey and 14 responded. Whereas 21% of respondents felt the Partnership effort was a good value for them, 100% of respondents indicated they would participate again in the coming year. Ten (71%) indicated that this partnership program make them and their employees think of ways to protect water quality or the importance of protecting it, with the remaining four answering "maybe/unsure". A majority (57%) felt that the effort helps make a positive difference for water quality, with the remaining 29% indicating it has the potential to do so.

The storm drain art project, by partnering with the Bend Arts and Beautification Commission, was able to far extend the reach of the City's message into several arts magazines and newsletters that the City has not historically reached on this topic. And the project helped draw attention to the Stream Stewardship Day very effectively. Although the paintings have not stood well up to time given the harsh

winter environment, the project was a success for the media attention it garnered. For its efforts, in 2016 the team won a national 3CMA (City-County Communications and Marketing Association) Savvy award in the category of Most Creative Activity With Least Dollars Spent (1-100,000 population). Judges comments included:

> *Many communities have mural art programs or storm water awareness campaigns, but Bend combined the two and created an eye-catching awareness campaign that is hard to miss. Winning combination of art and information built from a partnership of city staff and the arts community.*

The school video contest was another terrific partnership between a non-profit (BendFilm), government institution (the City), for profit business (Zolo Media) all working together to help school children interested in the field of film and acting get firsthand experience while providing an important community service message. The City Edition segment provides insightful background on the subject (see Chapter 3). Staff was hoping to use multiple entries for a public selection award as well that would help drive people to the City's Clean Water Works website but unfortunately there was not enough entries, likely given that the timeline over the summer is during a period when school kids do not have access to their IPads. The team worked to counteract this by releasing the 2016 contest in March to give more time, while trying to keep the end dates such to match up well with the BendFilm Festival in October.

Task IV.4 Performance Standards (MS4/UIC)

Performance standards have been completed and incorporated into the ISWMP 2022. The new ISWMP 2022 was approved by DEQ as part of the WPCF permit issuance. In FY2013-14 the City began implementing the new performance standards as part of the ISWMP 2022 for the WPCF-UIC permit, and the City continued to implement these and additional performance standards this year per the schedule. Performance Standards implementation status is available in Appendix A.

Effectiveness. The City met its original ISWMP 2006 goal of completing the performance standards for inclusion in the draft ISWMP 2022 and is on task meeting them.

Tasks Completed (ISWMP 2022)

BMP IV-1. Public Advisory Group (PAG) (MS4)
See ISWMP 2006 Task IV.1 Public Advisory Group (MS4/UIC).

BMP IV-2. Public Meetings (MS4)
See ISWMP 2006 Task IV.1Public Advisory Group (MS4/UIC).

BMP IV-3. Stormwater Quality Volunteer Opportunities (MS4)
See ISWMP 2006 Task IV.3 Stormwater Quality Volunteer Opportunities (MS4/UIC).

BMP IV-4. Performance Standards (MS4)
See ISWMP 2006 Task IV.4 Performance Standards (MS4/UIC).

Summary Assessment of Effectiveness

The City exceeded its goals for public participation this year, and is seeing benefits of past year public participation encouraging others to do more (see storm drain marking). In FY2014-15 and FY2015-16 the City of Bend worked with Riley Research and Associates to conduct a random sample survey of City of Bend Residents. The goal of these surveys was to learn more about the awareness, knowledge and perceptions Bend residents have on stormwater issues and pollution prevention and how that changed with the Clean Water Works Partnership Program. The survey shows that Bend residents feel it is very important to be educated on how to prevent stormwater pollution and statistically significant changes were found (see Summary Assessment of Effectiveness in Chapter 3, and the full report is included in Appendix A). The efforts of the public are helping to ensure this occurs.

5.0 ILLICIT DISCHARGE CONTROLS

Introduction

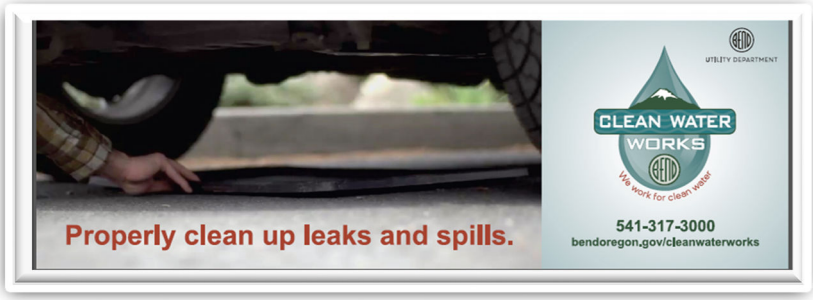
The purpose of this component is to eliminate discharges of pollutants from illicit connections and illegal dumping to the storm drainage system. This chapter describes the activities conducted during FY2015-16 to address illicit discharges.

Tasks Completed (ISWMP (2006)

The following tasks are tasks conducted during FY2015-16.

Task V.1 Public Education on Illegal Discharges and Improper Disposal (MS4/UIC)

In April 2015 the City kicked off a new outreach and social marketing campaign based off of its strategic education strategy, called Clean Water Works. This campaign purpose is to build awareness and behavior change through targeted topics and clear messages about stormwater pollution prevention information together with an incentive program. In FY2014-15 through FY2015-16 the campaign focuses on three main issues: general illicit discharge information, lead reduction, and sediment reduction.



Clean Water Works banner focusing on reducing illicit discharges.

The first part of the campaign included development of print, TV and radio advertisements, and four illicit discharge prevention banners (see example at left) that include the City's phone number. Fact sheets on illicit discharges were distributed for both home (http://www.bendoregon.gov/modules/showdocument.aspx?documentid=22546A) and commercial/ industrial (http://www.bendoregon.gov/modules/showdocument.aspx?documentid=22513) uses. Additional outreach that indirectly helps reduce illegal discharges and improper disposal was also developed and posted under the Home and Garden, Business, and Kids sections of the new Clean Water Works website (see www.bendoregon.gov/cleanwaterworks).

In June-December 2015 the City developed and promoted a business partnership program for fall 2015. The goal of the program is to increase engagement in protecting water quality. This is accomplished by providing best management practices and information in a manner that engages the interest of the targeted business/nonprofit--by offering incentives to businesses and non-profits such as free TV and radio spots and marketing discounts on a discount card distributed to the public. In return participating

businesses agree to train staff on stormwater BMPs, many aimed to reduce illicit discharges, or to volunteer for clean water. The idea is a triple-win social marketing campaign based on concepts from EPA's *Getting In Step* guidance.

In late June 2015 the City released partnership invitations and application packets to all 25 commercial car washes and auto detailing businesses within Bend using the Bend Business License database for contact information. The application packet included a letter outlining the incentive program, a commercial car wash fact sheet, and partnership participation form for those interested in becoming a partner. In July 2015, the City released similar invitations and application packets to food service/restaurants (illicit discharge targeted: grease, fats, oils, debris), 344 construction companies (illicit discharge targeted: sediment); and carpet cleaners (illicit discharge targeted: wastewater) (see Appendices C, D, and E). The hypothesis was that by offering the incentive program we would have a higher chance of the recipient reading and therefore exposing themselves to the best management practices whether or not they decided to take the pledge to participate. Additional invites were sent to those who had volunteered at least three hours of time towards river clean up or stormwater quality or education efforts. The City had 21 participants in the discount card program.

In FY2015-16, the City in conjunction with the BendFilm Festival, presented an award to the Clean Water Works student video contest winner Makenzie Hice. Her video focused on minimizing illicit discharges. Makenzie wrote and, with Zolo Media, helped produce a Clean Water Works public service announcement (see screen shot, right) that was shown at the BendFilm Festival Future Filmmakers event in October at McMenamin's theater, and ran as a PSA in late fall 2015 on local television. Her video was also featured on City Edition (https://youtu.be/rIOa3GCB4fQ). The City will continue to use it for outreach, such as at Munch 'n' Movies.



Still from Clean Water Works student film contest winner public service announcement.

The City continued to distribute the Illicit Discharge Minimization BMP Manual and the illicit discharge flyer as educational outreach as part of illicit discharge follow-up procedures (see Appendix D of the FY2012-13 Annual Report) and regularly followed up on Illicit Discharge reports. See Task V.7 and Appendix D for a summary of illicit discharge response actions addressed in FY2015-16.

City stormwater regulatory staff participated in the 2016 National Watershed and Stormwater Conference put on by the Center for watershed Protection on April 12, 2016, focusing specifically on the illicit discharge detection and elimination presentations (see Appendix D).

Effectiveness. The City exceeded its goal of conducting outreach to 50% of businesses within a specific segment by distributing the Clean Water Works partnership

program invites to all known food service, construction, and carpet cleaners meeting the program participation requirements within Bend. The effectiveness of the City's Clean Water Works initial pilot campaign was determined with a post-pilot program evaluation survey conducted in October 2015 (see final report in Appendix B). The results showed statistically significant increases in the number of residents understanding regarding stormwater contaminants being a somewhat or major concern for Bend's drinking water and with regards to bend's rivers and streams. A survey of Clean Water Works Partnership program participants (14 responding) found that 71% felt that the program made them and their employees think more about the ways to protect water quality or the importance of protecting water quality; the other 29% responded "Maybe/Unsure" and no one responded "No".

In the past, the stormwater utility has also teamed up with the Industrial Pretreatment Program (IPP) to distribute Illicit Discharge BMP Manual and DEQ automotive repair fact sheets to automotive repair facilities within Bend. The fact sheets were handed out during IPP inspections. Due to some staffing changes/reorganizations within the Industrial Pretreatment Program and stormwater staff attention on developing the new partnership program, this level of effort may have dropped off this past year--

Task V.3 Post Warnings About Illicit and Illegal Discharges (MS4/UIC)

Per the Standards and Specifications revisions that took effect on July 1, 2011, new and replaced City of Bend stormwater manhole covers now include an imprinted, lifelong "Only Rain in the Storm Drain" stamp (see picture at right). In FY15-16 the City installed 81 new curb inlets with a permanent imprint.



Permanent lid with stamped pollution prevention message included that designates storm drains.

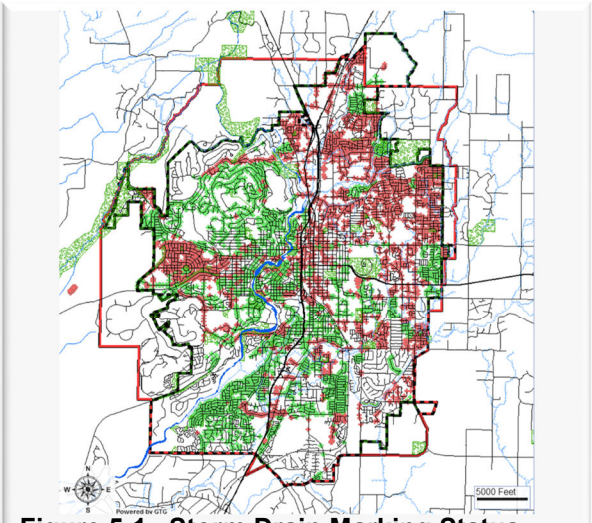


Figure 5-1. Storm Drain Marking Status (August 2016).
(Installations shown in green).

The City has also had an ongoing volunteer storm drain marking program, with installations of round, plastic semi-permeant markers (10-12 years longevity expected) affixed to existing drain inlets. The program has seen strong success over time (see map below)

Effectiveness. The City has successfully integrated a method of providing a

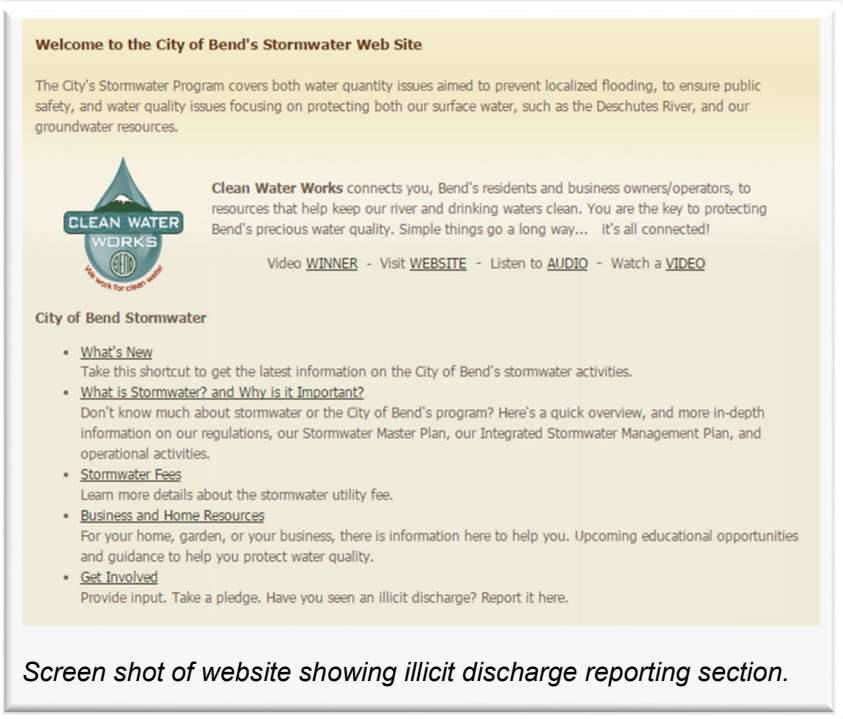
permanent stormwater quality message as part of an identifier for stormwater facilities and no added cost.

The map at left illustrates the effectiveness of the volunteer storm drain marker installation program, which has focused on areas draining to the river and areas within a drinking water protection area. The emblem includes a general "Don't Pollute" message along with pictures of swimmers, fish, ducks, and drinking water. For this reason, we use it both in areas that drain to the river and areas that flow underground toward our drinking water reservoirs. Although volunteer marking was lacking this year due to workload priorities this year, the City has averaged well over 50 markers per year since the start of the program, and has stormwater/river volunteer efforts as a combined volunteer coordination/communication goal this coming year. In addition the City plans to have an intern begin a quality control/assurance verification program to ensure the markers remain readable and in place over time.

Task V.4 Post Illicit Discharge Prevention Information on Web Site (MS4/UIC)

Stormwater related material is located in a central location at: www.bendoregon.gov/stormwater. The main page has five main categories, including "Get Involved" which links to a location to report illicit discharges (see bottom of picture below).

In FY2015-16 the City added a Clean Water Works webpage that includes four main sections: home and garden, kid's page, business resources and discount and partnerships (see www.bendoregon.gov/cleanwaterworks). City staff posted the new illicit discharge fact sheet for both business and homeowners and radio advertisements (http://www.bend.or.us/modules/showdocument.aspx?documentid=22502) on the City's web site. These fact sheets were based on similar ones created for City staff, which Stormwater Public Advisory Group members suggested be made available to the public as well.



Screen shot of website showing illicit discharge reporting section.

Effectiveness. The City has provided information on its website to report spills. Additionally, the Home and Garden and Business sections of the Clean Water Works campaign pages have several outreach pieces

targeting illicit discharge minimization, both in general and for specific pollutants. City staff have received several calls this year from concerned citizens noting illicit discharges, which suggests that the contact information on the website and other methods is reaching the public who care enough to let the City know of potential spills and problem areas, allowing a more efficient response and better water quality protection.

Task V.5 Stormwater System Map (MS4[1])

The City developed a geodatabase map in FY2008-09 including GPS coordinates for known City stormwater facilities, and the City has been updating the geodatabase as appropriate since. City Information Technology GIS staff regularly update the mapping interface, Geoblade, which has greatly improved staff response times and information. A version is also available online for the public to use that includes the piped system, using Geoblade, located at: http://www.bendoregon.gov/index.aspx?page=463. Additionally the City has street level imagery that staff can use for internal research purposes.

Effectiveness. The City has successfully conducted an overall in-field inventory and ongoing maintenance to keep the data in the base map updated. The geodatabase includes directions of pipe flows as well as swales, UICs, and other features. The inclusion of best known locations of public and private wells along with time of travel and buffer overlays also helps citizens with UICs better understand their locations to assist them in their own regulatory compliance and water quality protection efforts. The City is in process of upgrading to a new mapping system called BOOM (geocortex-based). The City will be working with and modifying this database over the coming year(s) to better meet staff and public needs.

Task V.6 Illicit Discharge Ordinance (MS4/UIC)

On January 4, 2012 the Council adopted a stormwater ordinance adopting Bend Code Title 16 (see Appendix A of the FY2011-12 annual report). Chapter 16.20 of the ordinance covers Illicit Discharge Controls. In conjunction with and as called out in the ordinance. In FY2012-13 the City finalized and began distributing the Illicit Discharge Best Management Practices Minimization Manual. A copy of the manual is available in Appendix D of the FY2012-13 Annual Report. Additionally as part of the ordinance effort, interdepartmental staff worked through implementation roles and responsibilities in early to mid-2012. The Stormwater utility takes primary responsibility of illicit discharge inspection response and follow-up.

Effectiveness. The City has successfully developed the Illicit Discharge Manual (http://www.bendoregon.gov/index.aspx?vurl=idmanual) that is referenced in the stormwater ordinance, Bend Code Title 16, and has continued the implementation and education process.

[1] See Task II-6a for related UIC mapping.

Task V.7 Program to Detect and Address Illicit Discharges (MS4/UIC)



One of multiple downtown spill locations and lab samples taken one morning as part of investigation of spill that was tracked upstream. Conclusions indicate probability of improper disposal of paint in the garbage and leakage during transport.

The Utility department continues to work closely with Building Inspectors, Engineering Inspectors and Industrial Pretreatment Program staff to coordinate IDDE efforts. The City has a Stormwater Analyst who is trained on and responsible for following up on illicit discharge notifications and complaints. When a spill or illicit discharge is noted, this staff person investigates, including further up in the watershed to attempt to find and properly address the source. The stormwater utility is in the process of adding a new staff member to oversee erosion and sediment control enforcement and post construction site inspections. This new positing is expected to be filled in the first half of FY2016-17.

To ensure stormwater-performance standard trainings are occurring, the City uses an online program called Compli for public works staff. In FY2015-16, public works staff were trained in Winter Road Care, Leaky Equipment and Fueling, Spill Prevention, Control and Cleanup, Utility/Road Repair & Maintenance; Pressure Washing and Surface Cleaning; Paint Use and Disposal. A list of staff that completed the trainings is included in Appendix D. The staff are required to take a short quiz after each training. These trainings are provided as a series of stormwater-performance standard specific trainings are implemented throughout the year to appropriate staff (see Chapter 3 for a summary). Trainings are automatically emailed out to applicable public works employees and reminders are provided. Staff are required to review a fact sheet or review a presentation and complete a short quiz. Compli trainings were not held in FY2015-16 for Landscape Maintenance Training, Illicit Discharge Recognition and Reporting, Vehicle and Equipment Washing; Street Sweeping; and Concrete Use and Disposal, but supervisors have received the training packets and fact sheets in the past for each of the areas listed in Table 3.1 for incorporation into their informal tailgate trainings. See Appendix D for a copy of the training sheets and quiz questions.

In addition to the safety meeting all new public works staff are trained through watching the video “Storm Watch, Municipal Storm Water Pollution Prevention” and they take a

test/certification on Compli that they have completed the effort. The video covers the following segments:

- Good Housekeeping & Spill Prevention
- Vehicle & Equipment Washing
- Vehicle & Equipment Maintenance
- Spill Reporting & Response
- Street Maintenance
- Outdoor Storage of Materials & Wastes
- Landscaping & Lawn Care.

Staff continue to conduct inspections of the City's 15th Street and Boyd Acres Corporation Yards in conjunction with quarterly Safety Inspections (see Appendix G).



Field Component of CESCL Training, March 31, 2016.

In March 2016 the City of Bend hosted an Erosion and Sediment Control Lead training course and invited local contractors and City inspection staff (see Chapter 6 for details).

Effectiveness. The City continued to use its tracking system, maintaining a spreadsheet of stormwater-specific follow-up actions, tracking 47 events in FY2015-16 (see Appendix D). Staff coordinated well with various DEQ staff in addressing the issues that arose. Reports came from the public as well as from other City staff noticing problems in the field, suggesting that the staff training and public outreach have continued to be useful. Most times initial outreach and education resolve the issue. In FY2015-16 City of Bend staff issued one formal violation to a commercial carpet cleaning business that was caught dumping carpet cleaning waste into a catch basin. In order to avoid a fine the carpet cleaner entered into a consent agreement with the City that required to them to submit monthly waste disposal logs.

City staff will work in the coming year to incorporate the additional trainings that have been made available to supervisors to use with their staff but have not made it yet into Compli—namely Illicit Discharge Recognition and Reporting, Vehicle and Equipment Washing; Street Sweeping; and Concrete Use and Disposal—into Compli for improved tracking.

Task V.2 Illicit Discharge Reporting Mechanism (MS4/UIC)

The City continues to use its non-emergency Code Enforcement automated phone tree. One of the options in the phone tree is for reporting Illicit Discharges. Callers who select that option are transferred directly to stormwater staff for follow-up. Another is for construction site erosion and sediment control or drainage issues, which is directed to the construction manager in the community development department overseeing private

development inspectors. Additionally the City advertises the general 541-317-3000 number for reporting illicit discharges and getting information regarding the stormwater utility. The City's "Clean Water Works" campaigns include the public works main phone number and website information that can be used for reporting illicit discharges.

The City continues to use the illicit discharge reporting standard operating procedure (see FY2009-10 annual report for additional information). The City continues to use the Citizen Service Request (CSR) form to the City's webpage (http://bendoregon.gov/index.aspx?recordid=133&page=26). This form allows the public to electronically report Illicit Discharges directly. The completed form is automatically emailed to stormwater program staff for follow-up.

Front desk staff are trained on where to send illicit discharge inquiries for proper response, and they are using an automated call center program for directing calls and response. Additionally, the City posted contact information for people to report illicit discharges on the City's website. Stormwater staff uses the Infor system to issue and track work orders. City staff has implemented a preventive maintenance schedule and zones to efficiently clean and maintain the stormwater system and staff keep an eye out for evidence of illicit discharges as they do so.

Effectiveness. The City continues to look for ways to improve its reporting mechanisms and educate the public on how to prevent illicit discharges. The City worked with the Public Advisory Group to get input late in the fiscal year on note pads with stormwater pollution prevention messages that includes a tagline "Spills Happen. Call 541-317-3000 x 2 or 911 if hazardous." These pads will be finalized in time for early FY2016-17 events.

Task V.8 Minimize Landscape Irrigation Runoff (MS4/UIC)

City stormwater staff work closely with water conservation staff to help minimize dry weather flows from irrigation runoff. Water conservation staff have been growing, with the addition of a temporary sprinkler program inspector in FY2015-16 who oversaw the City's new Sprinkler Inspection Program. The first year they implemented the program, that included the summer of 2015, they promoted it to everyone equally on a voluntary basis. This year, they first opened the sprinkler inspection program up to high water users and sent them a targeted note encouraging their participation in the voluntary program, and then opened it to the general public. The sprinkler program is a professional service provided at no additional charge in which participants receive a site visit analysis and a customized watering scheduled for their landscape as well as education on how to maximize the performance of their underground irrigation system. The pilot program includes a visual inspection to pinpoint any problems in the sprinkler system, including runoff; tests to determine how evenly the water is covering intended areas; and a soil sample to determine root depth and soil type. The program is open to City of Bend water users (Bend drinking water utility covers about 16,000 acres) with an operating underground irrigation system.

In addition the City has been updating the waterwise landscape photos online, and

began work on a waterwise landscape guide that includes stormwater considerations, and working with OSU Extension on an update to the Central Oregon Xeriscape™ guide, both expected to be released in FY2016-17. (See http://www.bendoregon.gov/index.aspx?page=1085.)

The City continues to include landscape irrigation runoff minimization measures in its standards and specifications.

Effectiveness. The work of the Water Conservation program team have resulted in increased efforts towards improving landscape irrigation efficiency and reducing landscape irrigation runoff.

Tasks Completed (ISWMP 2022)

BMP V-1. Public Education on Illegal Discharges and Improper Disposal (MS4 & UIC)

See ISWMP (2006) Task V.1 Public Education on Illegal Discharges and Improper Disposal (MS4/UIC).

BMP V-2. Illicit Discharge Reporting Mechanism (MS4 & UIC)

See ISWMP (2006) Task V.2 Illicit Discharge Reporting Mechanism (MS4/UIC).

BMP V-3. Post Warnings About Illicit and Illegal Discharges (MS4 & UIC)

See ISWMP (2006) Task V.3 Post Warnings about Illicit and Illegal Discharges (MS4/UIC).

BMP V-4. Post Illicit Discharge Prevention Information on Web Site (MS4 & UIC)

See ISWMP (2006) Task V.4 Post Illicit Discharge Prevention Information on Web Site (MS4/UIC).

BMP V-5. Implement Illicit Discharge Regulations (MS4 & UIC)

See ISWMP (2006) Task V.6 Illicit Discharge Ordinance (MS4/UIC) and ISWMP (2006 Task V.7 Program to Detect and Address Illicit Discharges (MS4/UIC).

BMP V-6. Implement Performance Standards (MS4 & UIC)

Performance standards have been completed and incorporated into the ISWMP 2022. The new ISWMP 2022 was approved by DEQ as part of the WPCF-UIC permit issuance but not yet accepted as part of the City's NPDES permit reissuance that remains in negotiation. Performance standards implementation began in FY2013-14 based on the timing of the WPCF-UIC permit issuance. A summary of Performance Standards implementation status is available in Appendix A.

Effectiveness. The City has started implementing the new performance standards as part of the ISWMP 2022 and is fully compliant with the scheduled implementation schedule. The use of the Compli system with performance standards fact sheets has improved staff training on the new performance standards. The City met its ISWMP (2006) goal of completing the performance standards for inclusion for consideration in the draft ISWMP 2022.

Enforcement Actions

In FY2015-16, the City provided education and verbal warnings along with one formal violation. In general, the City starts with education and a problem-solving approach. Violators are provided educational materials and a form noting the violation is distributed around the neighborhood. Cost for cleanup can also be charged to the violator. More serious violations on private property are referred directly to the DEQ for follow-up and enforcement. See Appendix D for a summary of illicit discharges and follow-up activity.

Summary Assessment of Effectiveness

The City has made significant progress including improved legal authority and clarifications through the illicit discharge ordinance section and associated Illicit Discharge Manual that now provides for additional education and enforcement in an effort to reduce illicit discharges. Since FY2010-11 the City has been using its new customer service data base program (INFOR). This program effectively assists in tracking initial stormwater illicit discharge reports and helps verify that the proper staff are notified of the incident. The City also continues to effectively use the online citizen service request form. Stormwater staff are also seeing improvements in spill response notification from fire and water/wastewater utilities.

The City has effectively improved its staff training approach that will help reduce illicit discharges, and improve notification of spills. This year, stormwater program staff attended a webinar by the Center for Watershed Protection that focused on illicit discharge compliance, and staff continue to look for valuable IDDE staff training. A great deal of illicit discharge detection and elimination efforts appear to focus on sanitary sewer/septic system cross connections. The City of Bend currently works to address a large number of pollutants with its IDDE program; however, the City has been working diligently as well to increase and improve its separate sanitary sewer system by the installation of new interceptor lines (SE Interceptor: http://www.bendoregon.gov/index.aspx?page=149; North Area Sewer Improvement: http://www.bendoregon.gov/index.aspx?page=1245; Plant Interceptor Sewer Line Rehab: http://www.bendoregon.gov/index.aspx?page=1344), a new pump station upgrade adjacent to the Deschutes River (Colorado Lift Station: http://www.bendoregon.gov/index.aspx?page=1115), and an expansion of the water reclamation facility (http://www.bendoregon.gov/index.aspx?page=664). These efforts represent a substantial commitment to improving wastewater infrastructure, with the bonus of reducing concerns of wastewater leaks and problems entering the stormwater system.

6.0 CONSTRUCTION SITE STORMWATER ACTIVITIES

Introduction

The purpose of this component is to control pollutants discharged to municipal storm drains from new and redevelopment construction activities to the maximum extent practicable. Several of the pollutants of concern within the Deschutes River are related to sediment loads. Although the main source of sediments in the Deschutes River are related to upstream river management activities, the City sees it as a priority to reduce the stormwater-related sediment contributions to the problem. Sediments are a main pollutant coming off of uncontrolled construction sites and can clog stormwater facilities including drywells and drill holes as well as negatively impact the Deschutes River, which is listed for sediment and turbidity within Bend.

Construction sites that disturb one or more acres and discharge stormwater through a man-made conveyance or directly to a surface water are already regulated through the state-administered NPDES 1200-C permit program. Many construction sites within the City limits are either smaller than one acre or the stormwater discharges do not drain to a surface water. Per the City's Grading/Clearing regulations as part of the Bend Code Title 16 stormwater ordinance, grading permits are now required on all commercial developments that are adding 5,000 square feet or more of impervious surface or adding one or more UICs, and erosion must be prevented from reaching the storm drain system from all sites.

Tasks Completed (ISWMP (2006))

The following tasks are either completed yearly or are continuing:

Task VI. 1 Evaluate and Update Regulatory Authority and Procedures (MS4/UIC)

In FY2010-11, the City updated the Design Standards, Construction Specifications and the Development Codes. City's standards and specifications only apply to City-owned property and rights-of-way, not to private lands. The revised standards include new erosion control details and incorporates the COSM erosion requirements. The standards and specifications are available online at: http://www.bendoregon.gov/index.aspx?page=161. The revisions adopted the Central Oregon Stormwater Manual (2010) and took effect July 1, 2011.

On January 4, 2012, the City Council voted to approve the new comprehensive

stormwater ordinance adopting Bend Code Title 16 (see Annual Report FY11-12 Appendix A). Bend Code Title 16 adopts the Central Oregon Stormwater Manual (2010). Staff are continuing to working with city inspectors, contractors and developers to refine the education and implementation of the ordinance especially through reorganizations and during this period of growth. Development and construction site plans for City review are routed through E-Plans, an electronic review software. The City hired a new Construction and Right-of-Way Manager in private engineering, Kyle Thomas, in FY2014-15. Kyle's role is to oversee the engineering inspectors in the right-of-way in coordination with onsite development inspections. In August 2015, the City adopted new standards related to inspection, including shifting some responsibilities to the engineer of record. (see http://www.bend.or.us/modules/showdocument.aspx?documentid=23509 for the standards and http://bend.granicus.com/MetaViewer.php?view_id=5&clip_id=351&meta_id=12606 for the City Council issue summary for more information.) The engineer of Record is providing certification that the designs are being installed per the site plan.

Effectiveness. The City has successfully completed improving design standards and specifications including adoption and beginning implementation of Bend Code Title 16 and the revised Standards and Specifications. The City has made major progress in regulating construction site erosion and has completed the tasks outlined for this BMP. As the City moves into a period of growth, staffing pressures increase. As a result, in FY2014-15 department heads reviewed roles and responsibilities for implementing portions of Bend Code Title 16, especially with respect to construction issues. As a result of this review the Stormwater Utility has received approval to hire an additional enforcement position which the City worked towards in FY2015-16, and expects to hire in fall FY2016-17.

Task VI.2 Construction Site Educational Materials (MS4/UIC)

The City sent a Clean Water Works Partnership invite to over 300 construction contractors and company owners. The packet sent in July included an invite cover letter, a partnership participation sheet, a Clean Water works sticker, and a new fact sheet entitled "Sediment Prevention for Businesses" that included information on both post-construction as well as construction sediment. The second page included a segment entitled, "What Can You Do as a Builder/Contractor" with five BMPs and a list of resources for more information. (see Appendix E).

The City continued to provide the "Single Family Example Drainage Plan" that can be used to help calculate stormwater flows and encourages the use of Low Impact Development, along with a "Suggested BMPs for Single Family Construction Sites—Example Erosion and Sediment Control Plan" to project proponents to help with implementation of Bend Code Title 16 (see FY2012-13 Annual Report, Appendix E for copies).

City staff also provides copies of the Oregon Association of Clean Water Agencies (ACWA) "Construction Site Stormwater Guide," an inspection field guide. The field guide is glove-box-sized and includes example pictures and information on proper installation and maintenance of common erosion and sediment controls.

City staff have placed several construction site references on its website: www.bendoregon.gov/cleanwaterworks. The references include, in addition to the three named above, the following links:

- Sediment Fact Sheet for Businesses
- Maintain Construction Site BMPs Poster
- Erosion and Sediment Control Fact Sheet
- Grading Clearing & Erosion Permit Flow Chart
- Drainage Submittal Flow Chart
- Sample Erosion and Sediment Control Plan - Single Family Residential
- Stormwater Maintenance Agreement
- Central Oregon Stormwater Manual
- Construction Stormwater Pollution Prevention (NPDES Webcasts)
- Construction Stormwater Pollution Prevention Plan Development

Effectiveness. The City has met the schedules for this task and have provided for additional materials and incentive programs as well. A construction company and an engineering firm participated in the Clean Water Works Partnership program. The City continues to look for opportunities to partner with groups like ACWA and IECA to produce cost effective high quality outreach materials.

Task VI.3 Construction Site Inspections and Violation Hotline (MS4/UIC)

In FY2015-16 grading and drainage ordinance compliance and questions were routed to Kyle Thomas, the City's Construction/Right-of-Way Manager, to coordinate compliance, investigation and follow-up. When an erosion and sediment, or poor housekeeping or spill problem is discovered on site, City inspectors provide verbal education and warnings. If the erosion and sediment problems are not addressed by the time the inspector returns for the next inspection, the inspector can withhold additional inspections until the problem is remedied, which can have the effect of stopping a project from progressing. This proved to be an effective way to encourage contractors to repair erosion control deficiencies. Building inspectors help with compliance as part of their standard inspections as well.

Over 47,595 total inspections were requested in FY2015-16 of the Community Development Department. The Community Development Department recorded 980 single family residential starts and 341 commercial final inspections. Engineering inspectors require erosion and sediment controls unless the site is in a depression and stormwater would stay on site. Erosion and sediment controls

have been required on grading/drainage permits, all work in right of way and on commercial properties. In FY2015-16 there were 667 grading/drainage reviews. Engineering inspectors inspected for erosion and sediment controls on these, providing verbal warnings as needed. No stop work orders for drainage were needed. The stormwater utility staff responded to 13 Construction Site illicit discharge complaints; those complaints were included in the Illicit Discharge Tracking sheet (see Appendix D).

Effectiveness. Both commercial construction activity and single family home starts increased in FY2015-16. Inspectors are providing verbal education and warnings regarding construction site stormwater management and delaying other inspections when needed to encourage compliance. City staff reviewed roles and responsibilities to increase effectiveness but the work load is straining existing resources in both the community development and engineering departments. The Stormwater Utility is in the process of hiring an additional enforcement position that will focus on construction site erosion and post construction inspection in an effort to assist building inspectors. City staff have advertised this new position and anticipates hiring in the first-half of FY2016-17.

Task VI.4 Construction Site Education (MS4/UIC)



CPESCL Field Training.

In March 2016 the City of Bend hosted a two-day Certified Erosion Sediment Control Lead (CESCL) training course. An announcement flyer was emailed out to local contractors and engineers. The City had 27 sign-up for the class and 22 attendees. Roughly half of the attendees were City employees and the other half were local engineers and contractors. The City contracted with Nathan Hardebeck, with Clean Water Technologies to provide the training and organize a hands on erosion control BMP demonstration in the field. In order to make the class more applicable to our region, several local presentations were included with this training. Kyle Thomas with the City of Bend gave a presentation on common erosion control issues that inspection staff are finding in the field. Wendy Edde, City of Bend, gave an overview on the City's regulations and erosion control requirements. Krista Ratliff with Oregon DEQ provide an update on the state 1200c permit. A copy of the presentations, sign-in sheets and a course evaluation summary have been included in Appendix E. Those completing the test at the end of the course earned a Certified Erosion and

Sediment Control Lead designation good in Washington state and recognized in Oregon by the DEQ as well.

The City of Bend also hosted several webinars in FY2015-16 (see table 6-1 below). Copies of the webinar announcements, sign-in sheets and evaluations are available in Appendix E.

Table 6.1 Construction Site Training Summary

Fall Webinar Series		
Presenter	Webinar Training	Date
U.S. EPA	Clean Water & Safe Roads: Finding the Balance	November 3, 2015

Winter Webinar Series		
Presenter	Webinar Training	Date
ASCE	Design of Erosion Control Measures for Small Channels	November 17, 2015
ASCE	Construction Stormwater BMPs	November 17, 2015

Effectiveness. Between the webinars and on-site Certified Erosion Control Lead (CESCL) training, the City exceeded it biennial training requirements for this task. The CESCL training had a lot of interest but was limited by the training room capacity. The City will consider using a larger venue for future erosion control classes. Some wanted to see a shorter one-day class. The field component was very useful.

Task VI.5 Participate in Regional Coordination Activities: Regional Stormwater Control Manual (MS4/UIC)

Developed regionally and refined in 2010, the Central Oregon Stormwater Manual (2010) has been incorporated into both the City's Design Standards and Construction Specifications and Bend Code Title 16.

Effectiveness. The COSM (2010) is now part of the City's development rules, referred to in both the Standards and Specifications and Bend Code Title 16.

Task VI.6 Performance Standards (MS4/UIC)

Performance standards have been completed and incorporated into the ISWMP 2022. The ISWMP 2022 (November 2012) was approved by DEQ as part of the WPCF-UIC permit issuance to begin in FY2013-14 and is being considered by the DEQ as part of the NPDES permit reissuance, expected to be a statewide

general permit. A summary of initial implementation status of the Performance Standards is available in Appendix A.

Effectiveness. The City's implementing the new performance standards as part of the ISWMP 2022 and is in full compliance with the standards in FY2015-16. The City will review the ISWMP 2022 once NPDES permit conditions are known.

Tasks Completed (ISWMP 2022)

BMP VI-1. Implement the Stormwater Regulations (MS4 and UIC)

See ISWMP (2006) Task VI. 1 Evaluate and Update Regulatory Authority and Procedures (MS4/UIC).

BMP VI-2. Implement Performance Standards Related to Construction Site Controls (MS4 and UIC)

See ISWMP (2006) Task VI.6 Performance Standards (MS4/UIC).

Enforcement Actions

The City has the ability to provide education, warnings, delayed inspection and red tags (stop work orders) to violators. Most often, inspectors work to educate as part of standard operating procedure and this approach quickly resolves any potential issues. In FY2015-16, no formal violations were issued and multiple verbal warnings resulted in compliance without need for escalation. Of the 48 illicit discharge complaints, 13 were related to construction or erosion control, for which educational materials were provided and cleanup activities were taken (see Appendix D).

Summary Assessment of Effectiveness

The City has successfully implemented the tasks in this component. Staff have been and are continuing to focus on education and refining coordination efforts both internally and with external groups to ensure effective and smooth implementation of Bend Code Title 16, the Standards and Specifications and, through these, the Central Oregon Stormwater Manual and are looking forward to improving the program with the new hire. The construction staff have been very helpful when complaints to stormwater utility staff are brought forward to them and they are often able to obtain immediate compliance with warnings, education or delays. The adoption of Bend Code Title 16 provides adequate enforcement authority. Feedback from trainings is used to refine effectiveness of future trainings. The City develops and distributes new education materials as the needs presented themselves, and is working towards improving enforcement staffing. The City is continuing to refine its enforcement plan as roles and

responsibilities change with new hires, to improve it based on recent workload and experience and record-keeping needs and technological capabilities.



7.0 POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW AND REDEVELOPMENT

Introduction

The objective of the Post-construction Stormwater Management in New Development and Redevelopment chapter is to minimize the discharge of pollutants in stormwater from new developments and redevelopments within the City.

Tasks Completed (ISWMP (2006))

The following describes yearly tasks that have been completed, or are ongoing that were performed during FY 2015-16:

Task VII.1 Participate in Regional Stormwater Control Manual and Tailor to Bend (MS4/UIC)

The Central Oregon Stormwater Manual (2010) has been adopted as part of Bend Code Title 16 and the City's Standards and Specifications. Links to the COSM are available on the City's website.

Effectiveness. Obtaining DEQ review of the revised COSM (2010) and adopting the manual as part of the City's Standards and Specifications and Bend Code Title 16 helped encourage its widespread use and provided the City enforcement authority to require its use. Other municipalities that have adopted the manual include Deschutes County and the City of Redmond so it is serving as a regional guide. The COSM may need to be reviewed to consider DEQ's current risk-evaluation on stormwater underground injection controls and new post-construction control requirements coming out of the anticipated NPDES Phase II MS4 general permit once finalized.

Task VII.2 Operation and Maintenance (MS4/UIC)

As noted in the FY2007-08 Annual Report, City staff have determined that, in general, private development are required to maintain private stormwater facilities and the City maintains City stormwater infrastructure. Maintenance responsibility for regional controls will be considered on a case-by-case basis.

City staff has incorporated long-term operation and maintenance considerations

within the new Bend Code Title 16 (See Annual Report FY2011-12 Appendix A), Bend Code Title 16: section 16.15.040). The new code requires all new commercial development to submit a signed maintenance agreement that will be recorded on the title of the property. The agreements are recorded on the properties' title (see FY2013-14, Appendix F for an example).

For City-owned facilities, City staff continues to use the INFOR asset management software to assist with maintenance tracking and facilities assets management. Field staff also continues to conduct a review of public stormwater facilities to determine which need to be improved/replaced as part of their everyday maintenance activities. On the private side, the City continues to use E-Plans for review and electronic record keeping.

Effectiveness. Having maintenance agreements are useful for implementing Bend Code Title 16. Additional guidance on proper maintenance, perhaps adding visuals to the maintenance descriptions in the COSM or other guidance, may help improve understanding of proper maintenance. Preventative maintenance routes have been established in the INFOR system, and are being used to schedule and track routine maintenance operations.

Task VII.3 Evaluate and Update Plan Review and Inspection Programs (MS4/UIC)

In FY2015-16, the City adopted a new chapter to the Standards and Specifications, Part V - Construction Observation and Inspection Requirements (see Chapter 2). This document provides clear expectations for contractors, developers, engineers of record and City staff engaged in construction of public infrastructure that will be accepted for ownership and maintenance by the City. The document changes how the City will inspect public development projects. The City intends to transfer the construction inspection responsibility onto the Design Engineer. This includes erosion/sediment control and post construction stormwater facility testing.

City staff began work to improve inspection documentation of post-construction controls based on the information gleaned from attendance at the Vegetated Private Water Quality Management Training hosted by Clean Water Services and Portland Community College in May 2016.

Effectiveness. Although initial effectiveness of changes occurring as a result of passage of Bend Code Title 16 appear promising, the City is continuing to work through implementation of Bend Code Title 16 with respect to fine-tuning inspection and enforcement pathways given the significant reorganizations internally that continue as growth increases. The City has been monitoring efforts closely and has widespread support to work to refine and improve the processes given the changes occurring at the City.

Task VII.4 Post-Construction Control Education (MS4/UIC)

The City's Stormwater Program Manager earned fifteen continuing education hours for attending the Vegetated Private Water Quality Management Training on May 23 and 25, 2016 (see Appendix F). City staff provided feedback on the OSU xeriscape guide update, as well as an internal Landscape Design guide under development to include stormwater design considerations.

The City continues to distribute Bend's Better Site Design Walking Tour, which provides an approximately 3-mile walking tour in the Old Mill and Farewell Bend and Riverbend Park areas of better site design features that help improve water quality by means of low impact development techniques. Nineteen sites are noted on the tour including bioretention swales, reduced parking footprints, pervious asphalt, green roofs, and riparian buffers. The City distributed several at the Oregon ACWA conference in July 2016.

The City provided several training opportunities associated with post-construction stormwater controls to internal staff and the public. The following is a listing of trainings related to post-construction controls that the City either hosted or helped to sponsor and invited the public, via notifications to the City's Stormwater Liaisons, PAG and Stormwater Stakeholder email lists, to attend (see Appendix F unless otherwise noted for sign-in sheets and presentation notes). These were hosted by the Center for Watershed Protection (CWP), the US. EPA or the International Erosion Control Association (IECA) (see Table 7-1 below). Stormwater Program Manager gave a presentation as part of the "Checking in On Post-Construction Stormwater Management" webinar with regards to Bend's experience on November 18, 2015. Copies of the webinar announcements, sign-in sheets and evaluations are available in Appendix E.

Table 7.1 Post-Construction Control Trainings

Fall Webinar Series		
Presenter	Webinar Training	Date
U.S. EPA	Green Infrastructure Maintenance: Facts, Fiction, Cold Weather, and Costs	November 3, 2015
U.S. EPA	Clean Water & Safe Roads: Finding the Balance	November 3, 2015
CWP	Checking in on Post-Construction Stormwater Management	November 18, 2015
Winter Series		
Presenter	Webinar Training	Date
ASCE	Hydrologic Trespass and Nuisance Considerations in Stormwater Design	December 1, 2015
ASCE	Storm Water Management Alternatives for Small Commercial Sites	December 1, 2015
ASCE	Permeable Pavement: Design Considerations and Tips for Avoiding Failures	December 15, 2015

Two City staff members attended ACWA's Stormwater Summit held at Lane County Community College on May 11, 2016.

Staff continues to make available the following outreach guides on its website at bendoregon.gov/stormwaterbmp, and several are available through the Permit Center:

- Better Site Design Walking Tour Booklet (2013 update) and Points to Ponder
- Considering Stormwater at the Conceptual Planning Stage Brochure
- Example Drainage Plan—Single Family Residential (2013)
- Central Oregon Stormwater Manual (2010)
- One Backyard at a Time Video (Bend area examples excerpt)
- Oregon Rain Garden Guide
- Central Oregon Plants for Stormwater Facilities (May 2013 update)
- Stormwater Maintenance Agreement
- Links to EPA website low impact development materials

The City helped distribute "The Oregon Rain Garden Guide" and supplemental plant list for Central Oregon by providing copies at outreach events (i.e., Stream Stewardship Day and Earth Day). The full color guide includes information specific to Central Oregon.

Effectiveness. City staff successfully met the requirements of this task. Having continuing education credits available helps draw the engineering community to the webinar trainings that provide access to national expertise.

Task VII.5 Performance Standards (MS4/UIC)

Performance standards have been completed and incorporated into the ISWMP 2022. The new ISWMP 2022 was approved by DEQ as part of the WPCF-UIC permit issuance with implementation. Implementation efforts are included in the Performance Standards implementation status, available in Appendix A.

Effectiveness. The City is on schedule with implementing the performance standards. DEQ is still reviewing the ISWMP 2022 with respect to the issuance of the City's NPDES permit reissuance for drainage to the river, but has accepted them for its UIC program.

Tasks Completed (ISWMP 2022)

BMP VII-1. Implement the Stormwater Regulations (MS4 and UIC)

The City continues to focus its efforts this year on the implementation of both the Standards and Specifications and Bend Code Title 16. For example, stormwater

staff worked with transportation engineers to ensure success of low impact development into the Reed Market Improvement project (phase two) and the Murphy Road Overpass project. The projects included sediment manhole upgrades, installation of regional bio-swales and additional planter boxes along a Reed Market Rd. City stormwater staff continue to participate on the design team to address the stormwater runoff. Staff continued to participate on the Galveston project as well as provide input on other CIP and internal maintneance projects.

The City is working to tailor its preferred post-construction facilities by area, and worked to obtain performance data as part of that effort.

In Bend, affordable housing pressure is high. Vacancy rates have been very low (below 1.5%) for an extended period recently. City Council recently amended the development code to clarify that the Accessory Dwelling Units, which are being allowed, can take advantage of tandem (one behind another) parking as well. Tandem parking has always been allowed for single family residences. This removes a potential hurdle for reducing the parking footprint.

Effectiveness: The City continues to implement post construction controls as part of retrofit projects, and was effective in securing budget increases to continue implementing the capital improvement projects outlined in the Stormwater Master Plan, adopted in August 2014.

BMP VII-2. Implement Performance Standards Related to New Development and Redevelopment Site Controls (MS4 and UIC)

A summary of the implementation status for the Performance Standards incorporated into ISWMP 2022 and accepted by DEQ under the City's WPCF-UIC permit is included in Appendix A.

Effectiveness: The City is currently on schedule with implementation of performance standards. The City met retrofit performance standards with the construction of Reed Market Project (phase two) work that is underway.

Summary Assessment of Effectiveness

The City is on schedule in implementing the tasks in this section. Overall, City staff participated in both attending and providing multiple workshop presentations related to post-construction controls in FY2015-16. The City has updated and actively implemented the development rules and legal authority to require and maintain adequate post-construction controls. The City is implementing the performance standards and is meeting or exceeding the approved schedule. The City has been successful in securing additional funding to help fund the capital improvement projects described in the Stormwater Master Plan.

8.0 MUNICIPAL OPERATIONS AND MAINTENANCE ACTIVITIES

Introduction

The objective of this component is to work with maintenance staff to maximize the removal of pollutants during routine maintenance activities and to minimize discharges of pollutants to watercourses and injection systems. Routine maintenance activities include: street sweeping, maintenance of storm drainage facilities and watercourses, and litter control. In FY2015-16, the City has 4,951 drywells, 974 drill holes, 4 drain fields, 1,284 swales, and 10,914 catch basins and other stormwater facilities in addition to the over 40 miles of storm drain pipe, 14 miles of which drain to the river. This component also includes reviewing corporation yard practices and making recommendations to improve the quality of stormwater runoff from these facilities.

Tasks Completed (ISWMP (2006))

The following describes ongoing tasks or tasks completed during FY2015-16:

Task VIII.1 Street Sweeping (MS4/UIC)

The City continues its ongoing street sweeping program per its Sweeping Operations Plan (2014, see Appendix G). The City is broken down into 8 geographical sweeping areas, and then broken down again into 4 sub zones. Each sub-zone requires approximately four days for a sweeper to complete. Routes are designed based on street classification and changing community needs. Each sweeping vehicle contains a notebook size map of the sections with identified boundaries. Sweeper operators are assigned sections on a daily/ weekly basis. Large area maps are used by Streets Supervisors to define and refine areas based on community needs. These maps are located in the Streets supervisory staff offices. Routes are assessed for accuracy and edited as needed once per year.

In FY2015-16, the Stormwater Utility funded 3 FTE of 7 FTE sweeper positions due to the stormwater benefits of street sweeping. The Streets fund supports the other 4 FTE. Whereas the 3 stormwater utility funded personnel focused on sweeping year around, due to budget cuts, the Street funded 4 FTES were repositioned during the summer to other crews within the Street Dept. to help with street repair and ADA requirements. The City conducted a special election in March to pass a fuel tax to help with street repairs/budgets but that measure failed. During winter operations when the sweepers can access the streets, the 4

FTE street sweeper crew operate the sweepers as well (November 7 to March 10) (see Figure 8-1).

During FY2015-16 the City Stormwater Utility purchased a new mechanical broom sweeper. This replacement should be helpful as over the past year, the sweeper equipment has suffered a high number of break downs as most of the fleet is older and functioning at the 10,000 hour mark. The City continues to operate five to seven sweepers running when the pavement is dry and departures are above freezing. In FY2015-16 they traveled 19,912 miles, directly removing 13,641 yards of material from the streets.

Figure 8-1. FY2015-16 Municipal Maintenance Sweeping

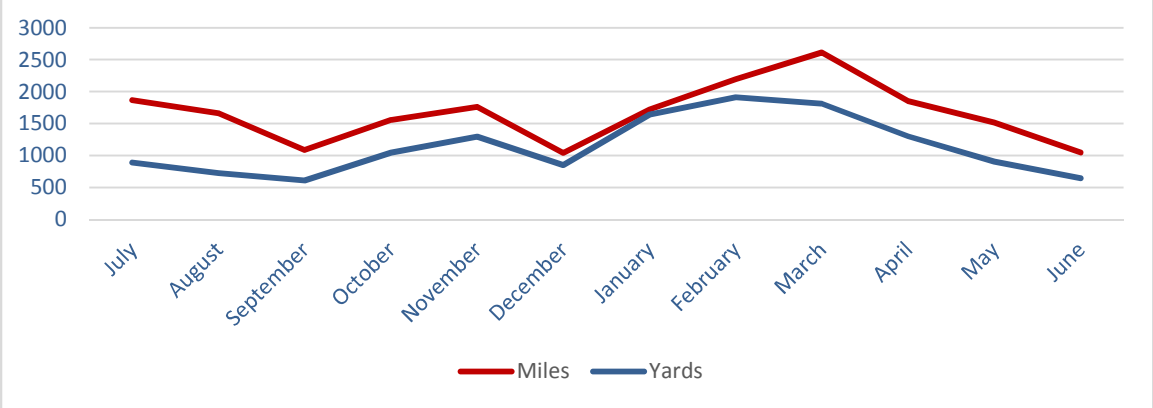


Table 8-1 FY2015-16 Municipal Maintenance Sweeping

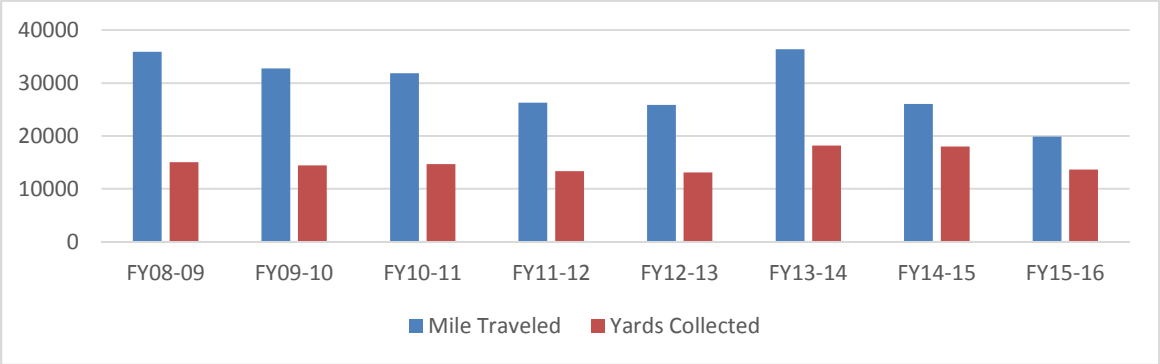
Date	Miles	Yards
July	1868	893
August	1661	724
September	1088	609
October	1555	1048
November	1763	1298
December	1039	852
January	1721	1642
February	2192	1912
March	2612	1813
April	1850	1302.5
May	1517	904
June	1046	644

In June, City staff prepared a map with the sweeper zones overlaid with areas

that drain to the river (MS4)—staff are working to place additional focus on increasing the effectiveness of sweeping especially in areas that drain to the river given that sediment/turbidity is a pollutant of concern.

Effectiveness. The 13,641 yards of material collected in FY2015-16 was kept out of the City's drainage system. This helps to reduce clogging of stormwater facilities, and helps to keep pollutants out of the Deschutes River. The amount of material removed is also related to the type of winter weather received and the quantity of traction material (cinders/basalt) that have been applied. Several of the existing sweepers have been requiring increased maintenance and down-time, so the purchase of the new sweeper should be helpful for increasing efficiency.

Figure 8-2. Sweeping Summary from FY2008-09 through FY2015-16



Task VIII.2 Parking Lot Sweeping (MS4/UIC)

The City owns and is responsible for sweeping five parking lots throughout the City—the downtown parking structure, the Mirror Pond parking lots, the Brandis lot at Greenwood and Bond, and the Troy Field parking lot across Louisiana from McMenamins. While City Streets crews sweep the public streets, the City's Facilities division is responsible for sweeping the parking lots and parking structure. In the early years of the stormwater program, the City formed a combined Clean Streets and Parking Lots/Litter Task Group within Public Works to determine monitoring protocols and examine ways to improve the effectiveness of the entire sweeping program by first monitoring the build-up of sediment and litter and identifying where improved cleaning is needed most. City Stormwater Program and sweeping supervisors still meet. Parking lot sweeping was not an issue this year. The City has been able to improve its proportion of yards of material collected per road mile traveled from FY2011-12 on (see Figure 8-2). See also Task VIII.1.

Effectiveness: Crews have not noticed excessive litter or sediments within the parking lots. See Task VIII.1 for more on effectiveness. The City continues to

improve efficiency over time.

Task VIII.3 Litter Collection and Material Disposal (MS4/UIC)

The City continues to provide street-side litter receptacles in the downtown core area that are emptied by a local garbage/recycling company three times per week in the winter and four times per week in the summer. The Downtown Bend Business Association (DBBA) maintains these receptacles with routine cleaning and repair on an as-needed basis per an MOU with the DBBA and the City. For more information on the City's relationship with DBBA to protect stormwater quality in the downtown area, see the City Edition "Bend Downtown Stormwater" that ran during February 2015: https://www.youtube.com/watch?v=3eE6d2-eH3Y&index=23&list=PLufJOv4LpbfAT2WkINy89WDCrQ9YdFBkE.

The Street Division right-of-way and landscape maintenance crews collect litter as a part of their routine maintenance when trimming brush and/or trees. Tree trimming is tracked by Infor EAM asset management work order system. The Street Division also administers an Adopt-A-Road program and a Volunteer program whereby citizen help in weed abatement and collect litter. The City has participated in developing a volunteer program called Bend Beautification. Street sweepers are used to pick up litter on paved surfaces. Large amounts of debris, deposited on streets, alleys, or other City properties are removed by personnel using the necessary equipment needed. Maintenance supervisors do not have authority to enforce compliance, but can notify code enforcement personnel with all pertinent information.

The City stormwater crews helped at the annual Stream Stewardship event held in August 2015 by collecting the bags of materials brought up by volunteers. This year the event had 186 volunteers, removing a total of 56 garbage bags of weeds, trash and debris for the river.

City staff have responded to several grease storage container spills in the past several years. In an effort to address this issue the City added a new code section (Bend Code 11.16.120) requiring that all grease collection and recycling companies use secure, lockable and leak proof containers. A best practices letter was sent out to all grease handling businesses and restaurants, a copy of this letter was included in Appendix G.

Effectiveness. The City effectively assists in the collection and disposal of litter. Working with DBBA increases that effectiveness. When issues arise, City leaders ensure they are resolved, as with the Economic Development Director championing code changes to improve grease handling downtown.

Task VIII.4 Landscape Maintenance Practices

City staff reviewed and provided comments for an updated water wise landscape

guide in April- June 2016. This updated guide will include a section on stormwater facility planning and sizing, and show low impact development examples. The City anticipates having this guide complete in FY2016-17.

The City's water conservation group started sprinkler inspection program. Offering free sprinkler inspection for City of Bend water customers. Staff have performed over 200 inspections, reducing water use and adjusting sprinkler heads to eliminate overspray onto city streets and sidewalks. In addition to conserving water, this program has also helped reduce dry weather irrigation flows into the City streets. In spring 2016, the City extended the pilot program of 2015 but worked to increase efficiency by reaching out with specific invites to high water users first before opening the program to the general public.

The City of Bend, Stormwater Program Manager attended a Vegetated Water Quality Management Certification Course hosted by Portland Community College and Clean Water Services. Copy of the certification is provided in Appendix G.

City capital improvement projects have incorporated stormwater surface controls including Reed Market (http://www.bendoregon.gov/index.aspx?page=814), Third Street Underpass, and the G.O. Bond roundabouts (http://www.bendoregon.gov/modules/showdocument.aspx?documentid=25392). Several have remained under warranty for vegetation establishment. City staff worked with engineering to ensure one that failed at Brookswood and Powers roundabout gets properly corrected before acceptance by the stormwater utility.

Effectiveness: The City is effectively installing new stormwater surface controls in right-of-way areas, handling stormwater via low impact development standard measures incorporated in the Standards and Specifications and the COSM. At present the City has 184 swales. The City has implemented improved practices such as plant selection and considering concave medians and bioretention that incorporate stormwater as a design element. The City is still working to ensure proper maintenance during warranty in a standard manner, and to ensure proper communication upon hand-over to stormwater utility for ongoing maintenance. City is working to improve vegetated control inspection forms based off the recent training, and refining recommendations on when and where to choose surface controls in right of way as opposed to other low impact development options.

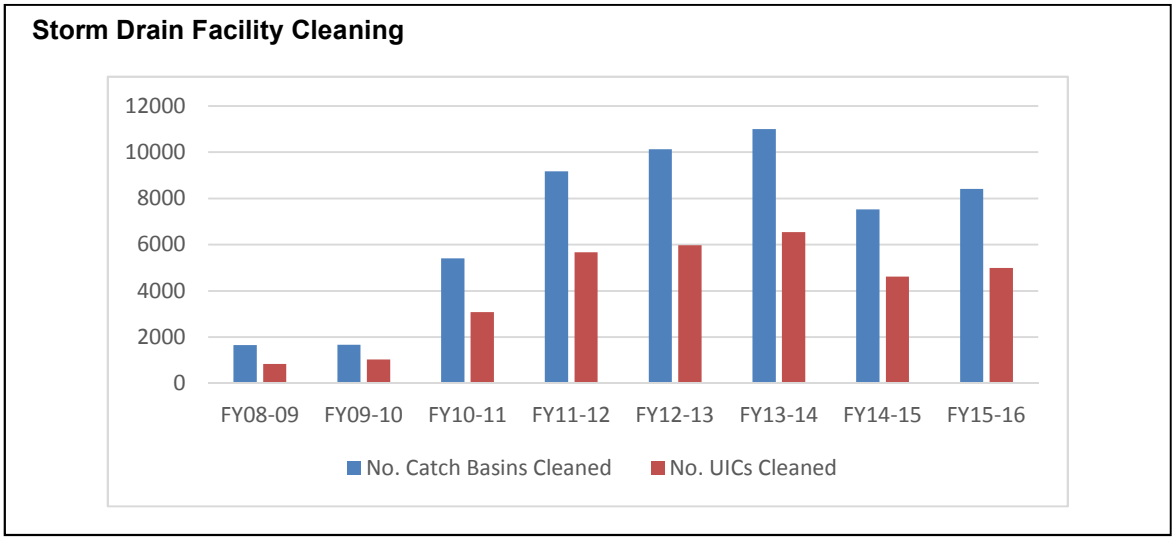
Task VIII.5 Improved Catch Basin/Storm Drain Facilities Cleaning (MS4/UIC)

Staff continued work to identify opportunities and improve maintenance practices. Stormwater field crews use the Infor system to manage swales, catch basin and UIC maintenance records. In FY2015-16, the four dedicated stormwater operations staff along with 2 seasonal temporary staff maintained 8,417 catch basins, and 5,001 UICs (dry wells and drill holes) removing 234 yards of material. In addition to routine cleaning and inspection, staff completed 22,463

maintenance repairs, including catch basin replacements and unplugging clogged drill holes. They also conducted maintenance on City swales/detention basins/bioretention cells 673 times, or roughly equivalent to quarterly.

The City also maintains a Contech Stormfilter that is installed in Newport Avenue at the west end of the Newport Bridge. In addition, staff installed 244 gross pollutant traps around drill holes to help prevent clogging within the hole. These are proving effective at reducing clogging and preventing large size pollutants from entering the drill hole.

Figure 8-3. Storm Drain Facility Cleaning



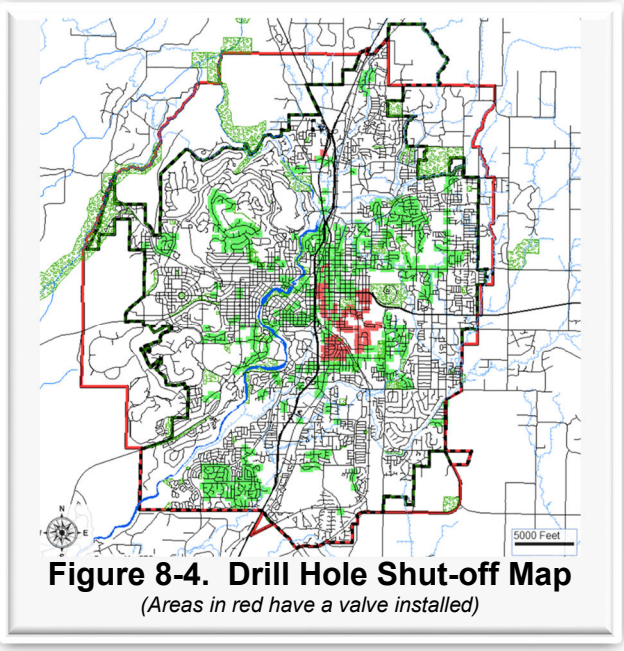


Figure 8-4. Drill Hole Shut-off Map
(Areas in red have a valve installed)

In FY15-16 City staff continued work on the Awbrey Butte Drainage study. The City has hired a consultant to model the drainage flows for this areas. In conjunction with this project City crews cleaned and CCTV inspected all of the piped system within the drainage basin. Crews also collected other data, including curb height and infiltration rates for existing UICs within the drainage basin.

Effectiveness. The additional staff, along with the INFOR software continues to increase efficiency and effectiveness of the

City's stormwater program to clean the catch basins, drill holes and dry wells, removing more than 244 yards of material. The maintenance levels this year increased slightly over FY2014-15 levels but remain lower than previous years in part due to special projects such as the Awbrey Butte Drainage study and UIC retrofit projects which take time (see Figure 8-2). Additionally, installation of gross pollutant screens on existing drill holes has helped prevent clogging and increased the efficiency in cleaning these types of UICs.

Task VIII.6 Spill Prevention, Response Materials, and Training (MS4/UIC)

Stormwater crews began implementing a drill hole valve installation program in FY2013-14. The shut-off valves will allow stormwater crews to safely block the flow during a spill to a drill hole. In FY2015-16 staff installed fifteen 6"-drill hole shut-off valves at high risk locations and 257 trash screens. The City plans to continue this program and install approximately another 15 valves in FY2016-17.

Staff continued to maintain simple spill kits in each of the street and stormwater vehicles. Streets and stormwater field crews are trained annually in spill prevention and response and an illicit discharge prevention (see Appendix D). Spill containers are also present at both Corporation Yards (15th and Boyd Acres).

The City keeps one sander loaded year round to serve for spills, as the sand can be used to make a temporary berm to help contain the spilled materials. The City also maintains two spill containment trailers that are stocked with absorbents, booms, pipe plugs and other related items in order to respond to larger spills. They are located at each corporation yard for easier access throughout town.

In FY2013-14 the City developed a series of 13 tailgate trainings; each training packet includes an informational fact sheet/ handout. The tailgate trainings were upload into the City COMPLI program in FY2014-15. City staff are now required to review the fact sheets annually online and complete a short quiz for each. Staff can work the completion of these into their schedule, given ample time before deadlines, and this improves tracking and accountability.

The City continues to require all new Utility, Streets, and EIPD employees to complete the training entitled "Municipal Storm Water Pollution Prevention—Storm Watch." This consists of reviewing online videos and completing a short quiz covering best management practices for: good housekeeping & spill prevention, vehicle and equipment washing; vehicle and equipment maintenance; spill reporting and response; street maintenance; outdoor storage of materials and wastes; and landscaping and lawn care.

The City continues to use integrated pest management (IPM) techniques for weed control but does track its weed control program pesticide use; the reporting

information that is provided yearly to the State is available upon request. Stormwater crews carry storm drain plugs and absorbents for spill response.

Effectiveness. Installing valves on high risk drill holes helps reduce impact risk to that risk incurred during response times because staff are given the ability to close off drill holes during a spill incident. The spill trailer allows for staff to contain and clean up larger spills. Training helps staff understand how to reduce situations where spills may occur and when to report spills; along with the needs and expectations for protecting water quality through storm drain maintenance. With the break-up of Public Works into three individual departments, additional coordination work remains necessary to ensure that training across the departments is maintained. Switching to Compli for training is helping to improve record keeping, accountability, and efficiency.

Task VIII.7 Illicit Dumping (MS4/UIC)

Areas with high pedestrian traffic tend to have higher levels of gross pollutants (trash). As a result, stormwater crews sweep the downtown corridor where there is high pedestrian traffic at a higher rate than other areas of town. City staff who see an illicit discharge or illegal dumping are trained to contact stormwater personnel for educational follow-up (see also Task V-2). City staff reported 22 of the 48 reports of illicit discharges reported in FY2015-16. Additionally, the City has focused outreach efforts, such as its successful "It's All Connected," and "Clean Water Works" campaigns and storm drain marking program on reducing non-stormwater discharges (see the Public Education and Public Participation chapters of the annual report for more information).

The City distributed funnels, Kids activity guides, highlighters and water droplets for the July 2015 Quest at the Fest event. The funnel and water droplets include a phone number to report illicit dumping.

Effectiveness. City staff are implementing educational and inspection best management practices to help reduce the number and severity of illicit dumping incidences. The storm drain facility cleaning means every facility inspected as part of Task VIII.5 during FY2015-16 is also examined for evidence illicit discharges. Increased education on illicit discharges has led to calls from citizens as well, which have been investigated and addressed (see Chapter 5).

Task VIII.8 City-owned Corporation Yards, Industrial and Commercial Facilities (MS4/UIC)

City staff continued to conduct municipal self-audits to improve water quality on corporation yard sites, performing inspections of both the Boyd Acres facility and 15th Street facility and completing self-inspection checklists quarterly together with the regularly-scheduled safety inspections for staff efficiency (see Appendix

G). Staff began to conduct these audits in FY2010-11.

Effectiveness. The City has been effective in conducting corporation yards audits this year and use these as needed to initiate discussions with appropriate staff to improve practices as needed. The face-to-face interaction is useful for problem solving.

Task VIII.9 Detect and Correct Cross-connections and Leaks (MS4/UIC)

Beginning in FY2013-14, City crews collect CCTV inspections data on all new stormwater pipes both when installed and at the end of the warranty period. The crews verify that storm pipes are installed per the approved plans. This initial pipe survey data help provide base line information and will allow for quicker identification of illicit connections in the future. In FY2015-16, the City completed a comprehensive CCTV pipe inspection for the Awbrey Butte Drainage study, and no sewer illicit connections were found. In addition to the CCTV pipe inspections, stormwater staff are trained to look for illicit connections as part of routine zone maintenance. The City found no illicit connections in FY2015-16.

Effectiveness. Implementing CCTV inspections for stormwater together with smoke test inspections in the sanitary sewer have been effective for ensuring and cross-connections are addressed.

Task VIII.10 Promote Commute Alternatives for Municipal Employees and the Public (MS4/UIC)

The City also continued its transportation demand management program (TDM) to encourage alternative modes of transportation and to reduce single occupancy vehicle trips. City staff are offered $60 or the equivalent in time off for every 20 trips using alternative transportation. The program is coordinated through Commute Options (see Appendix G). The City has a page setup for staff with information on different type of travel—guidance on setting up carpools, bicycle riding, etc, and information on how to sign up for the TDM program

Effectiveness. Commute Options worked to coordinate better with statewide programs to improve efficiency by way of introducing Drive Less Connect in fall 2011. In FY2015-16 the City continued to promote the TDM program, and electronic reporting through the Oregon Drive Less Connect website. City staff efforts saved 4,600 gallons of gas. The Oregon Drive Less Connect webtracker states that the statewide program has saved $1.9M, 259,000 gallons of gas, 727,000 trips, 8.4 M miles not driven alone and 5.2 M lbs of carbon dioxide saved presumably across the state. (see http://www.commuteoptions.org/your-options/drive-less-connect/). Table 8-2 provides City of Bend employee statistics.

Table 8.2 FY2015-2016 City of Bend TDM Summary
General Alternative Transportation Program Report

7/1/2015 through 6/30/2016

Number of Users Joined Network	**51**
Non SOV Miles Logged	**161,123**
Bike trips	**8,150**
Bus trips	**46**
Carpool trips	**7,010**
Compressed Work Week trips	**546**
Did Not Work trips	**1,713**
Drive Alone trips	**1,493**
Other trips	**10**
Telework trips	**202**
Walk trips	**3,385**

Savings	Total
Carbon Dioxide (lbs)	94,560
Gasoline (gal)	4,647
Monetary savings ($)	35,622
Ridematch statistics	**Total**
Ridematch search performed	90
Ridematch search with no result	65
Ridematch requests sent	13

(*Results based on all time)*

Task VIII.11 Performance Standards (MS4/UIC)
Performance standards have been completed and incorporated into the ISWMP 2022. The new ISWMP 2022 was approved by DEQ as part of the WPCF-UIC permit issuance and was scheduled to begin in FY2013-14. The City is meeting the baseline requirements on schedule. A summary of performance standards and initial implementation status is available in Appendix A. City staff have developed and begun distributing training fact sheets to help explain performance standards and best management practices in a manner suitable to tailgate meeting trainings.

Effectiveness. The City is effectively implementing the new performance standards as part of the ISWMP 2022, having met the initial standards scheduled to be met during F2013-14. The City met its goal of completing the

performance standards for inclusion in the draft ISWMP 2022 and implementation efforts are progressing effectively.

Tasks Completed (ISWMP 2022)

BMP VIII-1. Street Sweeping (MS4 and UIC)

See ISWMP (2006) Task VIII.1 Street Sweeping (MS4/UIC).

BMP VIII-2. Implement Performance Standards (MS4 and UIC)

See ISWMP (2006) Task VIII.11 Performance Standards (MS4/UIC).

BMP VIII-3. Landscape Maintenance Practices (MS4 and UIC)

See ISWMP (2006) Task VIII.4 Landscape Maintenance Practices.

BMP VIII-4. Improved Storm Drain Facilities Cleaning (MS4 and UIC)

See ISWMP (2006) Task VIII.5 Improved Catch Basin/Storm Drain Facilities Cleaning (MS4/UIC).

BMP VIII-5. Promote Commute Alternatives for Municipal Employees (MS4 and UIC)

See ISWMP (2006) Task VIII.10 Promote Commute Alternatives for Municipal Employees and the Public (MS4/UIC).

Summary Assessment of Effectiveness

As demonstrated herein, the City has been able to refine its collection and cleaning programs to be more efficient. The City has also been effective in installing several new landscaped drainage controls in the right-of-way. Crews are effectively maintaining the system, and are making improvements to existing drill holes to prevent both large scale pollutants from entering the hole as well as to include emergency shut-off devices in the most high-risk areas to help facilitate quick and safe closure in the case of an emergency spill. Outreach and coordination to ensure pollution prevention at corporation yards continues and the City is working to be more effective with its staff trainings by incorporating Compli. The TDM program continues to be a success as well.

9.0 MONITORING

Introduction

As a Phase II NPDES permitted community, the City of Bend is not required to monitor stormwater discharges that drain to the river, but is required to monitor stormwater drainages to UICs as part of its WPCF-UIC permit, received in May 2013. Early in 2004, the City and the Upper Deschutes Watershed Council (UDWC) began a multi-year monitoring program to gather data on the presence or absence of pollutants of concern in the Deschutes River within the Bend Urban Growth Boundary (Deschutes River Miles 172, and 159). This baseline report was completed in FY2009-10.The baseline data of the Deschutes River monitoring study will be useful to compare results of overall river health over time to help illustrate overarching effectiveness of pollution prevention efforts.

Task Completed (ISWMP (2006))

Task IX.1 Monitor Stormwater Discharges to the Deschutes River (MS4)

In FY2009-10, through a combined effort with the Upper Deschutes Watershed Council, the City completed the City of Bend Ambient Water Quality Monitoring project. This project focused on studying the diurnal, seasonal and annual variations of pollutants of concern in the river and Tumalo Creek. As part of the multi-year study, City staff conducted monitoring on the Deschutes River and Tumalo Creek just upstream, within and downstream of the City's UGB using grab sampling and continuous temperature monitoring at 16 stations, and continuous multi-parameter monitoring at up to 3 stations. (See Annual Report FY2009-10 for additional information).

In addition, the City of Bend Laboratory collects samples for and performs analysis of both routine river samples and stormwater samples over 8 months of the year for the following constituents:

- Temperature
- pH
- Dissolved Oxygen
- Conductivity
- Turbidity
- Total Dissolved Solids
- Total Nitrogen
- Total Phosphorus
- Nutrients

Escherichia Coli and Total Coliforms

Since September of 2005, the City has deployed multi-parameter submersible sondes at locations upstream and downstream of the City's stormwater outfalls. The purpose for these sondes is to detect changes in river water quality resulting from storm events. The sondes have been in place for significant storm events. The parameters monitored were pH, temperature, conductivity, turbidity and dissolved oxygen. More data and a more intensive data analysis will be necessary to determine if there are any significant stormwater impacts on river water quality, especially with respect to the nitrogen regime. Sondes are deployed during the winter rainy season as well as during the summer.

The City has continued to monitor in FY2015-16. The City annually provides the raw ambient water quality monitoring data to the local DEQ office for their use and consideration.

Effectiveness. The completion of the multi-year monitoring report in FY2009-10 provides the City a useful document for understanding baseline conditions from which the City can compare with future studies to determine ultimate effectiveness of its MS4 stormwater quality programs. The additional data that the City is collecting is being compiled and analyzed which should help distinguish trends over time to the ambient water quality.

Task IX.2 Enhanced Drinking Water Well Monitoring (UIC)

The City continues to monitor drinking water quality weekly and meet drinking water requirements under the Safe Drinking Water Act through regular well monitoring. The results of this monitoring are summarized in the City's separate yearly drinking water quality annual report, available at www.bend.or.us/index.aspx?page=205, which includes mention of stormwater pollution prevention efforts as well.

The City stormwater and water quality laboratory staff are all under that Water Quality Manager, and staff coordinate as needed to address monitoring issues.

Effectiveness. The City is meeting the Safe Drinking Water Act groundwater requirements through its regular well monitoring. The City has completed the Water Master Plan, and having completed a baseline river monitoring analysis, continues to collect data to help determine changes over time.

Task IX.3 Stormwater Monitoring for UICs (UIC)

The City stormwater and water quality laboratory staff continued meeting as needed and these meetings serve as the enhanced monitoring task group, as well as addressing other monitoring issues. The City developed and is

implementing a stormwater monitoring plan as part of the WPCF-UIC permit issuance.

In FY2015-16, the City continued the use of automatic sampling collectors with Nalgene bottles at six UIC locations throughout the City. Stormwater staff closely monitors potential precipitation events to target efforts to ensure enough precipitation is present to collect a sample. A summary of the City's stormwater monitoring data collected in FY2015-16 is included in Appendix H.

The City met its goal of collecting two stormwater samples at each of the 6 sample locations. The City deployed the samplers for a total of 4 rain events.

In addition to the stormwater monitoring plan, stormwater staff collected two grab samples from catch basins as part of illicit discharge program. One sample was collected form an drywell located in an alley in downtown area and the samples was collected from a catch basin in a light industrial area. Based on the lab results the material found in the alley was more than likely paint, that may have been spilled by the trash company while emptying the dumpster. The sampler results for the catch basins located in the light industrial lab results did indicate the presence of fuels and oils. Based on the low levels of oil, City staff could not tell if the oils had been dumped into the basin, or if it was just normal street operations and traffic.

City staff continue to experiment with the ISCO flow monitors. This year staff deployed two flow monitors for the entire season, one at Empire and the other at Simpson. The samplers are set to send out a text message to monitoring staff when flow is detected or when the unit needs new batteries. The flow data is automatically uploaded to a web based view using FlowLink Global. While the data is useful, the upkeep on the batteries and sensors calibration is time consuming given the amount of flow the City receives. The City is in the process of revising its UIC monitoring plan; in the revised plan City staff will request making flow monitoring an optional task as staff time allows. It is not required in either permit; and was being conducted from a pure research perspective.

Effectiveness. This program is continuing to provide the required data needed for the stormwater quality management program for both the river and UIC disposal. All analytes monitored were within compliance levels.

Task IX.4 Performance Standards (MS4/UIC)

Performance standards have been completed and incorporated into the ISWMP 2022. The new ISWMP 2022 was submitted in December 2012 and approved by DEQ as part of the WPCF-UIC permit issuance. Performance Standards and

implementation status is available in Appendix A.

Effectiveness. The City continues to effectively implement the performance standards for monitoring as part of the ISWMP 2022 (see Appendix A).

Tasks Completed (ISWMP 2022)

BMP IX-1. Monitoring of the Deschutes River (MS4)

See ISWMP (2006) Task IX.1 Monitor Stormwater Discharges to the Deschutes River (MS4).

BMP IX-2. Stormwater Monitoring for UICs (UIC)

See ISWMP (2006) Task IX.3 Stormwater Monitoring for UICs (UIC).

BMP IX-3. Implement Performance Standards (MS4/UIC)

See ISWMP (2006) Task IX.4 Performance Standards (MS4/UIC).

Summary Assessment of Effectiveness

The City has successfully developed and implements a UIC monitoring plan tailored to Central Oregon climate and challenges. The City has increased the effectiveness of its stormwater monitoring efforts through the use of automatic grab samplers in conjunction with grab samples.

♦ 10.0 *UNDERGROUND INJECTION CONTROLS* AND *DRINKING WATER PROTECTION AREA INVESTIGATION, DELINEATION AND MANAGEMENT*

Introduction

This chapter covers reporting of activities listed under Chapter 10 of the Integrated Stormwater Management Plan 2022 entitled "Underground Injection Controls," and Chapter 10 of the original ISWMP (2006) entitled "Drinking Water Protection Area Investigation, Delineation and Management." One of the highest priorities for the City is protecting its drinking water wells from contamination. In order to do this, the City needs to know where and how it should focus its protection efforts and to meet Underground Injection Control (UIC) requirements that are protective of groundwater. The purpose of this section is to provide the information the City needs in order to do this, especially with respect to the City's stormwater underground injection controls (UICs). For this reason, the title of this chapter changes between the Integrated Stormwater Management Plan (2006) and the ISWMP 2022, from "Drinking Water Protection Area Investigation, Delineation and Management," to "Underground Injection Controls," respectively. This chapter of the annual report covers both the ISWMP (2006) and ISWMP 2022 respective chapters.

Tasks Completed (ISWMP 2006)

The following describes yearly tasks that have been completed, or are ongoing that were performed during FY2015-2016:

Task X.1 Drinking Water Protection Area Delineation (UIC)

The City completed its Drinking Water Protection Area Delineation for City wells in FY2010-11 (See FY2010-11 Annual Report Appendix I).

Effectiveness. The City successfully completed the development of new/refined well head protection area delineations for use in its required Source Water Assessment, and has completed the Source Water Assessment including updating the potential contaminant source database.

Task X.2 Drinking Water Protection Plan (UIC)
The focus of this task is to identify real and potential contaminant sources within the refined Drinking Water Protection Areas (DWPAs), designate which are

private and public sources of potential pollutants, and develop and provide targeted educational materials minimizing potential contaminant sources for those agencies, businesses and residences within the revised DWPAs. This task became even more important after the DWPA project significantly changed the DWPAs. In FY2010-11 through FY2011-12, the City applied for and received a $30,000 grant to update the potential contaminant source inventory and to perform a susceptibility analysis to prioritize protective measures that might be taken to minimize the risk to groundwater. The PCS inventory and susceptibility analysis was completed in October of 2013. The report was reviewed and accepted by the Oregon Health Authority Drinking Water Program.

The City distributes and makes available on its website two ACWA brochures focusing on UIC pollution prevention—one for residential and one for commercial/industrial users.

Effectiveness: The City is continuing to improve its understanding of its groundwater and stormwater systems to best be able to target efforts to protect drinking water. The City continues to provide education on the importance and methods to protect water quality (see ISWMP 2022 UIC tasks, described below, and the education–related and illicit discharge chapters of this annual report for more details).

Task X.3 Groundwater Vulnerability Study (UIC)

The City submitted and DEQ reviewed and accepted the study entitled "Pollutant Fate and Transport Model Results in Support of the City of Bend UIC WPCF Permit – Groundwater Protectiveness Demonstration and Proposed EDLs" in FY2011-12 (see http://www.deq.state.or.us/wq/uic/docs/template/BendReport.pdf or Appendix I of the FY2011-12 annual report for a copy of the report).

Effectiveness: The City has completed the groundwater vulnerability study and received a letter of acceptance from DEQ on February 13, 2012.

Tasks Completed (ISWMP 2022)

The following describes yearly tasks that have been completed, or are ongoing that were performed during FY2015-16:

BMP X-1. Complete Systemwide Assessment (UIC)

The City completed the Systemwide Assessment (SWA) and submitted the documents to DEQ in December 2012 as part of the WPCF-UIC permit issuance package that ultimately resulted in the City receiving its first WPCF-UIC permit. A copy of the UIC Systemwide Assessment is available upon request.

System Wide Assessment - Follow-up Tasks
The Systemwide Assessment suggested follow-up tasks that have mostly been completed related to (a) finalizing drywell depth measurements; and (b) periodically reviewing the State's database or otherwise capturing new drinking water or irrigation water well data (see FY2013-14 and FY2014-15 annual reports for more information). The current drywell database captures depth measurements and is included in Appendix I. The City has continued to track new private wells installations within the City limits or close enough to impact City UIC setbacks. About eight wells were found but know within the City limits. The closest was about 500'-600' East of Shirley Ct, Near Hwy 20 on the east side of town. The 500' buffer therefore would be outside City limits.

Effectiveness: The City successfully completed the systemwide assessment that was accepted by DEQ who issued the City's WPCF UIC permit in May 2013. The City is using the systemwide assessment to help focus efforts for UIC upgrades. The City continues to install additional spill closure valves in additional high risk areas at a rate of 15 per year (see BMP X-3), and is yearly tracking installation of new wells.

BMP X-2. UIC Registration (UIC)

A copy of the City's UIC database is submitted with the annual report (see Appendix I). See also Chapter 2.0 (ISWMP 2006) Task II.6 UIC Registration (UIC), Table 10.1 and Appendix I for a summary of new public UICs installed in FY2015-16. Table 10.2 provides a summary of UICs decommissioned in FY2015-16 and Table 10.3 provides a summary of UICs expected to be decommissioned in FY2016-17 or beyond.

Table 10.1 New City of Bend UIC Installation Summary (FY2015-16)

Facility ID	Install Date	Location Description
DDW010380	7/28/2015	OSU Cascades Off Site
DDW010381	7/28/2015	OSU Cascades Off Site
DDW010390	7/21/2015	Silver Lake Blvd Improvements
DDW010391	8/15/2014	Shevlin Estates
DDW010413	8/31/2015	Taylor Thomas Professional Center
DDW010414	8/31/2015	Taylor Thomas Professional Center
DDW010415	8/31/2015	Taylor Thomas Professional Center
DDW010416	8/31/2015	Taylor Thomas Professional Center
DDW010417	8/31/2015	Taylor Thomas Professional Center
DDW010419	4/12/2016	Cascade Heights Ph. 3
DDW010420	4/12/2016	Cascade Heights Ph. 3
DDW010421	4/12/2016	Cascade Heights Ph. 3

Facility ID	Install Date	Location Description
DDW010422	4/12/2016	Cascade Heights Ph. 3
DDW010423	4/18/2016	NW Crossing Ph. 29
DDW010424	4/18/2016	NW Crossing Ph. 29
DDW010425	4/18/2016	NW Crossing Ph. 29
DDW010426	4/18/2016	NW Crossing Ph. 29
DDW010444	4/5/2016	Jones Farm Subdivision
DDW010445	4/5/2016	Jones Farm Subdivision
DDW010446	4/5/2016	Jones Farm Subdivision
DDW010447	4/5/2016	Jones Farm Subdivision
DDW010448	4/5/2016	Jones Farm Subdivision
DDW010449	4/5/2016	Jones Farm Subdivision

The registration database in Appendix I includes the most complete information, including updates to UIC data, and information on spill and gross pollutant control best management practices installed.

Effectiveness: The City is submitting the registration database in an excel format once per year as part of the annual report, as directed in the City's WPCF-UIC permit. The City is willing to work with DEQ should a different format or manner of submittal (e.g., electronic) is requested to improve database management.

BMP X-3. UIC Retrofits, Upgrades or Decommissioning (UIC)

As part of the City's capital improvement projects the City closed several UICs in FY2015-16 (see Table 10.2 and Appendix I). Table 10.3 includes a table of those UICs that the City anticipates will be closed/decommissioned in FY2016-17. As part of this, the City is working to relocate one drywell as part of a sewer line upgrade project, and is in the early stages of possibly considering decommissioning up to three drill holes in FY2017-18 or thereafter (DDH009923, DDH009922, DDH009921) as part of the SW Roosevelt Water Main Replacement.

Table 10.2 FY2015-16 Decommissioned City of Bend UICs Summary

UIC	Description
DDW001494	DDW001494, 2038, PARRELL RD
DDW001647	DDW001647, 2164, NW ORDWAY AVE
DDW003032	DDW003032, 139, NW GASOLINE ALY
DDW003423	DDW003423, 588, NW MERCHANT WAY
DDW003442	DDW003442, 1599, S HWY 97
DDW008161	DDW008161, 2304, S HWY 97
DDW010325	Aspen Ridge Subdivision

Table 10.3 Anticipated UIC Decommissioning and Installation

UIC Number	Action Anticipated	Timing	Project
New French Drain	Addition as part of waterwise upgrade at City Utility Complex (Boyd Acres)	FY2016017	Waterwise Landscaping
DDW001540 (decommission) DDW010456 (new replacement)	Decommissioning, removing and replacing across northbound lanes with DDW010456	FY2016-17 (anticipate spring)	SE Interceptor
DDH009923	Potential decommissioning	FY2017-18 or beyond	SW Roosevelt Water Main Replacement
DDH009922	Potential decommissioning	FY2017-18 or beyond	SW Roosevelt Water Main Replacement
DDH009921	Potential decommissioning	FY2017-18 or beyond	SW Roosevelt Water Main Replacement

Upgrades. Additionally, the City is working to upgrade UICs. In FY2015-16, 15 drill holes have been retrofitted with a valve that can be manually closed using a valve key in the event of a spill. This decreases spill risk and increases worker safety precautions. Similarly 257 drill holes have been retrofitted in FY2015-16 with a gross contaminant screen, designed to keep larger sized materials (litter, vegetation, etc.) from entering and clogging the drill hole. This serves to keep larger sized plastics and other pollutants from entering the drill hole.



Conducting open grate drywell inspections as part of the UIC Retrofit Project.

The City is implementing its open-grate drywell retrofit plan (see annual report FY14-15, Appendix I). In FY2015-16, City staff purchased 6 UIC inserts with a 36" sump for Brooks Alley parking lot, 19 for City right-of-ways and 1 that was installed at the Boyd Acres corporation yard as a demonstration (see photo below). To date, City staff have retrofitted 22 open grate UICs, by installing these drywell inserts at a cost of just over $1,500 apiece.



Installing open grate UIC retrofit at Boyd Acres corporation yard as an installation demonstration.

Effectiveness: The City installed drop-in retrofits with a three foot sump into the open grated drywells. As this sump is larger than what the company has standardly constructed, the City plans to monitor these installations for quality assurance/quality control through the winter months to see how they withstand freeze-thaw and weighted conditions prior to purchasing more. Should they work well, the City plans to continue with this approach due to the cost-effectiveness given existing grading and drainage changes would not be needed. The initial installations within the right-of-way are focusing on high spill risk and time of travel areas first.

Summary Assessment of Effectiveness

The City has significantly increased scientific understanding of its system and groundwater aquifer through drinking water protection area delineation and vadose zone analysis, with refining knowledge of the locations and status of its UIC system, and completion of the potential contaminant source identification project and Systemwide Assessment. The City is actively implementing an open-grate drywell retrofit project and is refining its drainage system as it redevelops to include pretreatment while actively conducting selective outreach and field modifications to be more protective within wellhead protection areas.

Appendix A

Overall Program Management and Legal Authority

City of Bend
Stormwater Liaisons Meeting

Proposed Agenda
October 19, 2015, 10:00 to 11:45 AM
Awbrey Butte, City Hall

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (5 minutes)
Objective: Welcoming remarks. Review and accept minutes. Receive updates on previous action items. Review and modify agenda as needed.

II. FY14-15 Annual Report Review/Approval Process, (15 minutes)
Objective: Review, provide input on draft, discuss Public Advisory Group review and finalization schedule.

III. Drainage Submittals and Maintenance Agreements Tracking, (10-15 minutes)
Objective: Confirm, refine if necessary, process for notification of submittal of stormwater related project documentation.

IV. UIC Registration and Decommissioning SOP, (15-20 minutes)
Objective: Confirm process for registering and decommissioning public UICs given modifications as result of having a WPCF-UIC permit. Determine if changes are needed.

V. Discussion: UIC Testing Procedures, (15-20 minutes)
Objective: Review Russ's proposed process for conduction UIC performance testing.

VI. Title 16 Implementation Plan, (5-10 minutes)
Objective: Collect any additional comments on the Title 16 Implementation Plan draft distributed at the last meeting.

VII. Roundtable Discussion—Post-Construction Controls, (5-10 minutes)
Objective: Understand various perspectives on City's experience with post construction controls—what is working well, what needs improvement. Receive update on B&C project examining treatment controls.

VII. Discussion: Problem Area to CIP Process/Re- Prioritization Process, (5 minutes)
Objective: Confirm point person to accept and incorporate into prioritization process those problem areas that are beyond O&M to fix. Select task group to confirm prioritization process and frequency.

VIII. Other Updates, (5 minutes)
Objective: Discuss questions related to updates.

IX. Confirm Next Steps , 5 minutes
Objective: Ensure mutual understanding of action items/next steps.

Stormwater Liaisons
10/19/15

Name	Dept. / Div.
1. Wendy Ebke	Utilities / Reg.
2. David R	Utilities / Sewer
3 STEVE PRATT	Utility Dept / Environmental Compliance
4 Joe McCloy	Building Safety Div
5. Ily/E Thomas	Const & Row
6. Garrett Sabourin	ETPD
7. Nic Oltean	CDD - Engineering
8. Ross Grayson	CDD
9. Shannon Ostendorff	Utilities / O&M

City of Bend
Stormwater Liaisons Meeting

Meeting Summary
October 19, 2015, 10:00 to 11:45 AM
Awbrey Butte, City Hall

Attendees: *Joseph McClay (Building Division); David Buchanan, Wendy Edde, Steve Prazak (Utility-Water Quality); Russell Grayson (City Engineer), Nicolae Oltean (Engineering); Garrett Sabourin (EIPD); Shannon Ostendorff (Utilities)*

Key Items Discussed

FY14-15 Annual Report Review/Approval Process

- Wendy requested an updated org-chart from Engineering. Russell will check, but it most likely out of date.
- Kyle is going to review Chapters 6 & 7 and provide any comments directly to Wendy.
- Russell reviewed HTE data and reported that Engineering had issued 33 grading permits in 14-15. Nicolae noted that all commercial developments include a grading plan. Russ was going to work with his staff to see if they could get a more accurate number on grading permits. Kyle was going to check on inspection numbers and stop work orders.
- Kyle recommends that the City provide additional training for private engineers on why erosion control is needed.
- Kyle & Russ discussed process issue with the HTE system and the need for a new software package. Leap is expected to help with this process.
- Wendy asked about a CDD annual report, Russell and Joseph were fairly sure CDD did not prepare an annual report this year.
- Wendy provided a copy of the performance standards with FY14-15 & 15-16 tasks. The group reviewed the Development performance standards.

1200C Permit Reissuance

- Wendy briefly discussed the 1200c update process; comments are due on November 18, 2015.
- Nicolae would like a map showing what areas of town may trigger a 1200c permit.
- Shannon, Kyle & Wendy briefly discussed how the City has the option of issuing 1200C permits on DEQ`s behalf. The group agreed that this is something the City is not ready to take on at this time.

Drainage Submittals and Maintenance Agreements Tracking

Wendy wanted to make sure maintenance agreements remain as consistent as possible. Nicolae forwards all agreement modifications to Gary and Wendy for review. OSU and the Bend LaPine School district are looking into modifying the agreement. Wendy requested that all completed agreements be sent to both Wendy and Spencer Sanvitale.

Nicolae discussed how the agreements are uploaded into HTE. The program makes it impossible to search for a specific agreement. Agreements are also uploaded into E-Plans. Larger project can have several permit numbers within E-Plans, so finding an agreement can difficult. Nicolae said that this is another area LEAP could help improve our process.

UIC Registration and Decommissioning SOP

Russel would prefer that new public UICs get entered directly into the City's permit and not go through the rule authorization process. Wendy expressed concerns with the recommendation for cases when the final plat is not completed, the City could end up with UICs in its permit that are located on private property. Attendees will consider was to mitigate the concern.

UIC Pre-Closure & Final Closure Reports need to be completed by the project engineer and a copy should be sent to Wendy/David. Kyle would like more information on UIC registration process, so he can work with the engineers to get that documentation in the project closeout binder. Shannon may have some projects that involve closing UICs, she will get Wendy/David a list of UICs proposed for closure for the annual report.

Discussion on UIC Testing Procedures

Russell would like to update the design standards to limit drywell size to 20,000 gallons. Engineering is seeing some projects come through with excessively large rock galleries. The rock sometimes extends onto private property. The Engineering Department is now requiring engineers show the drain rock limits on the plans. Engineering is now requiring easements for drain rock galleries that extend onto private property.

Title 16 Implementation Plan

Wendy and Kyle discussed the new specification Chapter Part V that cover private inspections. Wendy will work to incorporate this new inspection process into the enforcement plan. Kyle noted that erosion control BMPs are now getting inspected by the project engineer.

Discussion: Problem Area to CIP Process/Re- Prioritization Process

Shannon would like the list to remain under the maintenance group's control. David recommended creating a list on share point to track problem areas.

City of Bend
Stormwater Liaisons Meeting

Proposed Agenda
Friday, April 15, 2016, 1:00 to 2:00 PM
Awbrey Butte Room, City Hall

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (5 minutes)

Objective: Welcoming remarks. Review and accept minutes. Receive updates on previous action items. Review and modify agenda as needed.

II. Review and Approval: UIC Testing Procedures, (15-20 minutes)

Objective: Review draft SOP and testing procedures/forms for UIC Testing Procedure modification.

III. UIC Registration Discussion, (15-20 minutes)

Objective: Brainstorm workable solutions to avoid rule authorization process for UICs that eventually will become City-owned, given potential or long lag-times if final plat is not completed in a timely manner. Address: UICs in public ROW; UICs in new future public ROW; UICs developed by other WPCF UIC permit holders.

IV. Recent DEQ Construction Site Enforcement and Education, (5 minutes)

Objective: Receive overview of recent DEQ 1200c enforcement actions; review draft educational outreach map to assist project proponents. Receive update on results of recent CESCI training.

V. Roundtable Stormwater Updates/ Staff and Role Changes (5-10 minutes)

Objective: Coordinate on staffing and role changes given (a) significant increase in new hires; (b) position vacancies; (c) utility enforcement position update. Determine educational needs and next steps. Briefly share important coordination updates/future agenda items in these areas.

- ***Regulatory (Wendy Edde)***
- ***Community Development (Russ Grayson/Joseph McClay/Kyle Thomas)***
- ***Illicit Discharges/Code Enforcement (David Buchanan/James Goff)***
- ***CIP Projects (Garrett Sabourin)***
- ***Street Sweeping Program (Christopher Blake)***
- ***O&M (Shannon Ostendorff)***
- ***Water Quality/Laboratory (Steve Prazak)***
- ***Public Education/Outreach (Justin Finestone/ Wendy)***
- ***Other (Open, All)***

City of Bend

Stormwater Liaison's Meeting Summary

April 15, 2016

Attending: Steve Prazak, Wendy Edde, David Buchanan (Utility Dept.); Ryan Oster (City Engineer); Chris Henningson, Kyle Thomas (Private Engineering/Inspectors)

Key Items Discussed

- Underground Injection Controls
  - Sizing
  - Testing
  - Geologic Mapping
  - Registration Discussion
- Construction Sites ESC
  - Overview of recent DEQ 1200c enforcement actions in areas near river
  - Reviewed draft educational outreach map of potential 1200c areas to assist project proponents.
  - Provided update on results of recent CESCI training in March
- Roundtable Discussion

Key Decisions Made/Action Items

- Wendy provided the 1200c potential area map to CDD for use.
- The City will test out the following policy for drywell testing.

Drywells testing criteria:

1. Install the drywell per the approved plans, specifications and applicable construction guidelines.
2. Inspect drywell prior to testing, making sure the drywell is clean and free of sediment.
3. Field check the accuracy of the flow meter by filling up a suitable container of known volume; for example a calibrated 55-gallon barrel.
4. Introduce clear water into the drywell and monitor flow using an in-line flow meter.
   a. If the drywell's total inflow design volume is less than 10,000 gallons (1,336 CF), place the design volume in the drywell within a 1 hour test period and verify that the water either disappears immediately or document the standing water per the COSM Appendix 4B, Full Scale Drywell Test Method.

b. If the drywell total inflow design volume is between 10,000-25,000 gallons (1,336-3,342 CF), place an initial 10,000 gallons (1,336 CF) into the drywell. If any standing water is present at the end of the 10,000 gallons, then the City will require the full design inflow volume and/or a full scale 2 hour drywell test per COSM Appendix 4B.

5. Monitor and record the flow rate at appropriate intervals during the test, in no case shall the interval exceed 10 minutes in length.
6. At project closeout the project engineer will be required to certify that the onsite drainage meets the design with an engineered stamped memo with testing results submitted to the City.

Stormwater Coordinators
Streets / Stormwater Reg.
May 4, 2016

Name	Division
1. Wendy Edde	Stormwater
2. Chris Bell	Streets
3. William Waldrop	Streets
4. Dick	Stormwater
5.	

Stormwater Coordinators

Stormwater Liaisons—Streets/Stormwater Coordination Meeting

May 2, 2016

Attending: Christopher Blake (Streets Supervisor); Will Waldrup (Streets Lead); Wendy Edde (Stormwater Program Manager); David Buchanan (Stormwater Analyst)

Key Items Discussed

- Street Sweeping Status and Background
  - Currently 3 of 7 brooms on average are working—lots of wear and tear with moving parts, dirt and dust on aging vehicles.
  - Stormwater is paying for a new Pelican full option broom for $218,000 that will be delivered soon.
  - Having a mix of sweeper types is useful. Pelican Brooms are not designed to be hill climbers; Elgin Eagles do not have the cleaning capabilities in front and back. The gutter brooms spin trash up into the catchment area. Regenerative air machines vacuum up debris. Regenerator air sweepers just get sandblasted if they are the only ones doing rock (e.g. winter traction) cleanup; therefore they are paired with brooms during rock cleanup.
  - The steep areas have the most rock—sections 7 and 6. Will indicated it took all of April to do section 7A-D due to the amount of basalt traction rock to be collected.
- Street Staffing Breakdown
  - Staffing consists of 3 machines and one person manning a dump truck for mobile off-loading. Staffing is currently 4. Three full time people sweeping, and in the winter it jumps up to about 6-7 until/unless it snows; then they plow. The Streets Dept. handles several areas. Chris Blake oversees Sweeping;, Legends (signs and striping);, Landscaping (5 FTE and 1 Seasonal), Cemetery; Ric Volkman oversees ADA Compliance, Paving, Crack Seal; and Paul Nighswonger overseas Pavement Preservation (outside contracts).
- Increasing Efficiency Measures.
  - Focus on street sweeping is through the winter. Street sweepers will follow the backpack sidewalk blowers to increase efficiency. The problem is freezing down so they have to go over it multiple times during winter.
  - Street sweeping occurs before paving. A machine is called out before crack sealing, chip sealing begins, chip seal pick-up.

- Staff have maps for trash schedules and do not sweep the streets the same day given that many bins are out in the street.
- Street sweepers are called out and asked to clean up after accidents.
- Sweepers focus on problem areas where they hit once/week or two.
- Challenge: new developments are adding lane miles and we need to improve incorporating new streets into workload and adjust budget for it.
- Chuck is working to put together a two week schedule for street personnel. Schedule would include vacation days.
- Other issues include basketball hoops in street, street trees needing trimming. Streets have a doorhanger to prevent dumping yard debris/rubbish in the right-of –way, together with the need to maintain sidewalks and keep street trees trimmed.
- Sweepers hit neighborhood areas from 7AM – Noon to avoid conflicts. One way to increase efficiency may be to put out Reader boards saying: We will be in this area sweeping between 7AM-Noon—please keep vehicles off streets during this time. Need 2-3 Reader Boards. (About $15-$20K)

- Requirements Overview
  - Wendy walked through a summary sheet of the stormwater quality requirements for street sweeping and attendees discussed status.
  - Crews note where they have been conducting cleaning each month in Infor.
  - Arterials are swept 5 times per year in general; arterials and collectors are swept every morning in the downtown area (bike route); goal is to sweep all streets twice per year (spring and fall)
  - Streets is monitoring the work of Deschutes County in their testing of GIS use in sweepers to improve measurements. GIS can collect different data such as when brooms are down, and they are looking into that for snow plowing—Will and Chris noted that Boise, Idaho is using it and it is super-efficient. In Bend, early implementation attempts failed due to employee concerns at that time regarding need and use.
  - Streets crews do contact David and Wendy when they notice signs of spills or dumping in the field. Pictures are very useful.
  - The City typically does not use solid deicer—the small amount of emergency granular Ice Slicer is stored inside and is mixed 50/50 with sand when used. (used in West Hills a couple times)
  - Training on water quality consideration related to chemical deicers is included as part of the winter training Streets staff puts on.
- Working Together
  - Attendees brainstormed ideas on how stormwater program staff can help streets staff with increasing sweeper and cleaning efficiency.
- Decant Facility

- Chris indicated that Dustin has set aside money in facilities to buy a cover for the decant facility.

- **Key Decisions Made/Action Items**

  - Stormwater Program staff will have GIS staff create a map showing the areas draining to the river with the maintenance crew zones overlain so that additional street sweeping focus can be levied on the areas draining to the river. These may be areas to target demonstration project(s) to try noticing by reader boards, etc. or have volunteers or interns to help provide notification about potential sweeper conflicts.
  - Wendy can draft a newsletter article regarding ways to assist street sweepers.
  - Chris & Diane will invite Wendy to a 7 AM monthly street staff meeting to walk through performance standards and increase understanding and assistance.
  - Stormwater will include in outreach that at crash events, tow trucks are legally Streets has requested Stormwater's help in helping addressing interdepartmental coordination, communication and policy concerns related to cleanup of crash events.
  - Both Streets and Stormwater have mobile spill trailers at their respective corporation yards that are kept stocked.
  - Wendy will look into reader boards and all will examine other possible options.

City of Bend
Stormwater Liaisons Meeting

Proposed Agenda
Tuesday, June 15, 2016, 1:00 to 2:00 PM
Awbrey Butte Room, City Hall

Purpose: Coordinate Stormwater Activities Among Affected Departments

I. Welcome and Introductions (5 minutes)

Objective: Welcoming remarks. Review and accept minutes. Receive updates on previous action items. Review and modify agenda as needed.

II. Update: Draft NPDES MS4 Phase II Stormwater Permit (to River) (5 minutes)

Objective: Understand status, key changes, and next steps related to development of discussion draft General Permit. (See May 10, 2016 meeting on this page for link to full permit and permit evaluation report: http://www.oregon.gov/deq/WQ/Pages/Water%20Quality%20Permits/MS4Advisory.aspx)

III. Review and Discuss: Utility Program Compliance Specialist Description and Workflows, (30-40 minutes)

Objective: Review/discuss draft position description, and work flows related to roles/responsibilities/coordination needs with respect to interdepartmental coordination, especially pertaining to erosion and sediment control construction site activities; and post-construction controls. Discuss communication of warranty periods and process of turnover. Agree to final project description for release.

III. Stormwater Roundtable Discussion, (10 minutes)

Objective: Open discussion.

City of Bend
Stormwater Liaisons
Meeting Attendance Sheet
June 15, 2016

	Name:	Department/Division:
1.	Wendy Edde	Utility/EnvComp
2.	Sara Page	Utility/Environment Compliance
3.	[signature]	HR
4.	BILLY STATON	CDD BLG
5.	Chris Henningsen	CDD Engineering
6.	James Goff	CDD Code
7.	Shanna Osterdeft	Utility
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

Stormwater Liaisons Meeting Summary

June 15, 2016

1PM – 2PM

Attending: Billy Staten (CDD Building); Chris Henningsen (CDD Private Engineering); Ed Martinen (Human Resources); Steve Prazak, Wendy Edde (Utility Env. Comp.); James Goff (CDD Code Enforcement); Shannon Ostendorff (Utility O&M)

Key Issues Discussed

- Utility Environmental Compliance Position Write-up
- NPDES Permit Update
- Workflows With New Position
    - ESC for SFR -- State Building officials are limiting what type of actions can result in a stop work order—it must directly affect the building structure to be able to stop work order. New policy/procedure in Engineering may allow Engineering Inspectors to stop work. New LEAP software may have capability to allow any involved to stop work. Building can run quick reports, and can provide a packet of information material—best to provide electronically to Building for distribution rather than rely on the website. Building and engineering inspectors are happy to be extra eyes in field.
    - ESC for non-SFR
    - ESC for CIP and R&R
    - Post Construction Control for City-owned
    - Post Construction Control for Private
- Collecting Impervious Surface Data for new and redevelopment (in regards to request for site visit impervious surface calculation request for 2357 NE Conners Ave)—confirmed that engineering does perform a QA/QC check prior to sending to finance.

Key Decisions Made

- Ed will add some clarifying language under "Distinguishing Characteristics" of the Utility Program Compliance Specialist position.
- Attendees agreed that with those changes, the position description is ready to move forward.
- Additional ESC guidance at Pre-con meetings would be very useful. (Current levels are about 3 pre-cons per week)

Key Action Items

- Wendy will review the NPDES General Permit public draft scheduled to be released on 7/1, and provide a summary of changes since the May draft when she shares it with the SL for review.
- Wendy to review City policies related to stop work orders and will adjust ESC for SFR workflow draft accordingly.
- Wendy to update Post Construction Control workflow to consider those projects that include UIC registration with DEQ and how the guidance ties into the on site management plan required by DEQ.
- Stormwater Liaisons will review the draft workflows and provide additional comments this week.
- Wendy will then edit the discussion draft workflows and send out for another round of review.

Coordination Stormwater

Stormwater Maintenance Meeting

4/19/16

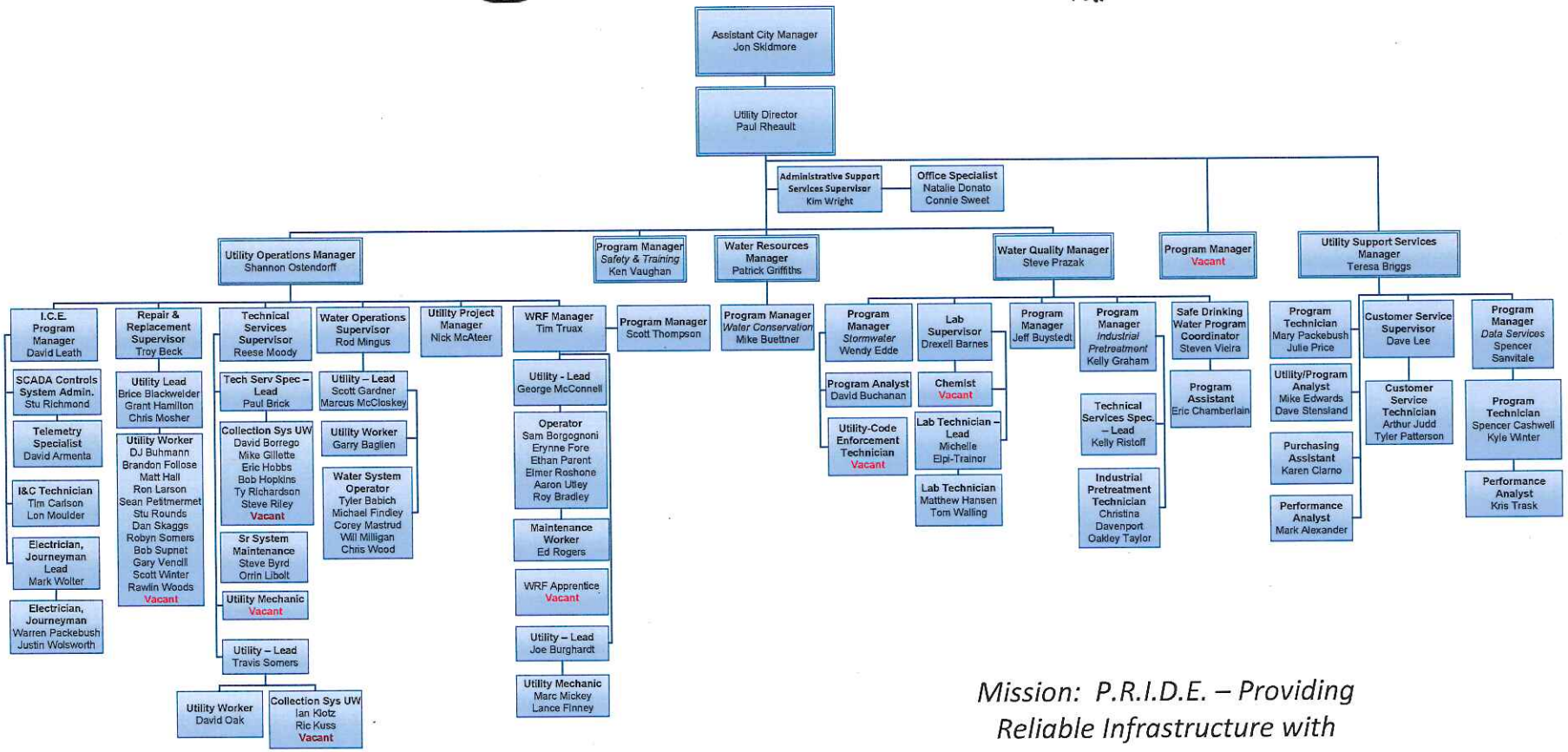
Name	Division
1. Wendy Edds	Utility - Rep
2. Travis Sowers	Storm Lead
3. Dustin	Utilities
4.	

Stormwater Coordination Meeting
Stormwater Maint / Eng / Lab Meeting
5/3/16

Key items discussed
- UIC Retrofit coordination with sampling prog
- City Hall drainage
- IDDE Report Lab Results

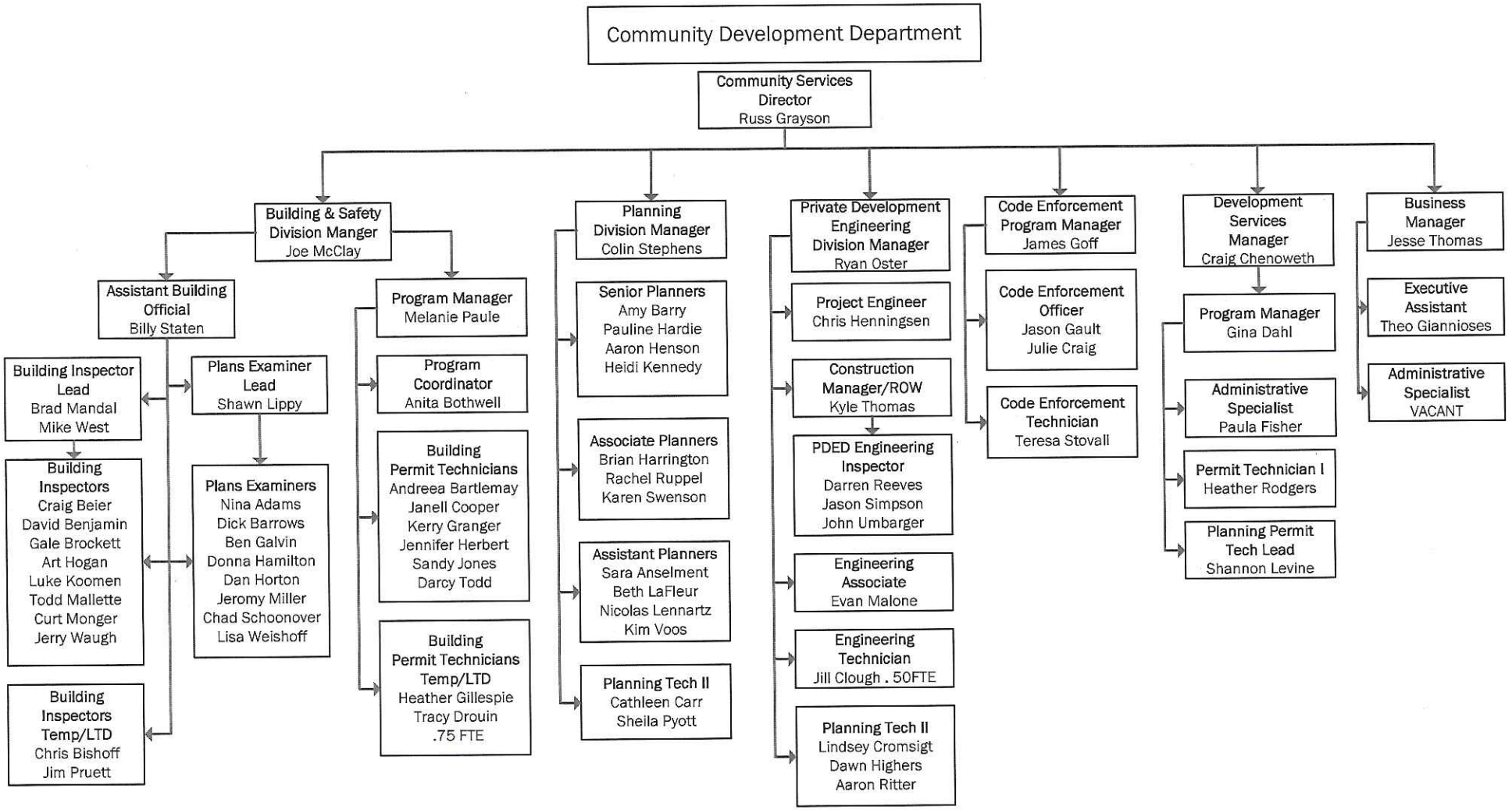
Name	Division
1. Wendy Elke	Stormwater Utility
2. Tom	Storm Lead
3. Jeff Buysted	Lab
4. Tim	Storm

UTILITY DEPARTMENT



Mission: P.R.I.D.E. – Providing Reliable Infrastructure with Dedication and Excellence

City of Bend Utility Department Organizational Chart Updated: June 2016


Community Development Department
Community Services Director
Russ Grayson
Building & Safety Division Manger
Joe McClay
Assistant Building Official
Billy Staten
Building Inspector Lead
Brad Mandal
Mike West
Building Inspectors
Craig Beier
David Benjamin
Gale Brockett
Art Hogan
Luke Koomen
Todd Mallette
Curt Monger
Jerry Waugh
Building Inspectors Temp/LTD
Chris Bishoff
Jim Pruett
Plans Examiner Lead
Shawn Lippy
Plans Examiners
Nina Adams
Dick Barrows
Ben Galvin
Donna Hamilton
Dan Horton
Jeromy Miller
Chad Schoonover
Lisa Weishoff
Program Manager
Melanie Paule
Program Coordinator
Anita Bothwell
Building Permit Technicians
Andreea Bartlemay
Janell Cooper
Kerry Granger
Jennifer Herbert
Sandy Jones
Darcy Todd
Building Permit Technicians Temp/LTD
Heather Gillespie
Tracy Drouin
.75 FTE
Planning Division Manager
Colin Stephens
Senior Planners
Amy Barry
Pauline Hardie
Aaron Henson
Heidi Kennedy
Associate Planners
Brian Harrington
Rachel Ruppel
Karen Swenson
Assistant Planners
Sara Anselment
Beth LaFleur
Nicolas Lennartz
Kim Voos
Planning Tech II
Cathleen Carr
Sheila Pyott
Private Development Engineering Division Manager
Ryan Oster
Project Engineer
Chris Henningsen
Construction Manager/ROW
Kyle Thomas
PDED Engineering Inspector
Darren Reeves
Jason Simpson
John Umbarger
Engineering Associate
Evan Malone
Engineering Technician
Jill Clough . 50FTE
Planning Tech II
Lindsey Cromsigt
Dawn Highers
Aaron Ritter
Code Enforcement Program Manager
James Goff
Code Enforcement Officer
Jason Gault
Julie Craig
Code Enforcement Technician
Teresa Stovall
Development Services Manager
Craig Chenoweth
Program Manager
Gina Dahl
Administrative Specialist
Paula Fisher
Permit Technician I
Heather Rodgers
Planning Permit Tech Lead
Shannon Levine
Business Manager
Jesse Thomas
Executive Assistant
Theo Giannioses
Administrative Specialist
VACANT

MEMORANDUM

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PO BOX 431
BEND, OR 97709
[541] 388-5505
TEL
[541] 388-5519
FAX
www.bendoregon.gov

TO: **MAYOR AND CITY COUNCIL**

FROM: **ERIC KING**

SUBJECT: **WEEKLY REPORT**

DATE: **MAY 20, 2016**

CITY OF BEND

Upcoming City Council Meetings and Other Events

- June 1, work session at 5 p.m., regular meeting at 7 p.m. at City Hall in the Council Chambers
- June 15, work session at 5 p.m., regular meeting at 7 p.m. at City Hall in the Council Chambers
- July 6, work session at 5 p.m., regular meeting at 7 p.m. at City Hall in the Council Chambers
- July 20, work session at 5 p.m., regular meeting at 7 p.m. at City Hall in the Council Chambers

Bend Livability Conference - Saturday Conference

Councilors, you are invited to attend the Bend Livability Conference. Please let us know if you'd like to attend and staff will coordinate your registration.

More information is available here:
http://bendlivability.org/project-events/livability-conference/

Councilor Liaison Plan

Neighborhood associations have received the attached Councilor liaison plan that aligns each of you with a couple of neighborhoods. Thank you for participating in this important part of our citizen engagement system. Neighborhood associations wanted to have a liaison program reinvigorated, and clearly welcome more opportunities to have contact with you.

We don't intend to make this a demanding program with rigid requirements, but rather, an informal relationship that may look different within each neighborhood. What this means is that neighborhood associations have a go-to person when they want one. Please attend annual general membership meetings (and key board meetings when requested). Expect to hear from folks in the neighborhood association from time to time.

You will eventually see your names & liaisons added to the Council Committee Assignment link at the top of this page: http://www.bendoregon.gov/committees. After elections, that list is typically updated.

Clean Water Works Partnership

The City of Bend Utility Department has recently completed its evaluation of its award-winning Clean Water Works Partnership pilot program conducted in 2015. The City took an innovative community based social marketing approach including a multi-incentive based partnership program with local businesses, non-profits and institutions to positively affect behavior change and increase awareness to protect water quality. Both phone surveys of the public and informal surveys of partners were taken to evaluate the campaign—see details in the appendix.

Affordable Housing Expedited Review

At Wednesday's Council meeting, Councilor Knight brought up the idea of fast-track permitting for affordable housing. We currently have a program for this. In 2003, the Council passed two resolutions that established incentives for affordable housing, one of which is expedited review. These incentives were put in the Development Code, which I've pasted below. CDD works with Jim Long who ensures the projects qualify, if so we put them at the head of the line in both Planning and Building permits.

I've attached the CDD Standard Operating Procedure for expected turn-around times for these projects which, for Planning, is 14 days for Type I applications (typical is 30 days) and 42 days for Type II applications (typical is 60 days). Planning has three under review right now: Seven units at the southwest corner of Wall and Revere (Type II), three townhomes at 12th and Greenwood (Type I) and 53 units at NE Daggett Ln and NE Moonlight Dr. (Type II). Let me know if you need more information.

C. 1. Affordable Housing Strategies. Through the adoption of two resolutions by the City Council (Resolutions 2423 and 2428), the City of Bend provides an incentive program to developers to assist in the development of affordable housing. The City defines affordable housing as housing with a sales price or rental amount that is within the means of a household that may occupy moderate- and low-income housing, meeting one of the thresholds defined in subsections (C)(1)(a) and (b) of this section.

a. In the case of dwelling units for sale, "affordable" means housing in which the mortgage, amortized interest, taxes, insurance, and condominium or association fees, if any, constitute no more than 30 percent of such gross annual household income for a family at 80 percent of the area median income, based upon most recent HUD income limits for the Bend Metropolitan Statistical Area (Bend MSA).

b. In the case of dwelling units for rent, "affordable" means housing for which the rent and utilities constitute no more than 30 percent of such gross annual household income for a family at 60 percent of the area median income, based upon most recent HUD income limits for the Bend Metropolitan Statistical Area (Bend MSA).

2. In association with the land use review process, and prior to the issuance of a building permit for any units in an affordable housing development, the owner shall enter into an affordable housing development agreement with the City. The development agreement shall set forth the commitments and obligations of the City and the owner, including, as necessary, conditions to ensure the completion of affordable housing in the development.

3. The owner shall execute any and all documents deemed necessary by the City in a form to be established by the City Attorney, including, without limitation, restrictive covenants, deed restrictions, and related instruments (including requirements for income qualification for tenants of for-rent units) to ensure the continued affordability of the affordable housing units in accordance with this section.

4. The following are the developer incentives adopted by the City:

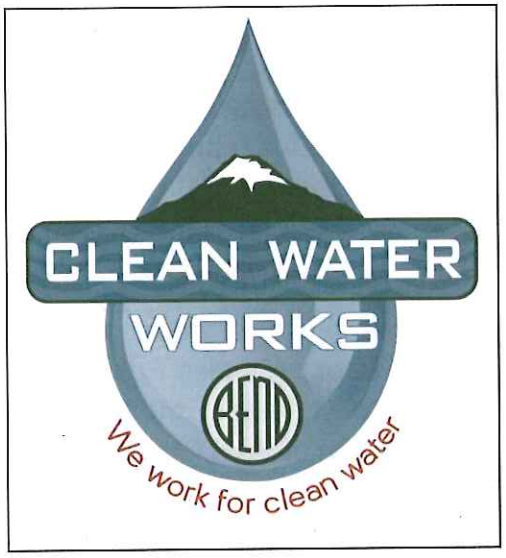
a. Expedited review and permitting processing.

b. Planning and building fee exemptions up to $10,000 per project.

c. System development charge (SDC) deferrals.

Clean Water Works Partnership

The City of Bend Utility Department has recently completed its evaluation of its Clean Water Works Partnership pilot program that was conducted in 2015. The goals of the program were to increase awareness and change behaviors to reduce stormwater pollutants including general illicit discharges, and specific contaminants such as lead and sediment. The Stormwater Program took an innovative approach to improve behavior change as well as increase awareness for stormwater pollution prevention. The City partnered with local businesses and non-profits willing to train their staff in best management practices or actively volunteer time for water quality. These partners were recognized and invited to offer discounts to citizens who could then benefit from both the discount and knowledge of those community partners dedicated to clean water. The City used this joint incentive program including discount cards for the public and media recognition for the partners to enhance motivation. Partners volunteered through written commitments and received prompts such as point of purchase displays and Clean Water Works Partner decals. Positive, vivid, specific messages were effectively used to increase awareness using various media including television, radio, and print media together with event participation and contests.



The effort helped the City meet regulatory requirements for the following four (of six) minimum control measures required by its stormwater permit: public education, public participation, illicit discharge minimization, construction site management (see the FY2014-15 Annual Report for details (www.bendoregon.gov/stormannualreport).

Separately, a pre -and post- campaign telephone survey were conducted to determine effectiveness. Statistically significant findings included:

- An increased amount of citizens showed concern for pollution in drinking (6% increase) and surface water (an increase of 9%).
- The number of respondents who incorrectly believe that all or most of Bend's stormwater is treated at the wastewater treatment plant decreased by 5%.
- More residents understand what the stormwater service charge covers: the amount "unsure" dropped from 71% in April to 65% in November; the number recognizing that operation and maintenance and stormwater quality/protection each rose 6% and 3% respectively.

The City also conducted an informal survey of partners participating in the discount program. For the pilot campaign discount program, the City focused on restaurant/food

service; carpet cleaners, construction contractors, commercial car wash, and clean water volunteers. The City secured 29 partners, 20 of whom participated in the discount program. Of the 14 respondents:

- 100% indicated they would be willing to participate again;
- 71% felt it made them or their employees think about water quality and the importance of protecting it while the remaining 29% responded 'maybe;' and
- 57% felt the effort helped make a positive difference for water quality, with 29% reporting 'potentially.'



The campaign was recognized by the Oregon Association of Clean Water Agencies Public Education Committee, featured in their "Stormwater Education Toolkit-Best of the Best" presentation at the 2016 Oregon Stormwater Summit.

The American Water Works Association Pacific Northwest Section selected the campaign's Clean Water Works TV commercial as best video as part of its "Excellence in Communications Awards 2016."

Not including staff time, the campaign cost $48,000, or 1.9% of the stormwater utility budget.

The separate evaluation project, which also collected information on utility customer service and Mirror Pond perceptions, cost $42,000 for two surveys. The baseline questions will be able to be used again.

Additional Links:

Clean Water Works homepage: www.bendoregon/cleanwaterworks

- Overview of Student Film Contest, partnering with BendFilm, local schools, and Zolo Media: https://youtu.be/rIOa3GCB4fQ
- Example CWW Partner Radio Ad http://www.bendoregon.gov/modules/showdocument.aspx?documentid=24366
- Sediment/Utility Radio Ad (example using vivid imagery and modeling sustainable behavior while increasing stormwater utility fees awareness) http://www.bendoregon.gov/modules/showdocument.aspx?documentid=23147
- CWW Partner TV Commercial http://www.bendoregon.gov/Modules/ShowDocument.aspx?documentID=24369

Attachments:

Evaluation Final Report;

AWWA Pacific Northwest Section Excellence in Communications Awards

American Water Works Association
Pacific Northwest Section

Public Information Committee

Excellence in Communications Awards

2016

Congratulations!

City of Bend (Bend) has won an Excellence in Communications Award.

Your "Clean Water Works TV Commercial" has been selected as a winner in the category of:

Video Communications - Large Utility

Bend will be honored at the May PNWS-AWWA Conference in Boise. The entry will be featured on an Excellence in Communications Display, and you can pick up your award during the Best Tasting Water Contest on Friday, May 6th.

A special award insignia has also been attached to this e-mail that you can use on letterhead, e-mails, and other communication pieces to showcase City of Bend as an award-winning utility.

RILEY RESEARCH ASSOCIATES
Research for Marketing, Public Relations, and Planning

STORMWATER EDUCATION

BENCHMARK SURVEY

SUMMARY REPORT
NOVEMBER 9, 2015

Michael J Riley & Crystal Bolyard
Riley Research Associates

RESEARCH | INSIGHT | KNOWLEDGE

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INTRODUCTION

The City of Bend has been conducting a campaign among Bend residents, designed to measure the City's effectiveness in educating the public regarding stormwater and stormwater pollution prevention, with an objective of changing behaviors and promoting resident involvement.

In April 2015, Riley Research Associates (RRA) conducted a pre-program survey among Bend residents in order to get a baseline understanding of current knowledge and understanding of stormwater and pollution causes and prevention, as well as attitudes and behaviors around water conservation.

In November, RRA conducted a benchmark survey to assess any changes to residents' awareness and knowledge of stormwater issues, and with their recollection of Bend's Stormwater Education campaign messages and communication efforts.

METHODOLOGY

Survey Execution

Riley Research Associates utilized a similar methodology for the benchmark survey as for the baseline survey, to ensure comparability between results. Riley Research Associates (RRA) conducted a scientific telephone survey among City of Bend residents. Respondents were considered qualified if they lived or worked within the City of Bend[1].

RRA worked with Bend to update the baseline questionnaire in order to address current issues and gauge awareness of communication channels for the stormwater education messaging. The benchmark questionnaire includes many of the same questions as the baseline survey in order to produce benchmarked results, and also includes new questions.

The survey was conducted between October 27th and November 27th, 2015. A total of 402 interviews were conducted, which produces information considered accurate to within a margin of error of +/-4.9%, at a 95% level of confidence. The sample of residents was weighted to more accurately reflect the age distribution of Bend residents.

[1] In the April baseline survey, only those who lived in Bend were included in the survey.

Understanding the Report

Means are calculated by multiplying the number of responses for each numerical value times that numerical value, then dividing the sum of those numbers by the number of those responding.

The Chi Square Statistic (pronounced kai) is a tool that compares two or more groups of data (i.e. male / female) and provides a way to evaluate whether apparent differences between groups could be simply due to sampling error. On the cross-tabulation report, this comparison can be enhanced evaluated by an examination of the p-value (or probability value).

Example of a statistically significant figure in the cross-tabs: 37.46
.045

The smaller the p-value, the smaller the chance an apparent difference between groups has resulted from sampling error. We consider a p-value of ≤ 0.05 a strong indicator of significance. In other words, with a p-value of 0.05, there would be just a 5% chance we would be wrong in ascribing significance to differences between the responses of groups in question.

The following report includes question-by-question results, with statistically significant demographic insights, where applicable. Results from the April baseline survey are included where applicable. The results in the tables are reflected as percentages; the percentage sign is labeled in the top row only. Responses do not always add to 100% due to rounding and/or allowing multiple responses. Cross tabulations are bound separately.

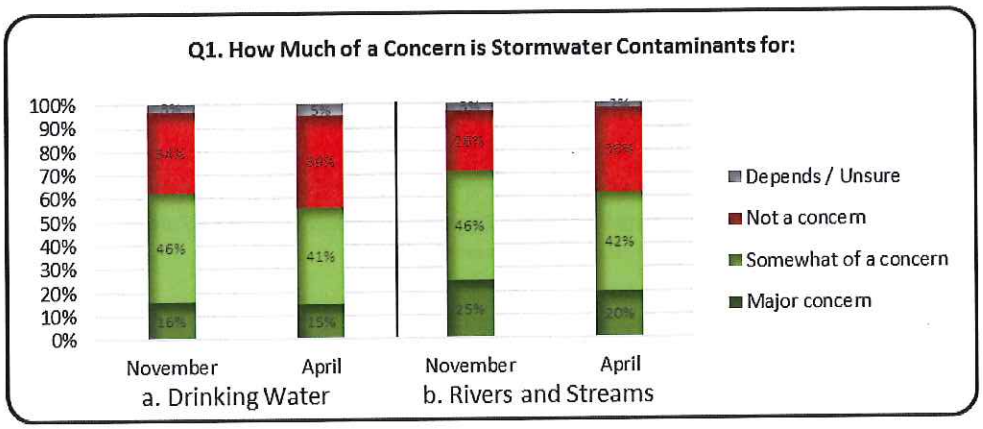
EXECUTIVE OVERVIEW: KEY TAKEAWAYS

Riley Research Associates conducted a scientific random-sample survey of Bend residents to learn about their awareness and knowledge of stormwater issues and pollution prevention. This benchmark survey also includes findings from the baseline survey conducted in April 2015.

- Key (statistically significant) improvements in residents' understanding of stormwater protection included:
  - Pollution continues to be a concern for Bend residents, with an increased amount showing concern for pollution in both drinking water and rivers and streams.
  - Fewer respondents believe all or most of Bend's stormwater is treated and cleaned after entering street drains.
  - Fewer residents think pollutants do not affect the water supply quality, and, though not quite statistically significant, more understand that storm drains are intended to collect uncontaminated water.
  - More residents understand what their stormwater service charge covers.

EXECUTIVE OVERVIEW: PERCEPTIONS & CAUSES OF POLLUTION

- Significantly more residents now agree that stormwater contaminants in Bend's drinking water is a (somewhat or major) concern (62%, a 6% increase over the April survey). In addition, 71% now consider stormwater contaminants a concern (somewhat or major) in regards to Bend's rivers and streams, a significant 9% increase over the April survey.



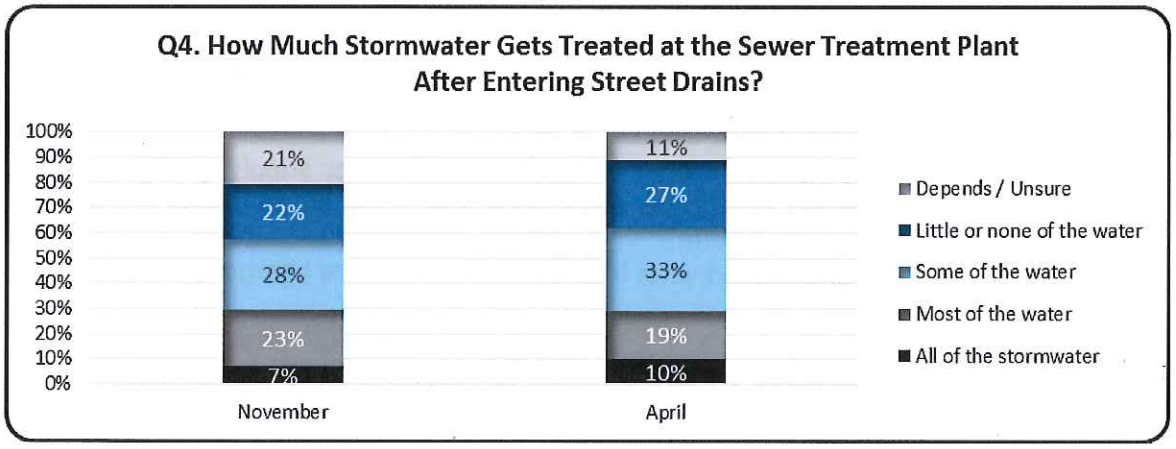
- Respondents were asked the leading causes or sources of pollution in rivers and in Bend's stormwater. The top responses for the pollution causes in rivers changed significantly from the April survey. The most common responses included:

Rivers		
Top Causes	**Nov**	**April**
People (general)	24%	2%
Run-off	22	19
Garbage/dumping/litter	17	32
Vehicles	13	6
Farming/agriculture	11	21

Stormwater		
Top Causes	**Nov**	**April**
Vehicle pollutants	61%	52%
Pesticides/fertilizers	21	23
Garbage/litter	14	17
Yard/street run-off	8	1
De-icer	7	6

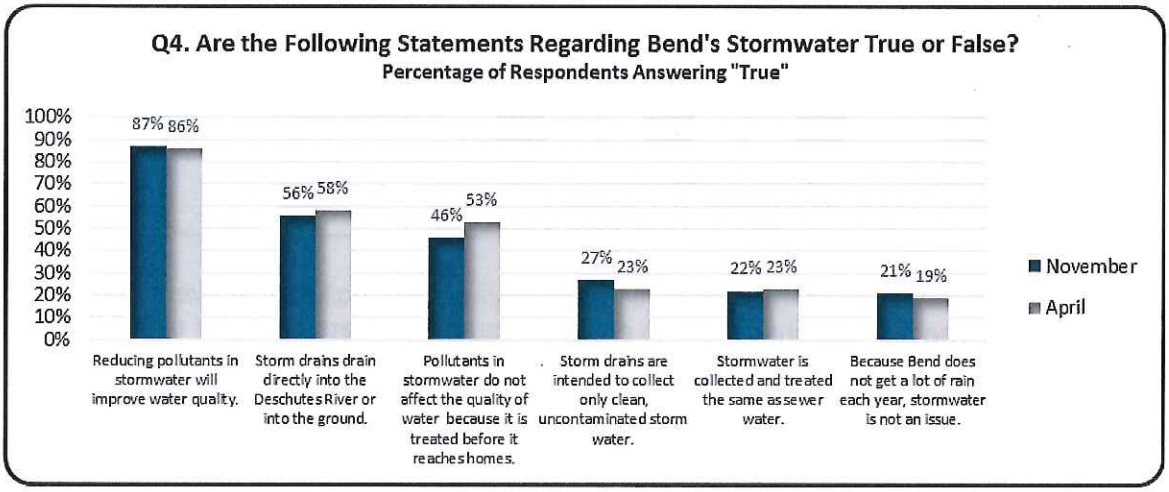
EXECUTIVE OVERVIEW: STORMWATER UNDERSTANDING & PERCEPTIONS

When asked how much of Bend's stormwater gets treated at the sewer treatment or water reclamation facility after entering the street drains, just 22% of respondents said it was *little or none*, which represents a slight, though statistically significant, 5% decrease from the April survey. About three in ten continued to respond that *most* or *all* of the stormwater is treated.



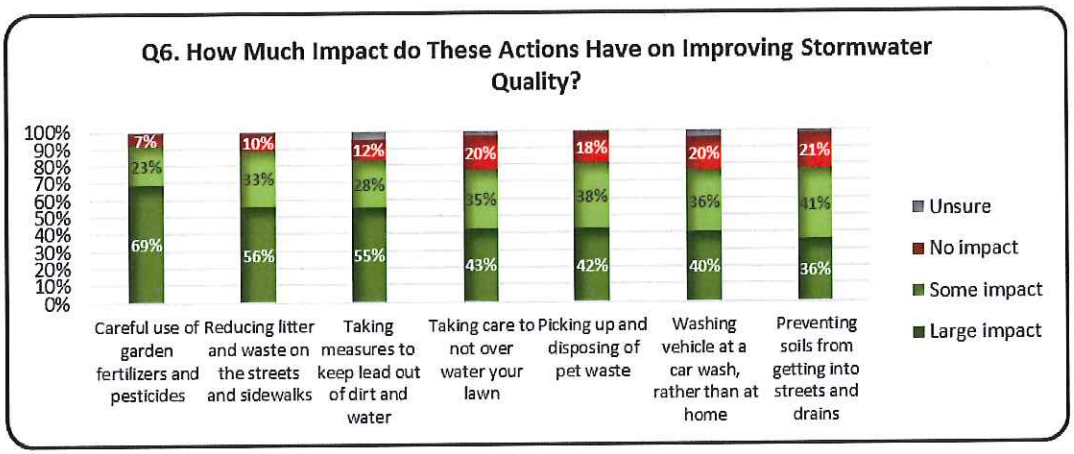
Residents tended to have a good understanding of Bend's stormwater treatment, particularly that *reducing pollutants will increase water quality*, that *stormwater is not treated the same as sewer water*, and that *stormwater is an issue despite not receiving a lot of annual rain.*

- Responses were generally comparable to the April survey with two notable differences. Fewer residents thought pollutants do not affect the quality of water (a significant decrease), and more residents understood that storm drains are intended to collect uncontaminated water.



EXECUTIVE OVERVIEW: MOTIVATORS & ACTIONS

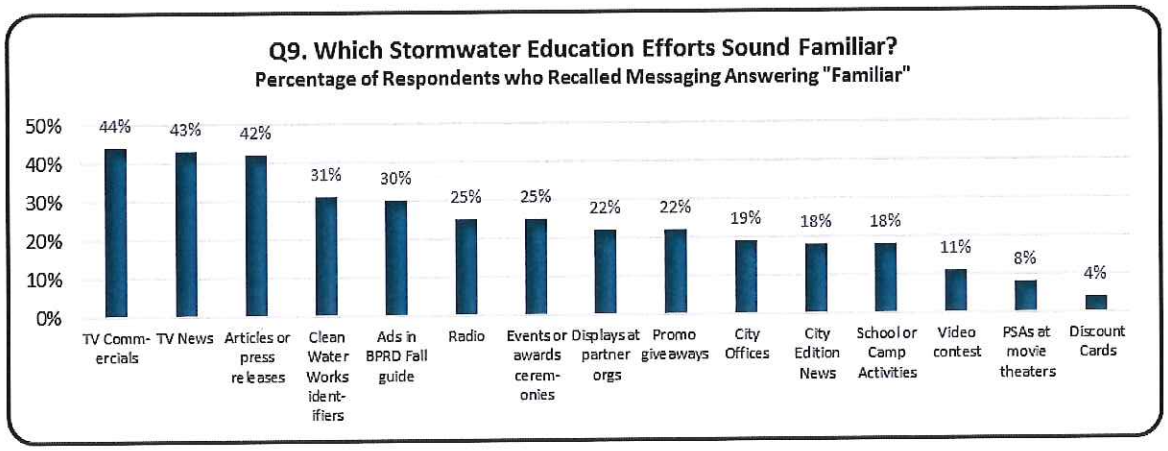
- Residents felt each action would positively impact the quality of Bend's stormwater, particularly *careful use of garden fertilizers*, *reducing litter and waste*, and *keeping lead out of dirt and water*.



EXECUTIVE OVERVIEW: STORMWATER MESSAGING

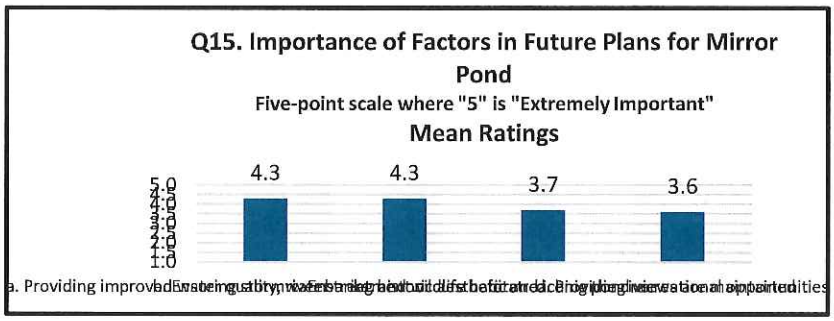
- Residents were asked what stormwater education messages they recall through the City of Bend. About one-quarter could recall a specific stormwater message, while the remaining respondents could not or were unsure.
  - Messages received between 1% and 4% mentions, with *storm drain markers* being most-mentioned.

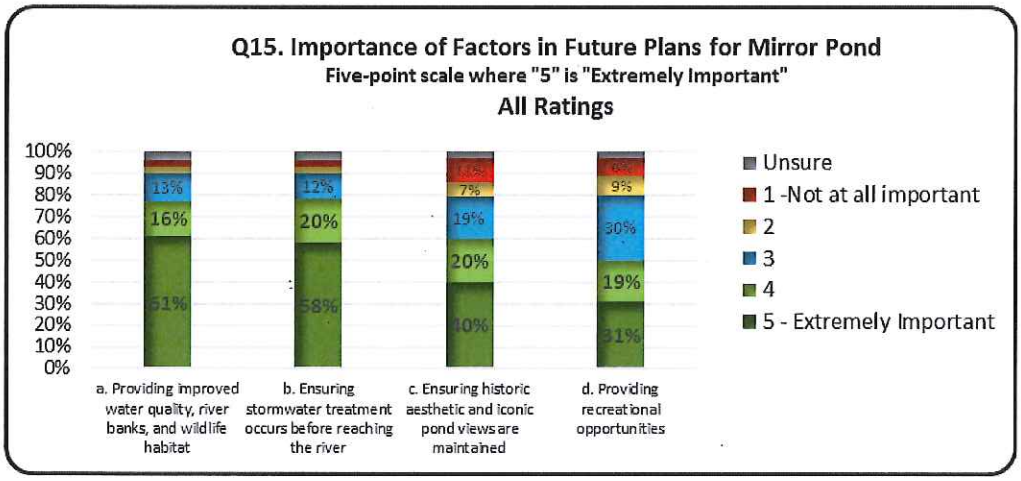
- Among those who did recall stormwater education efforts, TV commercials, TV news, and news articles or press releases were the most commonly-cited sources.
  - Messages included:
    - Clean water and preventing pollutants is important
    - Storm drains flow to the river and underground
    - Be careful what goes down the drain



EXECUTIVE OVERVIEW: MIRROR POND

- Bend residents feel all four issues are above-average considerations, but placed the highest significance on *providing improved water quality, riverbanks, and wildlife habitat*, and on *ensuring stormwater treatment occurs before reaching the river.*

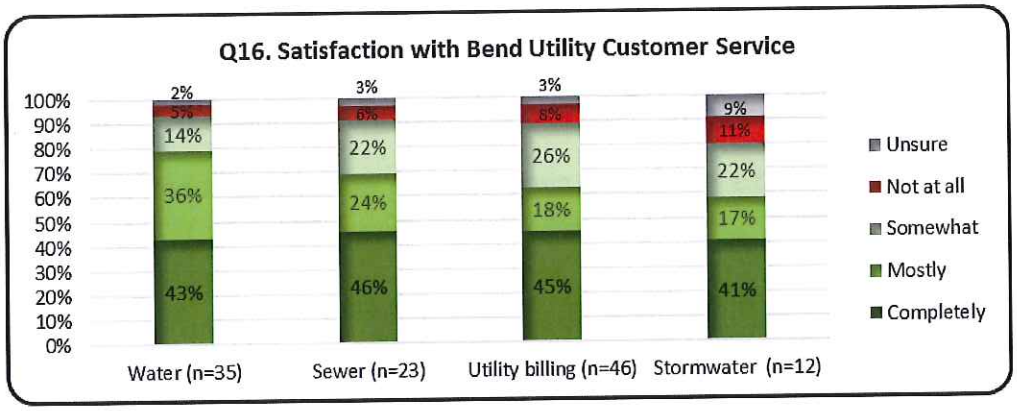




- Residents were also asked to offer feedback about other aspects that should be considered regarding the future of Mirror Pond. Of the approximately 290 residents that offered open-ended feedback, the most common topics included (see verbatim appendix for less-common suggestions):
  - Recommendations to dredge Mirror Pond and clean it (28%)
  - A desire to preserve Mirror Pond and keep it as-is (24%)
  - Suggestions to remove the dam and let it return to a free-flowing river (19%)
  - A concern for the cost of any actions (8%)

EXECUTIVE OVERVIEW: UTILITY DEPARTMENT CUSTOMER SERVICE

- Most respondents who had contacted a Bend utility department were either completely or mostly satisfied with that contact, with combined satisfaction (completely and mostly) significantly higher for the water utility, and lowest for the stormwater department. There was no significant change in satisfaction among those who contacted the stormwater utility department in April compared to November, although it is worth noting that the proportion who were "completely" satisfied did increase slightly.[2]



- Most residents continued to indicate they were unsure what their stormwater service charge covers; however, the proportion who were *unsure* decreased by a statistically significant 8% from the April survey (63% vs. 71%).
  - The highest proportion of respondents said their charges covered stormwater facility cleaning/operation and maintenance (14%, a statistically significant increase from April), while other services were mentioned by 1% to 7% of respondents.

[2] Note: the number of residents who contacted Bend for each utility, particularly the stormwater utility, was relatively small.

RESULTS: PERCEPTIONS & CAUSES OF POLLUTION

Q1a. To begin, regarding Bend's drinking water supply, would you consider stormwater contaminants, including spills[3], to be a major concern, somewhat of a concern, or not a concern at all?

Q1b. And regarding Bend's rivers and streams, would you consider stormwater contaminants to be a major concern, somewhat of a concern, or not a concern at all?

Regarding contaminants in Bend's drinking water supply, 62% of residents felt it was either a *major concern* or *somewhat of a concern*, a 6% increase from the April baseline survey.

Regarding contaminants in Bend's rivers and streams, 71% considered them either a *major concern* or *somewhat of a concern*, a 9% increase from the April baseline survey.

	Drinking Water		Rivers & Streams	
	Nov 2015	Apr 2015	Nov 2015	Apr 2015
Total Participants	402	404	402	404
Major concern	16%	15%	25%	20%
Somewhat of a concern	46	41	46	42
Not a concern	34	39	26	36
Depends / Unsure	3	5	3	2

[3] "Including spills" was added to the question language for the benchmark survey.

Q2. What would you consider to be the leading causes or sources of pollution in rivers? (Unaided, Multiple Responses)

Garbage/dumping/discharge was thought to be the leading cause of pollution in rivers, particularly *garbage/dumping/litter* and *vehicles*. *People* were also thought to be a leading cause of pollution, as well as *run-off*, *farming/agriculture*, *chemicals*, and *business operations*.

The proportion of those answering *garbage/dumping/discharge* and *animals/natural sources/farming* as leading causes decreased, while the proportion of respondents naming *people/recreation* and *chemicals* increased significantly.

Although not statistically significant, residents ages 18-34, those with no college education, and residents of Bend for only 1-4 years were the most likely to be *unsure* about the leading causes.

	Nov 2015	Apr 2015
Total Participants	402	404
Garbage / Dumping / Discharge	**38%**	**46%**
Garbage, dumping, and litter	17	32
Vehicles	13	6
Illicit discharge / Illegal dumping / spills	8	9
Untreated sewage	4	5
Septic tanks	2	3
Discharge from sewage treatment plants	3	2
People / Recreation	**29%**	**4%**
People (general)	24	2
Recreational activities (boating, swimming, kayaking, etc)	6	2
Run-off	**22%**	**19%**
Run-off from roads and other hard surfaces	22	19
Animals / Natural sources / Farming	**15%**	**29%**
Farming or Agriculture	11	21
Livestock	3	4
Pets	1	2
Wildlife	1	4
Silt / sediment / soil	1	1
Vegetation	0	1
Chemicals	**12%**	**2%**
Pesticides / herbicides	7	1
Fertilizers	6	1
Heavy metals (lead, cadmium, chromium)	1	-
Business	**10%**	**11%**
Industrial operations	9	11
Golf courses	0	1
Miscellaneous	**3%**	**2%**
Miscellaneous	3	2
No issue / Unsure	**13%**	**14%**
Unsure	11	12
Not an issue / no problem	2	2

Q3. As you may know, stormwater falls on various surfaces, and often collects pollutants as it runs through the street drains.

To the best of your knowledge, what do you think are the most common pollutants that contaminate Bend's stormwater? (Unaided, Multiple Responses)

In regards to Bend's stormwater, respondents named *vehicle pollutants*, *pesticides*, and *garbage/litter* as the leading causes of pollution.

The proportion of respondents naming *vehicle pollutants* and *run-off* increased significantly from the April baseline survey.

	Nov 2015	Apr 2015
Total Participants	402	404
Waste / Dumping / Discharge	**80%**	**77%**
Vehicle pollutants (gas, oil, tires)	61	52
Pesticides / fertilizers	21	23
Garbage / trash / litter	14	17
Hard metals	3	7
Accidents / spills	3	-
Sewage / Human waste	2	3
Animals / Natural Causes / Farming	**9%**	**12%**
Agricultural / farming waste	3	6
Soil sediments	3	1
Pet waste	2	4
Livestock / Animal waste	2	1
Wildlife waste	0	1
Chemicals	**10%**	**8%**
De-icer	7	6
Washing cars / other cleaners	4	3
Run-off	**8%**	**1%**
Run-off (street / yard / general)	8	1
Businesses	**2%**	**0%**
Industrial operations	2	0
Miscellaneous	**6%**	**5%**
Miscellaneous	6	5
None / Unsure	**11%**	**15%**
Unsure	7	12
Not an issue / no problem	3	3

Q4. After entering the street drains, about how much of that stormwater would you estimate gets treated and cleaned at a sewer treatment or water reclamation plant? Would you say: (Aided)

Nearly one-third of respondents thought *all* or *most* of Bend's stormwater is treated at a sewer treatment or water reclamation plant after entering the street drains (30%, comparable to the April baseline survey). Half think *little or none* of the stormwater is treated, a 10% decrease from the baseline; 10% more respondents indicated they were *unsure* what happens to the stormwater after it enters the drain, a significant change from April.

Males, those ages 55-64, those with a college education, and residents of Bend for 20 or more years were the most likely to say that *little or none* of the stormwater gets treated at a sewer treatment or water reclamation plant.

	Nov 2015	Apr 2015
Total Participants	402	404
All of the stormwater	7%	10%
Most of the water	23	19
Some of the water	28	33
Little or none of the water	22	27
Depends / Unsure	21	11

Q5. For this next set of statements, please answer with either true or false. (Rotated Order)

A vast majority of respondents said it was "true" that reducing pollutants in the stormwater will improve the quality of water (87%), and more than half said it was "true" that storm drains drain directly into the Deschutes, both comparable to the April baseline survey.

The proportion who said it was "true" that stormwater pollutants don't affect Bend's water supply quality decreased (a significant decrease).

The proportion of residents who said Bend's storm drains are intended to only collect clean stormwater increased slightly.

The proportion who think it is "true" that Bend's stormwater is treated the same as its sewer water remained comparable, although the proportion who were *unsure* increased slightly. The proportion that believed stormwater is not an issue because Bend does not get a lot of rain also remained comparable to April's survey.

Total Participants = 402	True		False		Unsure	
	Nov 2015	Apr 2015	Nov 2015	Apr 2015	Nov 2015	Apr 2015
a. Reducing pollutants in Bend's stormwater will improve the quality of water for residents, wildlife, and recreation.	87%	86%	8%	11%	5%	3%
b. Storm drains drain directly into the Deschutes River or into the ground.	56	58	27	29	16	13
c. Pollutants in stormwater do not affect the quality of Bend's water supply because it is treated before it reaches residents' homes.	46	53	46	39	9	8
d. Bend's storm drains are intended to collect only clean, uncontaminated stormwater.	27	23	68	72	4	5
e. Bend's stormwater is collected and treated the same as its sewer water.	22	23	57	61	21	16
f. Because Bend does not get a lot of rain each year, stormwater is not an issue.	21	19	77	78	3	3

RESULTS: MOTIVATORS & ACTIONS

Q6. Now I'm going to read a list of potential actions by residents, and please tell me if you think that action could have a large impact, some impact, or no impact on improving stormwater quality.

The majority of residents felt careful use of garden fertilizers and pesticides, reducing litter and waste, and keeping lead out of dirt and water would all make a "large impact" on improving stormwater quality. The proportion who felt each action would make a "large impact" either decreased or remained comparable.

While most changes were insignificant, there was a statistically significant decrease in the number of residents who thought picking up and disposing of pet waste would make a large impact on improving stormwater quality.

Total Participants = 402	Large impact		Some impact		No impact		Unsure	
	Nov	Apr	Nov	Apr	Nov	Apr	Nov	Apr
a. Careful use of garden fertilizers and pesticides	69%	72%	23%	22%	7%	5%	1%	1%
b. Reducing litter and waste on the streets and sidewalks	56	55	33	30	10	13	1	1
c. Taking measures to keep lead out of dirt and water	55	-	28	-	12	-	5	-
d. Taking care to not over water your lawn	43	46	35	34	20	19	3	1
e. Picking up and disposing of pet waste	42	51	38	35	18	13	1	1
f. Washing your vehicle at a car wash that treats or recycles wastewater, rather than washing it at home.	40	43	36	34	20	21	4	2
g. Preventing soils from getting into the streets and storm drains	36	-	41	-	21	-	2	-

Q7. To the best of your knowledge, what services does your stormwater service charge cover? (Unaided, Multiple Responses)

While the majority of respondents still aren't sure what services their stormwater service charge covers, a (statistically significant) higher proportion was able to name some service that their service charge covers in the follow-up benchmark survey. Stormwater facility cleaning/operation and maintenance was the top response with 14%, a statistically significant increase from April.

Younger residents, newer residents to Bend, and those with some college were more likely than others to be *unsure* of what services their stormwater charge covers.

	Nov 2015	Apr 2015
Total Participants	402	404
Stormwater facility cleaning/operation and maintenance	14%	8%
Stormwater quality/protection (rivers/streams/drinking water/groundwater)	7	4
Stormwater drain cleaning	7	1
Sanitary Sewer/Wastewater Reclamation	5	4
Flood protection/run-off control	2	2
Capital Improvement Projects-Drainage/Engineering	1	3
Street Sweeping	1	2
Stormwater Controls in new or re-development projects	1	1
Erosion and Sediment Control	1	-
Regulatory Compliance	0	1
Miscellaneous	5	3
I do not pay a stormwater service charge	5	3
Unsure / Can't think of anything	63	71
Refused	1	5

Q8. What stormwater information or education efforts through the City of Bend do you recall over the last few years, if any? (Unaided, Multiple Responses)

About half of residents didn't recall any stormwater education efforts in the past few years, comparable to the April baseline survey. The most common messages continued to be the storm drain markers, which has been a continuing effort in Bend over several years.

Although not statistically significant, residents most likely to not recall any messages included those ages 45-54, those with a high school level education, and residents of Bend for fewer than 20 years.

	Nov 2015	Apr 2015
Total Participants	402	404
Storm Drain Markers "Don't Pollute"	4%	3%
Stormwater drains to rivers/drinking supply	3	1
"Only rain in the storm drain"	2	1
Do not pollute stormwater	2	1
Careful not to overwater lawn	1	-
Protect water supply	1	2
"It's all Connected"	1	1
Sediments can clog storm drains, pollute waters	1	-
Stormwater pollution can harm fish and wildlife	1	0
Stormwater does not drain to sanitary sewer	1	-
Stormwater pollution can harm drinking water	1	-
Artist's painting on drains	1	-
Report illicit discharges/dumping/spills (commercial)	0	-
"Clean Water Works"	0	-
City crews work to keep our waters clean (commercial)	0	-
Storm drain signs (general)	-	1
Newsletter / insert in bill	1	4
Miscellaneous	3	8
Remember effort but don't recall specific details	9	15
Don't recall any education efforts	56	54
Unsure	18	12

Q9. (If familiar with any messaging from Q8) I'm going to read a list of resources Bend has recently used to communicate with residents. Just let me know if I mention any stormwater education outreach efforts that sound familiar.

Of those who were familiar with Bend's recent stormwater education efforts, TV commercials, news coverage, and news articles were the most commonly recalled sources of information about the campaign. Clean Water Works identifiers and ads in the BPRD guide were also popular sources.

Total Participants = 112	November 2015		
	Yes	No	Unsure
a. TV Commercials	44%	54%	2%
b. TV News Coverage	43	55	2
c. News articles or press releases	42	55	3
d. Clean Water Works identifiers	31	67	2
e. Advertisements in the Bend Park and Rec (BPRD) Fall guide	30	66	4
f. Radio Commercials	25	74	2
g. Booths at various events or awards ceremonies	25	74	2
h. Displays at partner organizations	22	76	2
i. Promotional giveaways like bags or water bottles	22	77	1
j. City Offices	19	79	1
k. City Edition News Magazine	18	80	2
l. School or Camp Activities	18	79	2
m. Clean Water Works video contest	11	89	1
n. Public Service Announcements at movie theaters	8	89	3
o. Clean Water Works Discount Cards	4	93	3

Q10. (If mentioned "Booths at various events or awards ceremonies to Q9) At which of the following events do you recall seeing information from Bend about stormwater education? (Unaided, Multiple Responses)

Those who recalled seeing stormwater education information at Bend events were most likely to have seen information at the City Quest at the Fest (July 2015) and Oktoberfest (September 2015).

	Nov 2015
Total Participants	28
City Quest at the Fest (July 2015)	27%
Oktoberfest (September 2015)	23
Storm Drain Art Contest	8
Teacher's Night Out	8
Earth Day	7
Future Filmmakers Event	5
Stream Stewardship Day	2
Brookswood Roundabout Opening	2
Miscellaneous	30
Don't remember specifics	22

Q11. (If familiar with the campaign from Q8) What did you learn from the campaign? What were the main messages you recall or that were new or surprising?

Residents primarily took away the message that clean water is important, followed by the fact that storm drains flow to the river or underground, and to be careful with what goes down the drain.

Although not statistically significant, those most likely to have indicated they learned something from the campaign included males, those ages 55-64, and newer Bend residents (1-4 years).

	Nov 2015
Total Participants	112
Clean water is important/Preventing pollutants is important	26%
Storm drains flow to the river and underground/ storm drains do not flow to the sanitary sewer	11
Careful what goes down the drain	9
It is important to prevent/report illicit discharges/spills/dumping	5
Soils/sediment are bad for storm drains/water quality; keep sediment on site	2
Lead is a stormwater pollutant/take care with lead-based paint	2
Stormwater utility staff work hard for clean water	1
Miscellaneous	12
Nothing / Don't recall	41
Don't / Refused	2

Q12. (If mentioned Clean Water Works Discount Cards in Q9) Which of the following best describes your awareness of Bend's Clean Water Works Partner Discount Card? Did you:

	Nov 2015
Total Participants	4
Get a card but did not use it	50%
Not get a card	50

Q13. If you received an invite to become a clean water works partner, did you choose to participate?

The vast majority of respondents did not get an offer to become a clean water works partner, while 2% participated.

	Nov 2015
Total Participants	112
Did not get invite	82%
Got invite and participated	2
Got invite but did not participate	2
Unsure	15

Q14. And looking forward, what recommendations do you have for the City of Bend in regards to the content of the stormwater education messages, partnership program with non-profits and businesses, or how it's communicated to residents?

Residents offered many suggestions, including providing more advertising on media such as radio and television commercials, through more non-city related community events, such as festivals and concerts, and through direct mail and utility bill inserts. Many also recommended focusing communication on children and students. Many also recommended using as many methods as possible to reach citizens.

Please see the verbatim appendix for the full list of responses.

RESULTS: MIRROR POND

Q15. Now I have some questions about Mirror Pond. As you may know, Mirror Pond is located on the Deschutes River between Galveston and Newport bridges. It was created in 1910 with the construction of the Bend Water Light & Power Company's Dam, which provided the initial source of power and electricity to Bend, and stills serves about 200 households. The City has 13 stormwater outfalls that drain into Mirror Pond. The wooden dam is reaching the end of its life span, and Bend would like to hear your recommendations on what comes next for Mirror Pond.

How important are the following factors to you when considering the future plans for Mirror Pond? We'll use a five-point scale where "1" is "not at all important" and "5" is "extremely important." How important is:

When considering the future of Mirror Pond, *providing improved water quality, river banks, and wildlife habitats* and *ensuring stormwater treatment occurs before reaching the river* were the most important issues to consider, with a mean of 4.3 each on a five-point scale. *Ensuring historic aesthetic* and *providing recreational opportunities* were considered important, but less so than the other issues.

All demographic groups rated the importance of each aspect comparably.

Total Participants=402	Mean	Not at all 1	2	3	4	Extremely 5	NA
a. Providing improved water quality, river banks, and wildlife habitat	4.3	3%	3%	13%	16%	61%	4%
b. Ensuring stormwater treatment occurs before reaching the river	4.3	3	3	12	20	58	4
c. Ensuring historic aesthetic and iconic pond views are maintained	3.7	11	7	19	20	40	3
d. Providing recreational opportunities	3.6	8	9	30	19	31	3

Q16. What else would be an important consideration for the future of Mirror Pond?

Residents were also asked an open-ended question about what other aspects would be important to consider for the future of Mirror Pond. Some of the more common responses from the approximately 290 residents who offered feedback included (in descending order):

- Recommendations to dredge Mirror Pond and clean it (28%)
- A desire to preserve Mirror Pond and keep it as-is (24%)
- Recommendations to remove the dam and let it return to a free-flowing river (19%)
- A concern for the cost of any actions (8%)

Please see the verbatim appendix for the full list of responses, and the less-commonly mentioned suggestions.

RESULTS: UTILITY DEPARTMENT CUSTOMER SERVICE

Q17. And now I have a few questions about the City of Bend Utility department. Have you had occasion to interact with the City of Bend Utilities in the past year? (If yes) which ones?[4]

Those who contacted a Bend utility were most likely to contact billing, followed by the water department.

	Nov 2015	Apr 2015
Total Participants	402	404
Utility Billing	12%	-
Water	10	-
Sewer	6	-
Stormwater	3	5
No	77	90
Unsure	2	5

Q18. What was the reason for your interaction with the that department?

Residents called for a variety of reasons, including paying or asking questions about their bills, starting or stopping service, new accounts or construction, or asking questions about their services.

Please see the verbatim appendix for the full list of responses.

[4] In the April Baseline survey, the question was asked only about Bend's Stormwater Program.

Q19. Did that program meet your needs or answer your questions completely, mostly, somewhat, or not at all?

The majority of respondents were either completely or mostly satisfied with the customer service they received from each utility department, with combined satisfaction (completely and mostly) lowest among those who contacted the stormwater department, and highest among those who contacted the water department. There was no significant change in satisfaction among those who contacted the stormwater utility department in April compared to November, although it is worth noting that the proportion who were "completely" satisfied did increase slightly.

	Completely	Mostly	Somewhat	Not at all	Unsure
Sewer	46%	24%	22%	6%	3%
Utility billing	45	18	26	8	3
Water	43	36	14	5	2
Stormwater Nov 2015	41	17	22	11	9
Stormwater Apr 2015	37	21	18	8	14

Q20. What recommendations do you have for the City of Bend Utility, in terms of improving customer service or better resolving issues?

Many residents felt Bend utilities were already doing a great job. Some recommendations included better communication with residents, lower costs, and better training for the customer service department.

Please see the verbatim appendix for the full list of responses.

Q21. What is the highest level of education you've had the opportunity to complete? (Aided)

	Nov 2015	Apr 2015
Total Participants	402	404
High school / GED	18%	23%
Trade school	2	1
Some college	17	19
2-year degree / Associates	17	7
4 year degree / Bachelor's	29	31
Graduate degree or higher	15	16
Refused	2	2

Q22. About how many years have you lived in the City of Bend?

	Nov 2015	Apr 2015
Total Participants	402	404
1-4 years	10%	8%
5-9 years	15	14
10-14 years	19	20
15-19 years	14	20
20 years or more	39	37
Refused	2	-
Mean	19	20

Q23. What is your age? (Categorized)

	Nov 2015	Apr 2015
Total Participants	402	404
18-34	27%	26%
35-44	18	17
45-54	17	17
55-64	16	15
65+	19	19
Refused	2	6

Q24. Do you have any children or grandchildren under 18 in your home? (If Yes) Are any of them: (Aided, Multiple Responses)

	Nov 2015	Apr 2015
Total Participants	402	404
Under the age of 5	17%	12%
Between 5 and 12	24	24
Between 13 and 17	13	15
No children in the home	61	58
Refused	2	4

Q25. Record gender

	Nov 2015	Apr 2015
Total Participants	402	404
Male	45%	42%
Female	55	58

S1. Do you currently live inside or outside of the City of Bend? (If outside) Do you work inside or outside the City of Bend?

	Nov 2015
Total Participants	402
Live inside Bend city limits	90%
Work inside Bend city limits	10

Q2. What would you consider to be the leading causes or sources of pollution in rivers? (Unaided, Multiple Responses (Continued)

Q2b. Miscellaneous sources/causes

Dams
Dumping snow in the river during heavy snow storms
Fire, major weather events
Firefighting
Food
Ice
Legal drug production
One time I saw a syringe in the pond, over by Drake Park
Snow coming down from the mountains
Storm debris
Stormwater pollutants, fracking
Waste water
Wickiup reservoir it backs up and it grows algae

Q3. As you may know, stormwater falls on various surfaces, and often collects pollutants as it runs through the street drains. To the best of your knowledge, what do you think are the most common pollutants that contaminate Bend's stormwater? (Unaided, Multiple Responses) (Continued)

Q3b. Miscellaneous pollutants

Cigarette butts / cigarettes (7)
Air pollution
Black pieces of soot, I never really think about it
Branches and leaves -- we often call the utility department to come out and clear the drains
Carcinogens
Cigarette butts that have all those carcinogens in them which is a poison that poisons pets, wildlife, and humans
Debris
Everyday life, nature
Gravel
New building going on from the soil and the street
Nitrates
People -- more people
People disposing of paints
People pouring stuff down the drain -- illegal dumping. Businesses are doing it also
People throwing stuff down the drains
Plastics
Sand and dust
Whatever's in the air that drops into the water

Q7. Now, to the best of your knowledge, what services does your stormwater service charge cover? (Unaided, Multiple Responses) (Continued)

Q7b. Miscellaneous service

Collecting of the water
Covers curbs and we don't have storm drains
Distribution of water
Doesn't pay for most anything--they take the money and use it somewhere else
Dry wells pick up water, but the treatment side I am not familiar with. Paying for the disposal of stormwater and channeling run off from developments
Educating the public
Education costs, paying for surveys
I thought all of it
Infrastructure and labor
Irrigation
Not much
Nothing, its wasted money - all they do is plan and haven't done anything, other than planning and collecting a lot of fees
One ERU -- looked at bill
Overhead and administration
Research
Research and consultant fees
Signs
Stormwater recovery and I'm not sure what it covers
They use the stormwater for agriculture
To collect a fee, passed without a vote
Vacuum trucks
Waste coming out of our home-plus water coming in
Where I live we do not have any storm drains. I am not getting any use from storm drains, but I am still charged for them

Q10. At which of the following events do you recall seeing information from Bend about stormwater education? (Unaided, Multiple Responses) (Continued)

Q10b. Miscellaneous events

An activity at the school I work at. Partners in a river study were there with materials
An athletic event where there were lots of sponsors
Exhibit at High Desert Museum
Parades
Participated in the video contest
Public Works Day
Spring fest, First Friday
TV news 21

Q11. What did you learn from the campaign? What were the main messages you recall or that were new or surprising? (Continued)

Q11b. Miscellaneous aspects

Artist paint on storm drains
Chalk drawings, artwork, near the storm drains
Charging for it
City Council brought in some Portland consultants regarding Mirror Pond. City is making a mountain out of a molehill
City has put more effort into collecting fees than educating the public
Conserving water and giving demos to the kids on how the run-off from the water affect things and ways to improve the water quality
Deschutes Brewery and the way they recycle the water and usage
Don't overwater your lawn and cut down on the use of fertilizers
Most messages not change oil in driveways or throwing garbage out of the car
Normal admonitions, about watering your car, pet waste, lawn stuff
Register all drill holes and dry wells
Surprised something hasn't been done; Bend's a town with a boatload of money and they're not doing anything, just telling people to not do that--people irrigating at home under regulation, and you drive by a city or county-owned building and they are watering their crap and hundreds of gallons flow into the street and nothing's done about it, where I would get fined
Tax payers have paid a lot of money for this, but there's been no meaningful reduction in stormwater waste; city management should be fired
Watering the lawn.... Don't overwater it

Q14. And looking forward, what recommendations do you have for the City of Bend in regards to the content of the stormwater education messages, partnership program with non-profits and businesses, or how it's communicated to residents?

Media (TV, newspaper, radio)

TV (4)

Newspaper (2)

Don't tend to look at my bill, I'm usually so busy. For me, I try to watch the evening news, a local station, and I try to read the Bend Bulletin, so these would be good places to reach a person like me

Even though you do see it on TV a direct message towards the upper west side residents who are on the river would be good. Everything flows downhill

Television is the best way to reach residents. Maybe as a news story item

Have ads in papers. I advert my eyes from all advertising. I don't watch TV

Haven't seen commercials

Hear on radio lots

I am sure they are doing much more out there, but I haven't been paying attention. It was on TV or radio we might hear it

I'd love to learn more about it: TV would be great

Information on the news about websites we could go to, to learn more

More public information. There's a lot of media for them to advertise

More TV commercials

Newspaper ads or something of that nature at recreation areas

Radio would be great

TV spots around 5 o'clock, it's actually on a billboard, but billboards are not effective, primetime TV for me would be the most effective, channel 21 KPVZ

Alternate awareness methods

A lot of people don't listen or read and they have never been awarded or told this awareness and a way to get them to be aware would make it easier

Door hangers

Find different way to get message re: stormwater out; not just in schools...that's the only major way I've found out

How it's communicated - city activities

In an environment where people are in a good mood. Like concerts, festivals

Information is not getting out to where I go. I have water to use, and just don't think or pay attention to these things. Post in grocery stores, but I don't know if I'd pay attention to it

Promote rain gardens; do demonstration rain gardens

They could have a poster contest for the kids, like for fire prevention

Try to get a digital message out there, rather than print ads

Use many methods to spread the word

We saw a lot of information on storm drains at the school

Keep doing it in a variety of ways

Signs, keep our water clean, communications on sewer drains

Q14. And looking forward, what recommendations do you have for the City of Bend in regards to the content of the stormwater education messages, partnership program with non-profits and businesses, or how it's communicated to residents? (Continued)

General suggestions

Make it more relevant to the impact for the citizens
Messages need to be more memorable
Mostly having a succinct message that's not too wordy to reach the average person
Need to explain where stormwater goes; how long it will take to get to the river...and more
Partner up with a nonprofit
PSAs are pretty effective, they seem to work for people like me who are not out and about much
Set up campaign, I didn't see anything
Stencils on the streets telling where the water goes to the river
Stickers and the pavement I ride a bike so I notice the roads
Stuff out and they need to explain why it is important: clear messages with lay terms instead of scientific language. Take it back to the basics
Takes a lot of repetition to get through to people in general
Use common sense! Let people use gray water from washing to water lawns

Target audiences

Clarify the benefits to those who participate
Do it like in schools with younger kids because they listen more
Do some outreach with the gardeners. They mow the lawns and blow all the debris in the streets
Going through businesses, my business has a parking lot with environmental storm drains, I clean them myself, and my business is responsible. I haven't seen any attempt to restore these storm drains. Regulation of the storm drains at the businesses that have the storm drains that they are functioning to full potential
Good idea to start educating children beginning at an early age
Home Depot was a good place for their messages
Programs in the schools are good
Start communication the youth in schools
Start educating at younger age (e.g., schools) re: stormwater pollution
Teaching children when they are young about litter
They should start with schoolchildren, maybe they should be allowed out for a field trip on this subject. Outreach, stewardship, etc

Q14. And looking forward, what recommendations do you have for the City of Bend in regards to the content of the stormwater education messages, partnership program with non-profits and businesses, or how it's communicated to residents? (Continued)

Mail

Communicate through the mail to reach everyone, or residents
I get the traffic control for the city and we had a lot of people who came out of their houses wasting water. Maybe a flyer to the homeowners about not wasting water
I'm so new here that I'd just like more information. Send out quarterly flyers about education on water resources
Information on this subject should go straight to the homes
More awareness through flyers in mailboxes
More direct communications, letter that is not a part of my bill
Put something in with the bill explaining why the bill increase happens. How do you lower your sewer bill
Regular mail is very effective
Sending the messages as an insert with the bill
Something mailed to my home or in my utility bill. Something that comes directly to the home a letter or volunteers going door to door

Billing inserts

A very well done and informative insert with bill
Devote an issue in their monthly billing, or information they thought was helpful I would read
I'm not plugged into the media. What they put in the bill is the part that I read
In the billing
In the billing cycle, they could have PSAs, conservation where the individual has control (like watering lawns), awareness of vehicles' impacts. Billboard, electronic.... Billboards on buses. Emphasize the positive, what we can do, rather than the crisis aspect
Inclusion in the billing. Sometimes it's too big or long or too much info just simplify
Mailers are most effective for me - the ones that come inside of the bills
Messages in the water bill are the ones I would look at
More info in billing statement

Frequency

Bend is growing rapidly and the quicker people are aware and educated the better
Communicate more to residents. They start these big surveys and everything because a few people want something, but it wouldn't necessarily would help the city
Get it in front of people more
Keep trying to get the word out as much as possible
Keep up the effort, be more visible
More communication and more advertisement
More of it, advertising more

Q14. And looking forward, what recommendations do you have for the City of Bend in regards to the content of the stormwater education messages, partnership program with non-profits and businesses, or how it's communicated to residents? (Continued)

Social media

Keep doing what we are doing: surveys, social media - Facebook
Social media outreach
They could become involved in neighborhood social media groups and community action groups
Use more social media
Use social media: Facebook or Twitter to communicate to residents

Negative comments

City is throwing a lot of money away. I haven't heard any messages, and it's not a good program
Have the City have their water bill online. I resent every time it comes in the mail, but they are paying some company up in Seattle and paying postage for it when they could do it for free. They could put the newsletter on the internet. Education materials should go to every resident not just the owners because my tenants don't receive any information
I deal with the public every day, and the public will not change, never have, never will; if they want something to change they need to step up by directing stormwater to a processing plant that would rid it of the stuff that's currently flowing into the rivers
Stop the propaganda -- there is no problem

Satisfied

As far as I know they are doing a good job so keep it up
City is doing the right thing
Excellent job of educating people
Probably doing a good job

No changes

Continue doing what you are doing -- I'm probably not that good at a litmus test.
Continue to communicate the message
Keep what you are doing, no more comments at this time

Miscellaneous

Fertilizer should be organic; people with animals that don't pick up their waste should be fined and the storm drains should always be kept clean by putting screens or mesh to prevent unwanted contaminants
Like a clean environment. I want the most efficiency for the money spent
Need to work with the neighborhood associations, and then they can work downtown, as that would be more difficult. Working downtown, small business will have to foot the bill, have to pay for that cost. Burden on small business. Landlord raising rent and driving prices up. Spending enormous amounts of money on the small amount of waterfall. Not spent well. So many other places that the money can be sent like affordable housing
Oakley Taylor and Steve Prozac do a great job at educating the public. You can put the message out there, but if you have no involvement, what good does it do? The public is pissed off about taxes. They look at stormwater fees and think what is this going to? What's the point is it's not getting treated? If we were to start treating it, our sewer treatment plant doesn't have the capacity to handle the extra water

Q16. What else would be an important consideration for the future of Mirror Pond?

Clean it / Dredging / Maintenance (81 respondents / 28%)
Dredge it / Dredging (18 respondents)
Clean it (2)
A lot of duck sludge down there; if there is some way to clean that up
As much silt as possible needs to be cleaned out and then the being cleaned and dredged to get rid of the sludge
Clean and healthy habitat for people and animals
Clean and maintain, annually dredging the pond
Clean and uncontaminated
Clean it for all
Clean up excess garbage dumping (e.g., construction trash, recreational debris, food, bottles)
Clean up the bird droppings
Clean up the bottom of the pond, it's nasty
Cleaner filtering
Deal with all the sludge building up
Doesn't get the sludge build up again, clean it up and get good water flow
Done pretty well in the past 5 yrs. cleaning up the area. In 2009 it was infested with bums and trash, so it's nice what they have done with it lately. It's being taken care of
Dredge and dispose of the sludge
Dredge the bottom and return the flow of the river
Dredge the dam to get rid of silt. We have an irrigation dam below; I don't know what the result would be there. They put in a rapid thing they put in make waves for the recreation
Dredge the pond deeper, at least a few feet since it's gotten pretty shallow over the years
Dredge the pond, and fix the dam; I say let those companies who want to take the Dam over -- they should do it
Dredged so it could be left as is
Dredged to maintain the beauty
Dredging and open it up and bring it back to where it was
Dredging the pond needs to happen
Eliminating a lot of brush as it's a bum hangout
Find a permanent solution to the silt that gets in the pond
Get it dredged
Get rid of the silt that has built up
Getting it dredged or flushed
Getting sediment out of Mirror Pond
I want it maintained as it is important to the community and is very important to the culture
Keep it as clean as possible and well maintained to ensure contaminates do not flow through or get into it
Keep it clean
Keep it clean and keep beer away from it. No beer boats
Keep it clean, be nice if there was a way to keep a flow so that it wouldn't get so nasty from the sludge
Keeping it as it has been for years. Keep it as best as it can be
Keeping it clean
Keeping it clean; I guess maybe getting some of the duck residue out of there

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Clean it / Dredging / Maintenance (81 respondents / 28%) (continued)

Keeping people from throwing things into it
Main thing for me is we need to dredge. We need to stop messing with the geese leave them alone
Maintain it
Maintained as it has been for the last number of decades
Maintaining clean water
Make sure it runs clean
Make sure it stays healthy and clean
Make sure there is no pollution coming downstream. I see it all the time
Make sure there's not too much silt
Maybe it needs some dredging so it doesn't turn into a mud flat.
Need to dredge the weeds: The Great Drake Park Duck Race, which I've done the past many years, is getting harder and harder because the pond is choked with weeds. It needs more water flow
Needs to be dredged, I don't know why they don't do it. There is trash and goose crap in there. I don't think there is enough education about the pond. I think they should keep it the way it is
Needs to be dredged. They seem to have money for every other thing in the world, but they don't seem to have money to dredge Mirror Pond. I think parks and rec have too much power. I think there needs to be a separate group of homeowners that have a say on this kind of stuff.
Needs to be dredged; all that silt needs to be taken out. It should be charged back to the electric companies. It is caused because it's a power dam. Dredging is the most expensive but it's an important part of Bend and should be focused on. We are over spending on recreational stuff. We should use that money more for Mirror Pond and roads and infrastructure
Needs to be kept clean
Nice if they could find a way to keep it cleaned out of sediments
Periodic scheduled maintenance like clearing the mud
Pond dredged and the contaminants removed
Pond needs to be kept and redesign of it, keep that going. First clean the silt but have a free flowing channel through it. Stick with plan doing commercial development there
Preserve cleanliness
Should drain it periodically to clean out the sludge. Let it refill for summer recreation
Talking about dredging, don't know what that will come too. Don't know why they didn't do that when it was empty.
The City should take the silt out of the pond. A long time ago the lumber company, Brooks dredged it out every year. They used it as a pond for their logs back then. They should have kept it as it was. Just clean it
The sedimentation is a huge problem. The sediment does need to be removed. Do not purchase the dam, do not spend city dollars to buy a derelict dam. I do not think the pond is the only way to see the river
Upkeep it every year

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Dam (Repair/Keep) / Preserve / Save pond (69 respondents / 24%)
Keep it as is (9 respondents)
As a resident, they had better keep. It's iconic to Bend
City of Bend needs to pay to get it fixed
Continue as it is right now
Continue to exist in its classic form
Do everything to preserve it
Do everything to save as it is, if they can eliminate the dam and still maintain the pond. If not, city takes over the pond and rebuilds the dam, and utilizes it. If power company is gaining revenue, then the city can do the same. Save pond
Do not take down the dam
Don't want them to make the river through there. The pond is part of Bend. It is very important that the pond is left there even if we need to put in a new dam
Go ahead and replace it- keep it functioning.
Hate to lose it because it has always been there
I think it needs to be left alone as is
Important that the pond stays as naturalistic as it is now
Improving the old dam, or replacing it
Keep it and maintain it
Keep it as Mirror Pond. Because it is not really feasible to turn it back into a running river
Keep it because the river already has a lot of dams and one more won't make a difference
Keep it pretty much the way it is now
Keep it up to date; make it safe. Keep history
Keep it...don't drain it
Keep Mirror Pond, eliminate studs off of tires
Keep the pond
Keep the pond as close to natural as they can.
Leave it alone
Leave it as a pond and not turn it back into a river
Leave it beautiful like it has always been. Some of the things higher ups are not important to me, I consider silly. Money can be spent so much better. River rafters and boaters spending money on what they are doing, making tubes and other things that are not needed. Small percentage benefit using my money
Leave it the way it is except take out the dam and let the river flow out... Mirror Pond is nice
Leave Mirror Pond alone, I want it left as a natural green area
Like it the way it is
Live all my life here, I would like to see Mirror Pond kept the same and not changed
Love Mirror Pond I would not like to see it go away or being reduced in any way, but I know it needs some improvements
Main thing is maintaining the configuration of Mirror Pond so it doesn't become just some river. They are already doing wonderful thing for surfing and kayaking down at the Colorado Bridge. Mirror Pond has such charm the way it is so it should stay that way
Maintain the scenic beauty, improve the old dam, an image for Bend that should be preserved. If the dam removed change the image for the pond. Bend should fix the dam and ensure the stays constant and consistent for public enjoyment

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Dam (Repair/Keep) / Preserve / Save pond (69 respondents / 24%) (continued)

Maintaining it. Restoring the oriental look
Need responsibility for the future pond to maintain it. Somebody needs to do it
New dam
Part of the iconic Bend, if Bend wants to maintain the attraction they must maintain the pond
People bought houses on Mirror Pond were all about the aesthetics, but we are hurting our natural resource. It's an important issue, there will be a lot of pissed off people if you pull out the dam. City of Bend can't take over the dam and power plant. It's a political issue
Pond should be preserved, to remove the dam and let it go back to the natural flow would not be good for the city. The dam should be replaced. From what I read in the paper the sediment is deep in areas of the pond. I am knowledgeable enough to know what should be done, but hope there is some measure to preserve the pond
Prefer it was more of a pond. I know the dam needs to be repaired. I know it's going to be expensive. The people down in that area are opposed to removing the dam
Prefer the Pond to a river there
Preserve it
Preserve that environment
Preserve the beauty
Preserve the dam, stop having committees on what to do, and get it done; don't spend the money on figuring out get it done
Preserved
Preserving the natural setting
Questions you asked are elementary. I'm against taking the dam out -- what would happen to the Pond
Rebuild the dam and renovate it so it may continue to function even if it means rebuilding the whole thing
Re-do the dam to make it viable again
Redoing the dam, that will keep the scenic look
Remains there
Repair the dam
Save it
See land maintained into public interest private owners
Shouldn't be closed down. It is part of Bend's history
Taking care of the dam, the City of Bend would take care of the dam and the maintenance
Want to see it preserved. We need that as a natural resource
We got to keep it we can't turn it back into a stream
Well used by the citizens and maintained
Whatever needs to be done to preserve the pond

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Dam (Take down) / Return to river / Return to natural state (55 respondents / 19%)

Let it go back natural (4)
Better if it was a natural river and there was no dam
Building height kept low below 35ft or lower. More pristine building and developing. Get rid of dam let it go to natural state. Be more of a plaza, a community space. Open feel to it. More park-like downtown
Dam removed and the pond be a creek again
Dam removed. River returned to its natural state
Dam should be pulled out and let the river run free
Don't think stormwater quality is important, the water is pure. For Mirror Pond they can undam it if we are going to waste millions of dollars to undam it. As long as what we have there is safe they can keep it. They need to have the people vote on it. The water level would need to be raised, maybe. PGE whoever owns the dam needs to get rid of dam; don't make the city pay for the removal of dam. Just make it back the way it was or reinforce the dam. When the mill went out the mill had to pay for it. So it's between the power company and the city doesn't have to pay. We have two dams COID and the power dam. In the winter 500 CFS is a lot of water, not the same as the summer. They killed about 150 geese and gave them to the homeless that was an outrage. They didn't tell anyone
Don't want to see a lot of tourist activity; preserve natural setting; maybe present a dam that fits into the environment rather than from the 21st century
Effect downstream as far as sediment, if they were to remove the dam
Flow free. Take the dam down
Free flowing river
Free flowing, get rid of the dam and silt
Give it a chance to go back to its natural condition
Go back to a river
Go back to being a wild river. Silt will always be building up. Go back to original state
Go back to its natural state
Have parks and rec start picking up the tab on things. They are expanding so much. They tax at the highest tax rate in the state. They spend millions up stream and act like Mirror Pond is not their problem. We don't need more parks. The dam they should remove it
Having a better way to keep it more of a free flowing river-e.g. I think they're going to put in some islands, and when they replace the dam have a way to raise and lower so as to flush out the sediment out of the system
How to handle silt build up? Take dam out or dredge...choice must be made
I wouldn't mind seeing a little beach access to let dogs run on that part of the beach.
It's not a pond and it turns back into a river
Keep it as close to original as possible. Natural and not too much new construction
Let it go back to the way God intended it to be
Let river take its course and do its own thing
Let the river be the river. I don't think there is an intention to replace it, and I think that's OK
Letting the river flow
Make it free flowing, remove the dam

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Dam (Take down) / Return to river / Return to natural state (55 respondents / 19%) (continued)

Mirror Pond needs to be free flowing, undam it. Nobody cares about the rich people who live along the river. The river is polluted

Move the dam to Newport bridge, eliminate the old dam that goes to the power hours

Natural flowing river. Broken dam should be removed and returned to natural habitat and should not require dredging

Not as interested in what was, I am more interested in what could be. I'm not a fan of keeping it the way it is I think it should be more wild

Refurbished into a river again. It seems like every year the city is paying more for dredging it's a big expense

Removal of the dam. River flow and in pond passage and rec passage

Remove Mirror Pond

Removing the dam and restoring its natural state is much more important than committing it to other options

Replace the dam

Restoring it to its long standing original condition

Restoring the banks and the wildlife is more important

River restored to its natural state

River should return to its natural channel

Should be a river. The dam should be taken down. What they've done is unnatural, and it will cause silt to build up on an ongoing basis

Should be back to its original state

Should remove dam

Stay natural, it's one of the attractions to Bend, preserve it, without development

Sustain its original form as much as possible

Take out the dam and restore it to its natural state

Take the dam out! It is leaking. Mirror Pond has outlived its usefulness, and it's time to reclaim the natural river corridor. I have in the past had a number of issues I have dealt with Public Works, and I've received stellar customer service. I have good memories, they tried hard to please

Take the dam out. Silt in the river is just going to keep building up and needing to be dredged

Take the pond out, let it go back to a river

Turn back into a free flowing river, would make it attractive much like the one that flows through Boise, Idaho

Turn it back into a river

Want the river to be flowing naturally. That thing is nasty and they need to get rid of that dam and let Mirror Pond go natural

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Cost / Revenue ideas (22 respondents / 8%)
City Council to come up with a good plan with a definite budget, and a not to exceed figure. The City doesn't seem to put together a good budget for anything
City shouldn't be investing money in surveys like this
Cost
Cost of improvements
Cost to replace was prohibitive a few years back
Cost, the tax dollars for the improvement. The way it would affect the electricity. Would it force people into higher electric rates? That would be an important consideration
Do something. They've been talking about this for years and they need to stop spending all of this time and money on surveys and meetings
Don't think the city should have to pay for taking it over and having to care for it all
Don't know, shouldn't spend millions on it
Exercise caution regarding what to do, what to spend on the Mirror Pond section of Deschutes River (it's a very small section, compared to the rest of it)
Future costs to maintain it but mostly just removing it entirely because it is just a waste of money to upkeep it and maintain it
Moderate the cost of maintaining it
Money - what is it going to cost us and how can we keep it at a good budget? Make Pacific Power, since it is their dam, pay for the reconstruction
Money, how much tax is put in it? Money spent to maintain Mirror Pond is not worth the taxes it's wasteful
Money, I know it is going to cost a lot of money
Need to spend some money into fixing the bridge
Overall cost to taxpayers
Pacific Power mitigates all of their responsibilities without any city or parks and rec funding. The cause of silt buildup is directly related to the irrigation districts and the irrigation districts should totally fund silt removal from Mirror Pond
Parking fee to charge those who use it versus taxpayers
Take into consideration what is cost effective for the city; preserving the visual aesthetic of the area
Taking the dam out would be a waste of money. This is the way people enjoy it now
Utilize the silt, it has retail value

Recreational use / Tourism (18 respondents / 6%)
Been there a long time it's pretty, its important. People hang out there
Continue to push the recreational component, but reduce the pollution and silt
Don't want to lose the beauty and recreational use
If the city gets rid of Mirror Pond it would have be a major impact to tourism
Improve it and make it available for recreation. I used to canoe there but now it is too silted
Keeping it open for public access
Like to walk my dog there.
Mirror Pond where you can reflect. It shouldn't be used for recreational opportunities. Storm drains should not be drawn to Mirror Pond
Need to have it because of the recreational activities, without the dam and Mirror Pond is ruined

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Recreational use / Tourism (18 respondents / 6%) (continued)
No, used to take dog, but never threw debris in the water
Part of what people expect to see when they come as a tourist
People should stay out of the river. It shouldn't be used as recreational
Preserving the tradition like the duck race that are just part of the community
Public access
Putting nice gardens and public spaces around it...Maybe a little fishing pond would be good.
Recreation
Tourism is very important in regards to Mirror Pond
We go paddle boarding and we moved here partially for the recreational activities

Aesthetics (11 respondents / 4%)
Aesthetic value - it is pretty, especially in the fall or holiday times
Aesthetics, recreating the dam in a beautiful way that allows fish to move through
Future of Mirror Pond is a drawing card for Bend and needs to be maintained
Impact on our aesthetics downtown they shouldn't be getting rid of it
Important because the scenic view is a major part of downtown
Keep the beauty aspect of Mirror Pond
Love the looks of it
Maintaining the original look of it
Maintains its beauty-its aesthetic appearance
Not really but part is economic and part is aesthetic
Most beautiful pond in Oregon

Wildlife (10 respondents / 3%)
Always had issues for wildlife
Better fish passages through the river
Concern for the wildlife
Conservation of wild habitat and eco system
Control the geese; also, control the amount of recreation and entertainment available at Mirror Pond (leave it in natural condition)
Educating people about how to be there with the tourists and not feeding the ducks and geese
Lots of ducks and geese with lots of waste. They are the problem. They stay there because people feed them. The pond is covered with algae and duck waste. It needs to be cleaned up. I won't even go on the water
Maintaining habitat for wildlife
Protecting the wildlife
Wildlife is the most important, not the people. It should be looked at, but not have people in the river

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Historical / Landmark (9 respondents / 3%)
Historic place
Historical part to me is extremely important
Historical value that is important but we should keep it eco-friendly
Keep the historical integrity and look of Mirror Pond
Maintain the historical aspect of Mirror Pond it is an important part of the history of Bend
Mirror Pond is the iconic landmark of the City of Bend. Taking care of it is terribly important to the city, the city should put its money where its mouth is and take care of it
Mirror Pond needs to be a historical entity. Mirror Pond makes Bend; they should make it a historical site
Mirror Pond should be a historical landmark; we should encourage people to go see it.
Turn the powerhouse into historic building, preserve the history of the building

Power source (7 respondents / 2%)
Bridge that's there and renovating the bridge to continue to provide power. We have so much water going through our community we should utilize it for power
Hydro-electric power is really important to Bend
Hydroelectric power should be maintained
Mirror Pond's / Deschutes River's ability to remain a power source (if not interfering with wildlife habitat)
Need to create a new power dam so that we have a renewable water supply from the motion of the river
Upgrade the energy source
Will the new dam be meaningful and purposeful? Will it still produce power? Just another kayak jump - don't care about kayak or white water opportunities - prefer just to produce power and be historical

Building/Construction/Development (6 respondents / 2%)
I would hope that once they decide what to do with the dam, and if they do, what would happen to the river beds? I do not want to see any more buildings on the east side of the river because that might cause the pollution along the river. The river should be left the way it is
No commercial development around it
Not putting too many condominiums and multi-family units on Mirror Pond
Not selling municipal land near Mirror Pond (or anywhere else along the Deschutes River that is owned by the City of Bend); I am leery of private development of the river
Replace the footbridge. Complete the trail underneath Newport Ave
Take the land along the river and sell to developers, with restrictions to high rise and make them provide parking. All while protecting the scenic view of the river. Multi-use, retail, housing (affordable), mixed commercial

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Miscellaneous (42 respondents / 14%)
Adding water to it all the time
Coming up with a solid, long term proposal. Something that will be agreed up and will last for many, many years
Don't know the property; there's an issue with people that live there if they drain it they might be able to sell their land it's a mud flat that could be made into something else, but it's very pretty when it's full, they've got ducks
Drain it
Equal access for everyone
Finding a way to keep silt
Fine now, I would like to know if they are going to make changes so we can vote on it
Go ahead and get more hybrid registration plans for creatures and animals who do use that and talk to some contractors would be the cheapest way to go
Government can just go forward with their plans regarding Mirror Pond (e.g., continue cleanup efforts; let tourist-oriented businesses build in vicinity of Mirror Pond)
Haven't been down to Mirror Pond in years
Hope they make the right decision. And take care of what holds close and dear
How to conserve and save water not just for personal use
Important part of Bend, for many reasons. Will they cut off the pond or let it run dry? This would have an adverse effect on the area
Improving security as in safe for people
Keep the politicians out of it
Keeping it open and should not build homes on it. I think Bend Forefathers should keep it a park for residents
Listen to the community; important to listen to the community
Long term impact on the community
Long term solutions, start referring to it as a river instead of a pond
Look to future
Make river deeper
Make sure that existing homeowners living near Mirror Pond are able to maintain their property values.
More accessible to get in and out of the river there it's hard to get into the river they have all these rocks and pathways there
Nice to not have to think about it so often
Not going to be a pond for long, it's going to be a marsh, so they need to do something about
Nothing specific but anything that can help the protection of the pond and the environment and river as a whole up and downstream is a good thing
One person in charge and present a plan and take vote on the plan. He/she should be a person that can get a job done and have common sense
One thing: about three months ago, the city utility department changed its bill paying method; they no longer offer an automated deduction from my checking account, so I have to key the information in each month to pay the bill. They've outsourced the billing to another firm, and the screen is not readily accessible
Options given to the voters
Overall health of the river

Q16. What else would be an important consideration for the future of Mirror Pond? (Continued)

Miscellaneous (42 respondents / 14%) (continued)

Ownership of that land should be taken by eminent domain. City should do it
Previous questions are good
Recently moved to the area from northeast Ohio where it was a very industrial area. There was a lot of industrial waste and the only thing that saved the river from dying were trees and shrubs that took the pollutants out of the water. Keep areas around the river as natural as possible. Make sure areas where there's a lot of stuff being built that sewer systems are working properly
Restore riparian zone
Safety issues (in general)
Somebody make a decision. I'm tired of hearing about it. Way too much fighting over it
Such a hot political topic, don't really know
Surrounding landscaping and better access to the river
Upgrade as needed
Very important to the community
Voters decide -some sort of Bend ballot measure
Whatever happens to Mirror Pond, the power company should share the cost; the new water feature; the lane provided for rafters is more dangerous than proposed in the idea - Colorado Bridge

Don't care / Don't know / Nothing (4 respondents / 1%)

Can't answer. Don't like to speak about matters I'm not sure of
Don't care
Don't know don't regard it that much
Go there a couple times a year it's nice. I have heard about the dredging, I don't feel well enough informed to comment

Q18a. What was the reason for your interaction with the water department?

Billing department
Pay bill(s) (7)
Called me two days before Christmas to tell me they were going to shut off my water because I was late on my bill
Flection of my water bill from this residence as compared to my last residence.
Paid bill over phone and didn't get a confirmation number, had late fees tacked on for not confirming the bill went through
I am a property manager so I deal with the bills on a daily basis
I pay my bill in person
Renewal of loan refinancing connecting water
Switching the bill over. I'm a landlord
The water prices have gone up super high.
Verify our rental property costs. To try to figure out why it was too high

Construction and/or new services
Building a home
Building a new house, new services
Get a new water line tied into the main, for one of my construction projects
Had a small project with Apple; needed to be working; get ID
I'm a contractor-business reasons
Installed a new water main
Water department was needing to know about where certain pipes were and weren't. They changed some things on the street. Meters were changed on the sidewalk, had been worked on and we weren't sure. We wanted to dig around the meters outside near the street and we needed to know where everything was
Water meter connections for work, city water hooks ups. Sewer hook-ups
Work
Workmen were friendly and explained what they were doing. Installing new pipes into the stormwater drains

Problems
Contacted me to inform me of a leak in our water system
Contacted when water meter was spinning, had a water leak they pointed and called us to let us know we had an issue, and there was a surcharge that was reduced since it was accidental leak. Vey please the service.
Complained about taste
Leak at the water box to property. Leak was on my side of the box
Neighbor left water on for 48 hours had to report and figure out what to do
They treated one of the treatment plants with chlorine and they had to come test the high chlorine
We had somebody stealing water from us and we had water leaks in one of our rentals.

Questions / Information
I had questions about an improvement project (to the city water system).
Information about the inceptor project
Some people were drilling a well. I was getting information on policies and procedures and service area.

Q18b. What was the reason for your interaction with the sewer utility?

Billing Department
Pay bill (5)
Asked about change in billing sewer, flat fee to actual usage
Bills
Difference in the bill. Went up $10 higher
Price of my bill was too high
Verify calculations and billings

Questions / Information
Construction process
Getting info on interceptor
Sewer line runs through our driveway and we just asked questions about that
They were in the neighborhood, they were marking all the water lines

Services
Bringing the sewer line down our street
New services
Reconnect service
Water meter connections for work, city water hooks ups. Sewer hook-ups

Miscellaneous
Don't recall
Haven't met with them yet
Planning to put an interceptor on my street where it doesn't belong
Same project as the water one
Sewer system got backed up
Tried to call them and they do not respond. I also tried to talk to the City Council

Q18c. What was the reason for your interaction with the stormwater utility?

Billing department
Problem with cost of stormwater charge
Stormwater charge was doubled
Verify calculations
We were being billed for it and the cost has gone up. Stormwater was $4 in 2011. Everything is going up not just the stormwater... Stormwater has gone up $2.48 since 2011

Construction
Construction process
New construction, swells and sight water swales for residential housing

Fix problem
Came out here to do something on our street
Flooding in my garage and we pay for the fee

Services
New services
Work related through contracting for alternative energy

Miscellaneous
To compliment them for doing a good job
Working with them on a TV commercial project

Q18d. What was the reason for your interaction with the utility billing?

Pay bill
Pay bill(s) (8)
Couldn't get Wi-Fi working in the house
I just paid it. The automated bill paying system is confusing, and I need some help. But before I spoke to a human and paid my bill over the phone
I just paid my bill over the phone -- no problems
I paid my utility bills
I was unable to access the online payment system and I had to get help
Just paying the bill
Just to pay
Making regular payments. I found that they have a great contact and very helpful when needed, sincere people who help a lot
You have to pay it

Billing issue
Billing issues
Billing problem
Didn't have any money -needed to negotiate the bill, but they don't negotiate
Had to work out some billing issues due to hospitalization
I had transferred water and sewer service (different name)
I was changing the name on the billing to our rental person's name
Moved, changed address for bill
We are supposed to get a discount because my wife is disabled, and they took the discount away. It's a monopoly
We moved and the bill got lost
With a new bill, they were only charging us for the stormwater, but I was concerned that at some point in the future, we would be charged many months of the sewer bill
My wife sent them a check and she made it out to the wrong utility company name. The payment wasn't credited

Cost of bill
About the stormwater billing
Bills were increased
Figuring out the difference for the apartment building as well as my home
High billing
Mostly to understand why our bills are so high
Raised my bill
Sewer bill had gone up
Verify calculations

Q18d. What was the reason for your interaction with the utility billing? (Continued)

Questions
Questions about bill
Sewer inquiry
Utility billing, why do the bills go to a Seattle Address, out of state, why are we sending our money out of state to handle our money, why can't a local firm in Bend handle the accounts. Why pay them and not pay local? Which would keep the money flowing here locally and create jobs

Miscellaneous
Bills
Construction process
Loss of power 3 times in two weeks
New construction
New services
Same project
Work as well

Q19. What City of Bend stormwater messages do you recall over the last year, if any? (Unaided, Multiple Responses) (Continued)

Q19b. Miscellaneous messages

Ads about not washing your car, not using fertilizers that run off
Be careful what goes in the streets and down the drains
Changing the river's path
Cold Wash Wednesday, what to put and not in your garbage disposal
Conserve water
Drill holes, dry wells and above ground swells. Install bladders in catch basins. Eliminate run off on your own property
Everything goes into the storm drain system-sidewalks and driveways
FOG Program -- fats, oils, and grease. Don't put these down your home drains
One with a little gal with a glass of water, and puts junk in a second glass of water, and asks, 'Which one would you like to drink?'
Paying for it and testing
Street fair booth
They want to get rid of swell irrigation. That would be a terrible mistake because it adds a great deal of beauty to the area. People love to go to the bridge and look at the water
Trying to bury lines
Water the pavement and being careful with fertilizer use

Q20. What recommendations do you have for the City of Bend Utility, in terms of improving customer service or better resolving issues?

Satisfied
Good job (3)
Great job (3)
Keep up the good work (2)
Doing fine
Don't have any suggestions they were ok
Good about it
Great the way it is
Keep doing what they are doing
No complaints
No recommendations for improvement
Seemed pretty solid
When my wife called to reestablish the city was very helpful

Communication
Better communication. You should call them first before shutting off their power and not the day of
Better education for the public. Need to reach out to the public and education them. Lot of people have good ideas in this town and the city needs to brainstorm with these smart people
Communications, follow-ups and listening
Listen to their citizens
Need to let people know when they're treating water for sensitive people
Outreach, more media outreach
More knowledge to the public on their end; send out more info. To the public
Need to be able to connect with their customers and give a better reasoning for their price increases
Put on the bill what day they started it and what day they stopped it. Better communication as it was extremely confusing
I would like to know if the runoff water is treated. Maybe they could communicate through water brochures, talking about statistics related to water quality and stormwater issues

Costs
Charge is too high for stormwater
Didn't like they charged a fee every time you changed an address
Live on a private road, we shouldn't have to pay stormwater fee if we have to fix our own flooding; we should be exempt
Lower the bill or the taxes
Make the charges clearer and find a better way to bill the residents; I own a duplex, there are two units, overpriced - it's one building, but charged for two units
More education on the seas the water rates. Percentage has gone up 10% in the last year
More you spend the more it costs
Since the rate increase, I felt like my power bill had gone up higher in price and consumption, when there are only two people living at my residence, compared to five last year
Need to lower the rates or advance solutions for saving water

Q20. What recommendations do you have for the City of Bend Utility, in terms of improving customer service or better resolving issues? (Continued)

Training employees

Better training

Better training of finance department workers, using bank services which are provided in central Oregon. Not have to mail money out side of city/state

Coming up with a better software, better website, and better system. Even they are confused by their computer system. It is really a chore whenever I change my billing information for auto pay

Have better answers for why water tastes bad

I recommend they change personnel. They need more education in customer service, and need to better understand the complicated issues

More knowledgeable staff answering the questions

Should be equipped to answer power outage questions. When the power goes out there should be a recording with advice on alerting people to the power outage instead of just representatives are not available

Think need to be better informed; customer shouldn't know more than utility people

Customer service (in general)

Courteous it just took a month to get it fixed

Customer service person to talk to

Get people in with more integrity, they didn't take the confirmation number and took the money anyway, so had to pay twice and the 2nd time with late fees

More people answering their customer service phone calls

More people to answer the phone, had to leave messages and wait for them to get returned

Make it so every other customer service number that you call is not automated, don't like talking to robots

More availability, and showing contact information and being more readily available to contact in the first place

Education info

Great job with me as a contractor, more education leaflet and help the new people in construction on the ins and outs. More information to builder's associations to distribute to the many new contractors in the industry. More interface with builder's associations. More effective

Works well but not informed

Sent education about water conservation quality issues with the bills

Q20. What recommendations do you have for the City of Bend Utility, in terms of improving customer service or better resolving issues? (Continued)

Miscellaneous

Do not ship the account tasks out of state, keep local and generate local opportunity and jobs and revenue

If you've always paid your bill before, shouldn't turn your water off, should be some flexibility

Making meetings more available, meetings are usually held on weekdays at noon or 1pm, those times make it hard for regular working people to make it to those meetings

Need to have more places to pay then downtown Bend, being a senior citizen I don't want to go to downtown Bend, it's like going into an Indian fight going downtown, we are only aware of one downtown, if there's another one, we are not aware of it; we would like another place to pay the bill with less traffic

Offer electronic billing

Our infrastructure is being taxed by all the new building

Website...hard to navigate, not quick and easy (for bill paying)

APPENDIX B: QUESTIONNAIRE

Hi, my name is _____, and I'm calling with Riley Research Associates on behalf of the City of Bend Utility Department. We're calling Bend residents to better understand awareness and perceptions of Bend stormwater and water resources.

(As necessary) The survey should take about 10 minutes. We're not trying to sell anything or solicit any donations or support. We're only interested in your opinions, and no one will follow up with you based on your participation.

S1. First to confirm, do you currently live inside or outside of the City of Bend? (If outside) **Do you work inside or outside the City of Bend?**

- ❑ 1 Live inside Bend city limits (Continue)
- ❑ 2 Work inside Bend city limits (Continue)
- ❑ 3 Work AND Live OUTSIDE Bend city limits (Politely discontinue)
- ❑ 9 (Unsure/Refused) (Politely discontinue)

Our survey today will focus mostly on the stormwater division of Bend's Utility Department. As you may know, stormwater is any precipitation, like rain or snow, that lands on a local surface and runs off the land.

Q1. To begin, regarding Bend's underground drinking water supply, would you consider stormwater contaminants, including spills, to be a major concern, somewhat of a concern, or not a concern at all?

- ❑ 1 Major concern
- ❑ 2 Somewhat of a concern
- ❑ 3 Not a concern
- ❑ 9 (Depends / Unsure)

Q1b. And regarding Bend's rivers and streams, would you consider stormwater contaminants to be a major concern, somewhat of a concern, or not a concern at all?

- ❑ 1 Major concern
- ❑ 2 Somewhat of a concern
- ❑ 3 Not a concern
- ❑ 9 (Depends / Unsure)

Q2. What would you consider to be the leading causes or sources of pollution in rivers? (Unaided. Up to three responses)

- ❑ 01 Illicit discharge / Illegal dumping / spills
- ❑ 02 Heavy metals (lead, cadmium, chromium)
- ❑ 03 Silt / sediment / soils
- ❑ 04 Runoff from roads and other hard surfaces
- ❑ 05 Industrial operations / business / construction
- ❑ 06 Farming or Agriculture
- ❑ 07 Livestock
- ❑ 08 Pets
- ❑ 09 Vehicles
- ❑ 10 Untreated sewage
- ❑ 11 Discharge from sewage treatment plants
- ❑ 12 Garbage, dumping, and litter
- ❑ 13 Wildlife
- ❑ 14 Septic tanks
- ❑ 15 People (general)
- ❑ 16 Recreational activities (boating, swimming, kayaking, etc)
- ❑ 17 Pesticides / herbicides
- ❑ 18 Fertilizers
- ❑ 19 Golf courses
- ❑ 20 Vegetation
- ❑ 97 (Not an issue / no problem)
- ❑ 98 Other (specify)
- ❑ 99 (Unsure)

Q2b. Other sources/causes

Q3. As you may know, stormwater falls on various surfaces, and often collects pollutants as it runs through the street drains.

To the best of your knowledge, what do you think are the <u>most common</u> pollutants that contaminate <u>Bend's stormwater</u>? (Unaided - Accept up to three responses)

- ❑ 01 Heavy metals (lead, cadmium, chromium)
- ❑ 02 Soil sediments
- ❑ 03 Sewage / Human waste
- ❑ 04 Wildlife waste
- ❑ 05 Pet waste
- ❑ 06 Livestock / Animal waste
- ❑ 07 Agricultural / farming waste
- ❑ 08 Pesticides / fertilizers
- ❑ 09 Vehicle pollutants (gas, oil, tires)
- ❑ 10 Accidents / Spills
- ❑ 11 Garbage / trash / litter
- ❑ 12 De-icer
- ❑ 13 Run-off (street / yard / general)
- ❑ 14 Industrial operations
- ❑ 15 Washing cars / other cleaners
- ❑ 97 (Not an issue / no problem)
- ❑ 98 Other (specify)
- ❑ 99 (Unsure)

Q3b. Other pollutants

Q4. After entering the street drains, about how much of that stormwater would you estimate gets treated and cleaned at a sewer treatment or water reclamation plant?

Would you say: (Read list)

- ❑ 1 All of the stormwater
- ❑ 2 Most of the water
- ❑ 3 Some of the water
- ❑ 4 Little or none of the water
- ❑ 9 (Depends / Unsure)

Q5-Q10. For this next set of statements, please answer with either <u>true</u> or <u>false</u>. The first is: (Rotate order)

Q5. Bend's stormwater is collected and treated the same as its sewer water.

- ❑ 1 True
- ❑ 2 False
- ❑ 9 (Unsure)

Q6. Bend's storm drains are intended to collect only clean, uncontaminated stormwater .

Q7. Storm drains drain directly into the Deschutes River or into the ground.

Q8. Because Bend does not get a lot of rain each year, stormwater is not an issue.

Q9. Pollutants in stormwater do not affect the quality of Bend's water supply because it is treated before it reaches residents' homes.

Q10. Reducing pollutants in Bend's stormwater will improve the quality of water for residents, wildlife, and recreation

Q11-Q17. Now I'm going to read a list of potential actions by residents, and please tell me if you think that action could have a large impact, some impact, or no impact on improving stormwater quality. What about:

Q11. Washing your vehicle at a car wash that treats or recycles wastewater, rather than washing it at home.

- ❑ 1 Large impact
- ❑ 2 Some impact
- ❑ 3 Little or no impact
- ❑ 9 (Refused)

Q12. Picking up and disposing of pet waste.

Q13. Careful use of garden fertilizers and pesticides

Q14. Taking care to not over water your lawn

Q15. Reducing litter and waste on the streets and sidewalks

Q16. Preventing soils from getting into the streets and storm drains

Q17. Taking measures to keep lead out of dirt and water (hiring a lead-based paint trained contractor for homes older than 1978; using alternative wheel balances, etc.)

Q18. Now, to the best of your knowledge, what services does your stormwater service charge cover? (Unaided. Do not read. Accept multiple responses)

- ❑ 01 Stormwater quality / protection (rivers/streams/drinking water/groundwater)
- ❑ 02 Stormwater facility cleaning/operation and maintenance
- ❑ 03 Flood protection/runoff control
- ❑ 04 Capital Improvement Projects-Drainage/Engineering
- ❑ 05 Street Sweeping
- ❑ 06 Erosion and Sediment Control
- ❑ 07 Regulatory Compliance
- ❑ 08 Sanitary Sewer/Wastewater Reclamation
- ❑ 09 Stormwater Controls in new or re-development projects
- ❑ 10 Stormwater drain cleaning
- ❑ 96 I do not pay a stormwater service charge
- ❑ 97 (Unsure / Can't think of anything)
- ❑ 98 Other (specify)
- ❑ 99 (Refused)

Q18b. Other service

The City of Bend has been conducting stormwater education outreach in the community, to spread awareness of stormwater pollutants and why it's important to help protect the area's water.

Q19. What City of Bend stormwater messages do you recall over the last year, if any? (Unaided. Multiple responses)

- ❑ 01 Don't recall any education messages
- ❑ 02 "Clean Water Works"
- ❑ 03 "Clean Water Works Partners"/ Discount Card
- ❑ 04 Sediments can clog storm drains, pollute waters (commercial)
- ❑ 05 Report illicit discharges/dumping/spills (commercial)
- ❑ 06 City crews work to keep our waters clean (commercial)
- ❑ 07 "It's all Connected"
- ❑ 08 Stormwater drains to rivers/drinking supply
- ❑ 09 Stormwater pollution can harm fish and wildlife
- ❑ 10 Stormwater pollution can harm drinking water
- ❑ 11 "Only rain in the storm drain"
- ❑ 12 Stormwater does not drain to sanitary sewer
- ❑ 13 Do not pollute stormwater
- ❑ 14 Protect water supply
- ❑ 15 Storm Drain Markers "Don't Pollute"
- ❑ 16 Careful not to overwater lawn
- ❑ 17 Inserts in bill
- ❑ 18 Artist's painting on drains
- ❑ 97 (Remember effort but don't recall specific details)
- ❑ 98 Other (specify)
- ❑ 99 (Unsure/Refused)

Q19b. Other messages

Q20. I'm going to read a list of resources Bend has recently used to communicate with residents. Just let me know if I mention any stormwater education outreach efforts that sound familiar. The first is: (Read bold choice and rotate list, multiple responses)

Q20a. TV Commercials

- ❑ 1 Yes / Recall
- ❑ 2 No / Do not recall
- ❑ 9 (Unsure / Refused)

Q20b. Radio Commercials

Q20c. City Edition News Magazine

Q20d. Public Service Announcements at movie theaters

Q20e. News articles or press releases

Q20f. Advertisements in the Bend Park and Rec (BPRD) Fall guide

Q20g. City Offices

Q20h. Displays at partner organizations

Q20i. Booths at various events or awards ceremonies

Q20j. Clean Water Works video contest

Q20k. Clean Water Works identifiers

Q20l. Clean Water Works Discount Cards

Q20m. Promotional giveaways like bags or water bottles

Q20n. School or Camp Activities

Q20o. TV News Coverage

Q21. At which of the following events do you recall seeing information from Bend about stormwater education? (Unaided, multiple responses)

- ❑ 01 Earth Day (April 2015)
- ❑ 02 City Quest at the Fest (Summerfest, July 2015)
- ❑ 03 Storm Drain Art Contest (August 2015)
- ❑ 04 Stream Stewardship Day (August 2015)
- ❑ 05 Brookswood Roundabout Opening (September 2015)
- ❑ 06 Munch n Movies (commercial at all (Aug-Sep), booth at 9/11/15)
- ❑ 07 Teacher's Night Out (High Desert Museum - September 2015)
- ❑ 08 Oktoberfest (September 2015)
- ❑ 09 Discover Nature Festival (September 2015)
- ❑ 10 Future Filmmakers Event (October 2015)
- ❑ 97 (Don't remember specifics)
- ❑ 98 Other (specify)
- ❑ 99 (Refused)

Q21b. Other events

Q22. What did you learn from the campaign? What were the main messages you recall or that were new or surprising?

- ❑ 01 Clean water is important/Preventing pollutants is important
- ❑ 02 It is important to prevent/report illicit discharges/spills/dumping
- ❑ 03 Stormwater utility staff work hard for clean water
- ❑ 04 Soils/sediment are bad for storm drains/water quality; keep sediment on site
- ❑ 05 Lead is a stormwater pollutant/take care with lead-based paint (pre 1978 homes)
- ❑ 06 Storm drains flow to the river and underground/ storm drains do not flow to the sanitary sewer
- ❑ 07 Careful what goes down the drain
- ❑ 97 (Nothing / Don't recall)
- ❑ 98 Other (specify)
- ❑ 99 (Don't / Refused)

Q22b. Other aspects

Q23. Which of the following best describes your awareness of Bend's Clean Water Works Partner Discount Card? Did you: (Read list)

- ❑ 1 Get a card and use it
- ❑ 2 Get a card but NOT use it
- ❑ 3 Not get a card
- ❑ 9 (Unsure)

Q23b. Please rate your experience using that card on a five-point scale, where "1" is "poor" and "5" is "excellent."

- ❑ 1 1 - Poor
- ❑ 2 2
- ❑ 3 3
- ❑ 4 4
- ❑ 5 5 - Excellent
- ❑ 9 (Don't know / Refused)

Q23c. Why did you end up not using the Clean Water Works Partner Discount Card?
(Unaided. Multiple responses)

- ❑ 01 Didn't know who was participating
- ❑ 02 Wasn't partners I was interested in
- ❑ 03 Card wasn't honored
- ❑ 04 I have too many discount cards/just forgot about it
- ❑ 97 (Don't recall enough to say)
- ❑ 98 Other (specify)
- ❑ 99 (Don't know / Refused)

Q23c-b. Other reason

Q24. If you received an invite to become a clean water works partner, did you choose to participate?
(Clarify answer as necessary)

- ❑ 1 Got invite AND Participated
- ❑ 2 Got invite but did NOT participate
- ❑ 3 Did not get invite
- ❑ 9 (Unsure)

Q25. Why did you choose not to participate? (Unaided)

Q26. And looking forward, what recommendations do you have for the City of Bend in regards to the content of the stormwater education messages, partnership program with non-profits and businesses, or how it's communicated to residents? (Open-ended)

Now I have some questions about Mirror Pond. As you may know, Mirror Pond is located on the Deschutes River between Galveston and Newport bridges. It was created in 1910 with the construction of the Bend Water Light & Power Company's Dam, which provided the initial source of power and electricity to Bend, and stills serves about 200 households. The City has 13 stormwater outfalls that drain into Mirror Pond. The wooden dam is reaching the end of its life span, and Bend would like to hear your recommendations on what comes next for Mirror Pond.

Q27-Q30. How important are the following factors to you when considering the future plans for Mirror Pond? We'll use a five-point scale where "1" is "not at all important" and "5" is "extremely important." How important is: (Read and rotate list)

Q27. Providing improved water quality, river banks, and wildlife habitat

- ❑ 1 1 - Not at all important
- ❑ 2 2
- ❑ 3 3
- ❑ 4 4
- ❑ 5 5 - Very important
- ❑ 9 (Don't know / Refused)

Q28. Ensuring historic aesthetic and iconic pond views are maintained

Q29. Ensuring stormwater treatment occurs before reaching the river

Q30. Providing recreational opportunities

Q31. What else would be an important consideration for the future of Mirror Pond?

Q33. And now I have a few questions about the City of Bend Utility department. Have you had occasion to interact with the City of Bend Utilities in the past year? (If yes) **which ones?** (Read/clarify as necessary)

- ❑ 1 No / None
- ❑ 2 Water
- ❑ 3 Sewer
- ❑ 4 Stormwater
- ❑ 5 Utility Billing
- ❑ 9 (Unsure)

Q34a. What was the reason for your interaction with the water department? (Probe for specific details)

Q34b. Did the customer service for the water utility meet your needs or answer your questions completely, mostly, somewhat, or not at all?

- ❑ 1 Completely
- ❑ 2 Mostly
- ❑ 3 Somewhat
- ❑ 4 Not at all
- ❑ 8 (Don't recall)
- ❑ 9 (Refused)

Q35a. What was the reason for your interaction with the sewer utility? (Probe for specific details)

Q35b. Did the customer service for the sewer utility meet your needs or answer your questions completely, mostly, somewhat, or not at all?

- ❑ 1 Completely
- ❑ 2 Mostly
- ❑ 3 Somewhat
- ❑ 4 Not at all
- ❑ 8 (Don't recall)
- ❑ 9 (Refused)

Q36a. What was the reason for your interaction with the stormwater utility? (Probe for specific details)

Q36b. Did the customer service for the stormwater utility meet your needs or answer your questions completely, mostly, somewhat, or not at all?

- ❑ 1 Completely
- ❑ 2 Mostly
- ❑ 3 Somewhat
- ❑ 4 Not at all
- ❑ 8 (Don't recall)
- ❑ 9 (Refused)

Q37a. What was the reason for your interaction with the utility billing? (Probe for specific details)

Q37b. Did the customer service for the utility billing meet your needs or answer your questions completely, mostly, somewhat, or not at all?

- ❑ 1 Completely
- ❑ 2 Mostly
- ❑ 3 Somewhat
- ❑ 4 Not at all
- ❑ 8 (Don't recall)
- ❑ 9 (Refused)

Q38. What recommendations do you have for the City of Bend Utility, in terms of improving customer service or better resolving issues? (Open-ended)

Q39. I just have a few more questions to finish up. What is the highest level of education you've had the opportunity to complete? (Read list as necessary)

- ❑ 1 High school / GED
- ❑ 2 Trade school
- ❑ 3 Some college
- ❑ 4 2-year degree / Associates
- ❑ 5 4 year degree / Bachelor's
- ❑ 6 Graduate degree or higher
- ❑ 9 (Refused)

Q40. About how many years have you lived in the City of Bend?
(As necessary) Your best estimate is fine.

Years ..... ____

Q41. What is your age?

Age ..... _____

Q41b. (Record or if refused ask) **Which of the following categories includes your age?**

- ❑ 1 18-34
- ❑ 2 35-44
- ❑ 3 45-54
- ❑ 4 55-64
- ❑ 5 65+
- ❑ 6 (Refused)

Q42. Do you have any children or grandchildren under 18 in your home? (If yes) **Are any of them:** (Read list. Mark all that apply)

- ❑ 1 Under the age of 5
- ❑ 2 Between 5 and 12
- ❑ 3 Between 13 and 17
- ❑ 4 (No children in the home)
- ❑ 9 (Refused)

Those were all my questions. Thank you for your time and opinions!

Record gender

- ❑ 1 Male
- ❑ 2 Female

Record zip code

- ❑ 1 97701
- ❑ 2 97702
- ❑ 3 97708

Record phone number

Record phone type

- ❑ 1 Landline
- ❑ 2 Cell

Record ID

Thanks for your time, but we're trying to reach Bend residents. Have a nice evening.

Q42. Kids/Grandkids in home - For xtabs

- ❑ 1 Yes
- ❑ 2 No
- ❑ 9 Refused

Q40b. Years in Bend - Categorized

- ❑ 1 1-4 years
- ❑ 2 5-9 years
- ❑ 3 10-14 years
- ❑ 4 15-19 years
- ❑ 5 20 or more years
- ❑ 9 Refused

710 NW WALL STREET
PO BOX 431
BEND, OR 97701
[541] 388-5505 TEL
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BENDOREGON.GOV

JIM CLINTON
Mayor

SALLY RUSSELL
Mayor Pro Tem

VICTOR CHUDOWSKY
City Councilor

DOUG KNIGHT
City Councilor

NATHAN BODDIE
City Councilor

CASEY ROATS
City Councilor

BARB CAMPBELL
City Councilor

ERIC KING
City Manager

September 21, 2015

Business Name
Address
Bend, OR 97701

Dear----------,

In a continuing effort to provide best practices for our water/wastewater services to Bend citizens, a new provision has been added to the Bend Code (Bend Code 11.16.120). As you are involved in grease and oil collection, this new provision will affect your business. This new provision became effective on August 14, 2015.

Companies collecting oils and grease for recycling or reuse are required to provide customers with secure, lockable, leak-proof containers with secured lids that are designed to be stable and resistant to spillage. This will ensure that the contents are not be released onto the surface of any street, sidewalk, bike lane, or alley. With this change, the City of Bend hopes to continue its efforts to avoid problems with wastewater, sewer issues, and spillage that is harmful and problematic.

This is especially important for containers in the alleys and parking lots downtown. **If you have an oil and/or grease container(s) downtown, please replace the existing container(s) with one(s) that meets the new requirements by Thursday October 8, 2015.**

If you have questions on this new requirement, please contact Carolyn Eagan, Economic Development Director, at 541-693-2130 or ceagan@bendoregon.gov.

Thank you,

Carolyn B. Eagan
Economic Development Director

ISWMP 2022 Performance Standards

Corporation Yards

(See Chapter V.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
GENERAL STANDARDS/ TRAINING	1	Prepare and maintain a current Corporation Yard Stormwater Pollution Prevention Plan (SWPPP).				July 1, 2014	Developed 3/7/11 review and update scheduled in FY2014-15
	2	Prepare spill containment kits and store them in locations that have potential for spills (e.g., fueling areas, etc.). Conduct training annually, or as appropriate, on how to use the kits.				July 1, 2015	See Task VIII.6
	3	Mark or stencil inlets to the storm drainage system with a "protect our waters-no dumping"-type message.				July 1, 2015	See Task V.3
	4	Survey the facility annually for compliance with the performance standards. Any performance standard that has not been implemented will be identified in the annual report, along with a schedule for implementation.				July 1, 2016	See Task VIII.8
	5	Post educational materials about these performance standards and best management practices in appropriate areas.				July 1, 2016	See Task V.7. Using Compli
	6	For each corporation yard, assign one person the primary responsibility for ensuring that performance standards are implemented and that all persons using the facility are aware of these performance standards.				July 1, 2016	See Tasks II.1 and VIII.8
	7	Describe activities conducted to educate staff regarding the performance standards in the annual report.				July 1, 2017	See Task V.7
GENERAL HOUSEKEEPING	1	Dispose of often, material removed from streets and storm drainage facilities to eliminate exposure to rainwater and runoff to the storm drain system.				July 1, 2014	Materials are dewatered at 15th Street (dewatering washwater is ultimately directed to sanitary sewer). Materials are then sifted to recover basalt rock for winter traction reuse and remaining materails are disposed of at Knott Landfill.
	2	Keep chemical storage areas neat and orderly				July 1, 2014	See Task VIII.8
	3	Inspect the yard at least semiannually to ensure that there are no illicit discharges to the storm drain system. Train employees to report potential pollutant discharges when noticed to ensure pollutant discharges are controlled to the MEP.				July 1, 2016	See Task VIII.8
	4	Sweep the corporation yard at least bimonthly				July 1, 2016	Planning underway since June, 2016; bimonthly sweeping to begin Oct. 2016. Neither corporation yard drains to the MS4/river or is in a time of travel area for UICs. Portions of 15th corp yards drain to surface swales or sheet flows to adjacent landscaping.
	5	Stockpile materials away from streets, gutters, storm drain inlets, or water channels when possible.				July 1, 2019	Occurring at 15th Street.
REFUSE HOLDING AREAS	1	When materials removed from storm drainage facilities are stored on site, store the materials on a concrete pad or other type of impermeable material away from storm drainage facilities. Use covers or other methods as appropriate to prevent blowing away of debris. Drain wastewater to the sanitary sewer, only upon approval from the local sanitary sewer agency, or allow to evaporate to prevent discharges to the storm drain system. Dispose of the material at an appropriate facility.				July 1, 2015	Materials are dewatered at 15th Street (dewatering washwater is ultimately directed to sanitary sewer). Materials are then sifted to recover basalt rock for winter traction reuse and remaining materails are disposed of at Knott Landfill.
AUXILIARY STORAGE AREAS/YARDS	1	Store chemicals in appropriate areas to prevent pollutant discharge to the storm drains.				July 1, 2014	See Task VIII.8
CHEMICAL STORAGE	1	Keep all containers containing hazardous materials or waste closed when not filling or emptying. Properly label containers using the NFPA or HMIS system (or other appropriate system as approved by City management). Protect the storage area from vandalism				July 1, 2014	See Task VIII.8
	2	Review the Spill Prevention Plan and/or other appropriate materials (e.g. MSDS) for hazardous materials storage requirements.				July 1, 2016	City has a service for easy MSDS availability.
	3	Store paint and other chemicals in an approved covered containment area. Design the floor so that spilled materials will be contained and easily removed.				July 1, 2017	See Task VIII.8 and Task V.7
	4	If any material containers (not limited to hazardous material containers) are stored outside, keep the containers in a contained area that prevents discharge to the storm drain system from spills or exposure to rain. Ensure that all the containers are closed with tight-fitting lids. Design the area to prevent "run-on" of stormwater and runoff of spills.				July 1, 2017	Training occuring. See Task VIII.8 and Task V.7

ISWMP 2022 Performance Standards

Corporation Yards

(See Chapter V.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
	5	When never-before-used materials are purchased, review the Material Safety Data Sheet (MSDS) to ensure that incompatible materials have the appropriate separation.				July 1, 2017	City has a service for easy MSDS availability and their use is encouraged by Safety and Risk Program Manager regularly at meetings.
CHEMICAL USAGE	1	Ensure that necessary safety equipment and spill containment kits are readily accessible in areas where chemicals are used. Inspect safety equipment (e.g., eye wash) regularly to ensure they are operational.				July 1, 2014	See Task VIII.6
	2	Review MSDSs.				July 1, 2014	The City subscribes to a MSDS website for quick access.
	3	Minimize use of chemicals. Use water-based paints and non-toxic chemicals as much as possible.				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
CHEMICAL USAGE	4	Recycle or dispose of excess chemicals at an approved local Household Hazardous Waste Facility or other approved location, or via an appropriate contractor who handles and disposes of materials properly.				July 1, 2014	City uses Knott Landfill.
	5	Ensure chemical containers have secure lids and are secured properly to the vehicle during transport.				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
	6	Properly remove any soils contaminated with spilled materials				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
Oil-based Paints	1	Wipe paint out of brushes. Filter and reuse thinners or dispose of as hazardous waste. Dispose of the excess paint as hazardous waste or recycle. If there is too much paint to dry, recycle the paint or dispose of properly.				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
Water-based Paints	1	Rinse paint out of brushes and discharge rinse water to the sanitary sewer. Recycle or dry excess paint in cans and dispose of the cans in the trash. If there is too much paint to dry, recycle the paint or dispose as hazardous waste.				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
Automotive Fluids	1	Collect used fluids and recycle or dispose at an appropriate facility.				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
Pesticides	1	Refer to the State of Oregon pesticide applicator requirements for pesticide mixing, application, storage and disposal requirements.				July 1, 2014	Only certified applicators use pesticides.
	2	Consider using integrated pest management methods. Given a choice, use the least toxic pesticides and herbicides that will accomplish the job.				July 1, 2014	City landscape crews do this taking in consideration location, workload, and staffing. Only certified applicators use pesticides.
	3	Apply pesticides at appropriate times to maximize their effectiveness and minimize their potential to run off.				July 1, 2014	See above. Stormwater Program Manager conducted a ride-along in FY 2015-16 with pesticide applicator for mutual education and to confirm.
	4	Mix only as much pesticide as needed. Do not mix or load pesticides next to storm drain inlets or watercourses.				July 1, 2014	See above. Stormwater Program Manager conducted a ride-along in FY 2015-16 with pesticide applicator for mutual education and to confirm.
Solvent/Cleaning Solutions	1	Properly recycle or dispose of used solvents/chemicals				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
WASHING VEHICLES/ EQUIPMENT	1	Clean all vehicles/equipment on designated wash areas that discharges washwater to landscaping, the sanitary sewer or recycling system. (Wash areas might be off-site to ensure discharge to the sanitary sewer or recycling system.)				July 1, 2015	Training occuring. See Task VIII.8 and Task V.7
	2	Ensure wash area and sump (if applicable) are large enough so that all washwater drains to the sanitary sewer or recycling system. If necessary, re-grade area or install dikes to convey the washwater.				July 1, 2015	Most vehicles are washed off site through a contract with a local car wash. Boyd Acres Utility Corp Yard has a designated wash area.
	3	Visually monitor the wash area to make sure it is consistently used.				July 1, 2015	See Task VIII.8
FUEL DISPENSING AREAS	1	Store spill containment kits nearby. If spill occurs, use dry methods to clean and follow procedures in the Hazardous Materials Business Plan and/or Spill Prevention Plan.				July 1, 2014	See Task VIII.6
	2	Train employees in proper fueling, cleaning, and spill response procedures				July 1, 2014	See Task V.7. Using Compli
	3	Discourage mobile fueling. If mobile equipment is fueled with a mobile fuel truck, have spill kits available and choose an area away from storm drain facilities, sanitary sewer systems, and waterbodies for fueling.				July 1, 2014	Fuel station on 15th Street scheduled for removal in FY2016-17. Employees use commercial-only fill stations within the community.
	4	Design new fueling area(s) to prevent "run-on" of stormwater and runoff of spills				July 1, 2014	Stormwater regulations and staff were consulted in design of a small tank at 15th Street in FY2015/16.
	5	Install signs reminding people not to "top off" tanks				July 1, 2018	Majority of fueling is conducted off-site now.
	6	Consider covering fuel dispensing areas. Prohibit fueling over open ground; ground should be covered by concrete or asphalt protected with a sealant.				July 1, 2018	See comments above.
FLEET MAINTENANCE/VEHICLE PARKING AREAS	1	Inspect equipment for leaks on a regular basis. Use drip pans under leaking vehicles. Repair vehicles with significant leaks.				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7

ISWMP 2022 Performance Standards

Corporation Yards (See Chapter V.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
	2	Drain and replace motor oil and other fluids in a covered shop area. If fluids are changed outdoors, designate an area where there are no connections to the storm drains, watercourses, or the sanitary sewer. Select a designated area where spills can be easily cleaned up or drain to a closed pan and return to shop for proper disposal.				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
	3	Periodically dry sweep the area.				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
	4	Schedule outdoor repair activities for dry weather, if possible. Prevent repair supplies or work material from entering storm drains or watercourses				July 1, 2014	Training occuring. See Task VIII.8 and Task V.7
	5	Clean equipment as it comes in for repairs using proper collection and disposal methods when necessary. Inspect equipment as it comes in for routine maintenance and clean if needed.				July 1, 2015	Training occuring. See Task VIII.8 and Task V.7

ISWMP 2022 Performance Standards

Illicit Discharge Control (See Chapter V.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
PREPARE FOR ILLICIT DISCHARGE SCREENING AND INVESTIGATIONS	1	Receive information on non-stormwater discharge reports;				July 1, 2014	
	2	Assure that needed follow-up, elimination, and cleanup of illicit discharges are conducted;				July 1, 2014	
	3	Provide other staff with information about the status of source identification and elimination. In particular, staff who identify an illicit discharge will be informed about its outcome;				July 1, 2014	
	4	Make sure required reporting is completed;				July 1, 2014	
	5	Distribute information to the City's management and elected officials, as requested, about the resources needed to implement these performance standards;				July 1, 2014	
	6	Facilitate the implementation of these performance standards; and				July 1, 2014	
	7	Be responsible for sharing activities and findings with the Stormwater Coordinators				July 1, 2014	
	8	Train at least biennially City staff who maintain and repair the municipal storm drain conveyance system. Train other municipal staff who conduct field work where illicit discharges are likely to occur, to recognize illicit discharges and the procedures for responding to these discharges. Train all new staff who fill positions as described above, about illicit discharge recognition and response procedures.				July 1, 2014	
	9	Keep maps of the completed municipal storm drain system sufficiently accurate to be used for tracing illicit discharges.				July 1, 2014	
	10	Train City staff assigned to conduct illicit discharge investigations on the knowledge and skills necessary to be effective. They will be familiar with guidance developed by the City and DEQ staff and these performance standards				July 1, 2015	
CONDUCT FIELD SCREENING	1	Begin program to identify evidence of illicit discharges to the municipal storm drain conveyance system, using municipal maintenance and other local field staff while they are conducting their routine work. Report any evidence of illicit discharges identified during these field screening activities to the Stormwater Program Manager or designee for follow-up.				July 1, 2015	
CONDUCT FIELD INVESTIGATIONS	1	Verify whether an illicit discharge has occurred, using information provided as part of field screening and complaints received from the public or other agencies. The goal will be to initiate follow-up activities within twenty-four business hours from the time the Stormwater Program Manager receives the report.				July 1, 2016	
	2	When an illicit discharge has occurred, find the source and eliminate it, as soon as possible. Trace the source(s) of the illicit discharge using storm drain maps, inspecting manholes, and making surface observations. Record and maintain findings, as appropriate.				July 1, 2016	
	3	Continue to inspect and follow-up illicit discharges until: a. The source of the illicit discharge is found and eliminated1; or b. The discharge has stopped and cannot be traced to a source				July 1, 2016	
	4	If the City identifies three or more illicit discharges in a fiscal year within an area served by any major outfall or a UIC within a two year time of travel or wellhead protection area, additional illicit discharge investigations will be conducted in the area(s) served by the major outfall(s)/UIC during the subsequent fiscal year or sooner. These additional investigations will include one or more of the following, as appropriate: a. Periodic above ground surveillance of the area for visual evidence of illicit discharges; b. Additional inspections of businesses, if appropriate; c. Additional periodic investigations of outfalls, UICs, waterbodies, and open channels for evidence of illicit discharges; and/or d. Additional targeted educational outreach in the area.				July 1, 2018	

ISWMP 2022 Performance Standards

Illicit Discharge Control (See Chapter V.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
FOLLOW-UP TO FIELD SCREENING AND INVESTIGATIONS	1	When a party responsible for an illicit discharge is found, provide the responsible party with: a. educational information about the impacts of his or her actions, b. the requirements of the local stormwater ordinance, c. options for proper discharge or disposal, and/or				July 1, 2014	
	2	If the discharge is traced to a business, the Stormwater Program Manager, or delegated staff, will distribute appropriate educational and BMP information.				July 1, 2014	
	3	The goal of follow-up investigations will be to stop the illicit discharge(s) as soon as practicable and protect water quality to the maximum extent practicable.				July 1, 2014	
	4	Begin enforcement procedures, if appropriate, as per the enforcement authorities as set forth in the City's municipal ordinances.				July 1, 2016	
	a	Investigate and record reported spill reports and/or complaints about incidents within the City.				July 1, 2014	
	b	Become familiar with existing spill prevention, containment, response, and clean-up programs that cover the city's jurisdiction.				July 1, 2014	
	c	Coordinate illicit discharge prevention, elimination, and clean-up activities with existing programs				July 1, 2016	
	d	Establish a mechanism for obtaining information about spill incidents from other agencies and departments within the municipality so that source identification and follow-up activities can be coordinated.				July 1, 2016	
DOCUMENT AND REPORT COMPLETION	1	Document the number and types of illicit discharge incidents reported and follow-up investigations conducted within the agency's jurisdiction. (This does not include information from fluid spills from automobile accidents.)				July 1, 2014	
	2	Collect information for annual reporting including: a. Number of illicit discharges identified as part of staff investigations; b. Number of illicit discharge reported by other city staff and the public; and c. Follow-up activities.				July 1, 2016	

ISWMP 2022 Performance Standards

Lifespan Operation and Maintenance Verification

(See Chapter VII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
TARGETING INSPECTIONS TO ACHIEVE THE MOST BENEFIT	1	Develop and update as needed, an operation and maintenance review plan or standard operating procedure (SOP) that describes the following: a. The inspecting divisions/department. b. The division/department that will conduct the stormwater follow-up and/or enforcement. c. How information and resources will be coordinated among agencies/departments. d. Priorities for inspecting stormwater facilities. Identify target businesses, if any, with high potential to discharge pollutants to the municipal storm drains or within wellhead protection areas. e. Proper recordkeeping procedures.The O&M review plan or SOP shall be tailored to the amount of staffing and financial resources available given program priorities.				July 1, 2014	Engineering PMs/inspectors inspect municipal facilities through construction and warranty. Storm facilties are then brought into City's Infor database for inspection and ongoing-maintenance by Utility operations staff. See also Tasks VII.2 and VII.3.
	2	Educate business owners and operators about stormwater pollution prevention, separate from the inspection program.				July 1, 2015	See Clean Water Works Partnership activities.
	3	Respond to complaints or referrals from others about a facility. The response may include actions such as: a. Interviewing the caller concerning the specific nature of the problem; b. Referring the caller to the DEQ staff for compliance questions concerning the State requirements (i.e., 1200 Z permit, etc.). c. Referring the caller to another agency if the facility is outside the City's jurisdiction; d. Calling the facility and providing appropriate BMP information. For substantive complaints not covered above, schedule a facility inspection or site visit as soon as possible.				July 1, 2015	Complaints are directed to O&M, regulatory for illicit discharge, engineering as appropriate for applicable calls, and to appropriate outside agencies if outside the City's jurisdiction. The City Utilities Department tracks customer service requests through Infor.
	4	Inspect and distribute appropriate BMP information to businesses per the operation and maintenance review plan priority. Frequency of inspection should be commensurate to the businesses' potential to flood or discharge pollutants to City facilities and available staffing levels.				July 1, 2016	See Clean Water Works Partnership activities.
	5	Re-evaluate the City's priorities for operation and maintenance of permanent stormwater facilities. Update the operation and maintenance review plan as needed. Coordinate with other city inspectors (e.g,, IPP or fire) to coordinate and minimize the number of inspections per business.)				July 1, 2018	
PREPARING FOR INSPECTIONS	1	Train appropriate City facility inspectors so that each inspector possesses the knowledge and skill necessary to conduct effective stormwater inspections. This includes identifying potential pollutant sources that may be exposed to stormwater runoff and non-stormwater discharges to the storm drains.				July 1, 2015	See Task VII.4
	2	The appropriate City's inspection staff will be responsible with being knowledgeable about the following: a. Stormwater regulations and requirements, including the City's ordinance and applicable state permits; b. Impacts of non-stormwater discharges to the river. surface water and groundwater; c. Inspection techniques and procedures; d. Follow-up and enforcement procedures; and e. Stormwater BMPs. The inspectors and managers will obtain periodic training to support inspection activities and to continue to improve program implementation.				July 1, 2015	See Task II.1 and VII.4
CONDUCTING INSPECTIONS	1	Inspectors will review the facility layout to locate the storm drain system and/or stormwater drainage path.				July 1, 2016	

ISWMP 2022 Performance Standards

Lifespan Operation and Maintenance Verification (See Chapter VII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
CONDUCTING INSPECTIONS	2	Inspectors will review/inspect the following areas, if access to the area is safe and drains to a stormwater management facility or area from which stormwater flow may ultimately leave the site. a. Outdoor process/manufacturing areas; b. Outdoor material storage areas; c. Outdoor waste storage/disposal areas; d. Outdoor vehicle and heavy equipment storage and maintenance areas; e. Outdoor parking areas and access roads; f. Outdoor wash areas; g. Surface discharge outlets from rooftop equipment; and h. Outdoor drainage from indoor areas. i. The status of onsite stormwater facilities. These areas will be inspected for 1) their need for maintenance; 2) their potential to discharge pollutants from non-stormwater discharges to public facilities, and 3) pollutant exposure to stormwater.				July 1, 2016	
	3	Inspectors will notify the Stormwater Program Manager of potential to discharge pollutants from non-stormwater discharges, and pollutant exposure to stormwater from a business.				July 1, 2016	
	4	When a business that impacts stormwater quality is identified, the City 's Stormwater Program Manager will either be responsible for conducting, or delegating, the following: a. Communicate stormwater requirements. b. Distribute facility representatives with appropriate stormwater BMP5 information, educational materials, and inter/intra-agency referrals as needed. Ask the facility representative whether employees have been trained about how to prevent stormwater pollution. c. Inform the facility representative of any problems or violations found. A schedule for correcting problems identified during the inspection, and a means for verifying their implementation will be discussed with the facility representative. This information will be noted and tracked. d. Document and track inspection activities, follow-up, and enforcement activities for reporting to the DEQ in annual reports.				July 1, 2016	See also Task V-7.
ACHIEVING FACILITY COMPLIANCE	1	If a problem is identified during an inspection, the Stormwater Program Manager will either be responsible for performing, or delegating a follow-up site visit or initiating a self-certification process where the facility representative certifies in writing that the problem has been remedied within the time specified by the Stormwater Program Manager.				July 1, 2019	
	2	Begin enforcement procedures, if appropriate, as per the enforcement authorities as set forth in the City's municipal ordinances.				July 1, 2019	

ISWMP 2022 Performance Standards

Litter Control

(See Chapter VIII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
SERVICES	1	Pick up litter receptacles located on City-owned property on a frequent enough basis to minimize or prevent spillage.				July 1, 2014	
	2	Provide an adequate number of litter receptacles on City-owned property. The City will make every effort to contain litter in receptacles.				July 1, 2015	
EDUCATION AND ENFORCEMENT	1	Encourage participation in and assist with the litter removal activities associated with the Stream Stewardship Day or other similar clean-up event				July 1, 2014	
	2	Encourage public education efforts to include an anti-littering message				July 1, 2019	See Clean Water Works Student Film Contest

ISWMP 2022 Performance Standards

Monitoring (See Chapter VIIII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
Facility Procedures	1	Maintain a NELAC accredited facility for stormwater-related laboratory testing.				July 1, 2014	Latest NELAP accreditation certificate is dated 8/23/2015.
Preparing for and Conducting Monitoring Activities	1	Maintain sampling plans and quality assurance plans, as appropriate.				July 1, 2014	
	2	Conduct appropriate recordkeeping and reporting.				July 1, 2014	

ISWMP 2022 Performance Standards

Municipal Maintenance (See Chapter VIII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
STREET SWEEPING FREQUENCY	1	Clean streets according to the City's Sweeping Plan.				July 1, 2014	
PROBLEMS ASSOCIATED WITH EFFICIENT STREET CLEANING	1	Maintain a consistent sweeping schedule.				July 1, 2014	
	2	Obtain copies of garbage and recycling collection schedules and work with water utility personnel to understand schedules of major water line flushing effort to improve coordination (e.g., to prevent conflicts with sweeping on days when collection barrels are in the road or to sweep pollutants off streets prior to major water line flushing).				July 1, 2016	
	3	Take appropriate measures to keep curbed areas clear during street cleaning. Measures may include, but are not limited to, developing and distributing newsletters and/or other public education materials notifying residents and businesses of street sweeping schedules; setting out temporary or permanent street signs; sending announcements through neighborhood association chairs, or website postings.				July 1, 2018	Examining potential use of reader boards, or other outreach to improve efficiency.
	4	Provide adequate staff for conveniently reporting trees interfering with street cleaning.				July 1, 2016	Staff looking to refine doorhanger
STREET CLEANING OPERATION TO MAXIMIZE POLLUTANT REMOVAL	1	Provide a clean looking street. Conduct tandem driving in areas of heavy load to minimize dirt tracks, trails, or debris to degree practicable given weather and winter road safety measures.				July 1, 2014	
	2	Check street cleaning equipment for proper adjustment.				July 1, 2014	
	3	Operate street cleaning equipment at the speed specified by the manufacturer.				July 1, 2014	
STREET CLEANING MAINTENANCE TO MAXIMIZE POLLUTANT REMOVAL	1	Regularly inspect and maintain street cleaning equipment.				July 1, 2014	
	2	Replace worn components as required to maximize efficiency.				July 1, 2014	Purchased a new sweeper in FY2015-16.
SPILL RESPONSE	1	Report spills observed on streets immediately for quick response by appropriate personnel.				July 1, 2014	
	2	Respond to spills in accordance with appropriate response procedures. This includes appropriate measures to block storm drain inlets to prevent and minimize discharges from entering storm drainage facilities in the event of an accident, spill, or emergency fire-fighting activity.				July 1, 2014	
RECORD KEEPING	1	Track miles swept using a broom odometer or by tracking mileage.				July 1, 2014	
	2	Track volume or weight of material removed for street cleaning.				July 1, 2014	
	3	Report summary of sweeping data in annual report.				July 1, 2014	
	4	Document and track areas where spills were reported and coordinate with the City's illicit discharge control field surveys..				July 1, 2015	
	5	As needed, identify and target areas for: 1) more frequent cleaning throughout the year or just prior to the rainy season; 2) additional efforts to remove vehicles; 3) distribution of public education materials to discourage illegal dumping, etc.				July 1, 2018	
EDUCATION/TRAINING	1	Train annually, municipal staff, as appropriate, responsible for street sweeping to identify and report illicit discharges, and to comply with the other street sweeping performance standards.				July 1, 2014	Met with Sweeper Supervisors (See Chapter 2). See also Task V.7.

ISWMP 2022 Performance Standards

New Development, Redevelopment, and Construction Site Controls (See Chapter VI.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
DEVELOPMENT PLAN REVIEW AND PERMITTING	1	Obtain adequate legal authority to implement stormwater quality control measures for development, redevelopment, and construction activities as part of the development plan review and approval process.				July 1, 2014	
	2	Require developers and owner/builders of projects that include permanent stormwater facilities to ensure ongoing operation and maintenance of the facilities, as part of project approval documents.				July 1, 2015	
	3	Require developers and owner/builders of projects with potential for significant erosion and planned construction activity to plan, prepare for and implement effective erosion and sediment controls.				July 1, 2015	
	4	Ensure municipal capital improvement projects also include stormwater quality control measures during and after construction, as appropriate for each project.				July 1, 2015	
	5	Inform developers and owner/builders of projects that disturb a land area of one acre or more in an area that drains to a surface water body of the state requirement to obtain coverage under the DEQ 1200C permit.				July 1, 2016	
	6	Require developers and owner/builders to control stormwater quality impacts of their projects by using appropriate BMPs. Encourage projects with significant stormwater pollution potential to mitigate impacts through site planning or design practices and/or post construction controls4. For such projects, the developer and owner/builder will be encouraged to avoid, minimize, and mitigate, in that order, the potential adverse impacts to water quality.				July 1, 2017	
	7	Review and refine, if necessary, the stormwater ordinance requiring site planning or design practices and/or post construction controls to protect water quality.				July 1, 2018	
	8	Review, and as appropriate, incorporate policies and implementation measures into the General Plan and Development Code to help preserve and enhance water quality and protect sensitive areas. General Plan and Development Code amendments will be adopted periodically as part of the City's ongoing General Plan and Development Code updates.				July 1, 2019	
ADDITIONAL EROSION AND SEDIMENT CONTROL	1	Maintain an erosion and sediment control program that includes requirements for minimum performance standards, sufficient enforcement authority, training and tools for inspectors, and information for developers and contractors.				July 1, 2015	
	2	As a condition for issuing a grading permit, require developers and owner/builders to prepare, submit for review and approval, and implement effective erosion and sediment control measures as per City regulations.				July 1, 2016	
CONSTRUCTION INSPECTION	1	For development projects with significant erosion potential, require that erosion and sediment control measures are implemented through a construction inspection process. Measures will be implemented in accordance with local ordinances and project conditions of approval, including the approved erosion and sediment control plan. Measures will also be maintained as needed during construction.				July 1, 2014	
	2	Through a construction inspection process, require that construction contractors properly store, use, and dispose of construction materials, chemicals, and wastes from construction sites and prevent illicit discharges to the storm drains and watercourses.				July 1, 2016	
	3	As part of normal inspections, municipal inspectors will review construction sites for adequacy of stormwater quality control measures. The municipal inspectors will prioritize assistance and guidance to onsite inspectors based on the following criteria: a. Project's potential impact on stormwater quality; b. Size of the project; c. Site topography and soil characteristics; d. Season in which the construction phase occurs; and e. Nature of the construction activity.				July 1, 2016	
	4	Require that each active construction site either be stabilized or have supplies and roll-out plans for immediate stabilization to be deployed prior to a major storm to minimize erosion and discharges of sediment from disturbed areas. As part of normal inspections, municipal inspectors will review to make sure these requirements are being met.				July 1, 2018	
	5	Review the inspection of construction sites with erosion and sediment controls following complaints or reports of sediment or pollutants being discharged in the public right of way.				July 1, 2019	

ISWMP 2022 Performance Standards

New Development, Redevelopment, and Construction Site Controls (See Chapter VI.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
EDUCATION AND OUTREACH	1	Distribute appropriate educational and training materials to city staff, contractors, construction site operators, developers, and owner/builders such as: a. Construction BMPs including erosion and sediment controls; b. Available guidance on the DEQ 1200C permit, if applicable; c. Site planning or design measures and post construction controls; and d. Information provided by DEQ staff regarding State and Federal permit and approval requirements for related project activities. Distribute this information and guidance materials to developers and owner/builders early in the application or design review process, or have available on the City's website as appropriate for the type of project.				July 1, 2014	
	2	Train, at least biennially, appropriate construction inspection staff on inspection procedures, documentation, and enforcement related to stormwater pollution prevention.				July 1, 2015	
	3	Train, at least biennially, staff from planning, building, and public works staff on planning procedures, policies, design guidelines, and BMPs for stormwater pollution prevention and control.				July 1, 2015	
	4	Distribute appropriate educational and outreach materials provided by the DEQ to those utility contractors (water supply, cable, phone, electrical, etc.) seeking encroachment and/or grading permits from the municipality.				July 1, 2015	

ISWMP 2022 Performance Standards

Operation and Maintenance of Stormwater Pump Stations (See Chapter VIII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
VISUAL INSPECTIONS	1	Inspect wet wells or forebays once per month for oil spills or other noticeable pollutant discharge.				July 1, 2014	
MAXIMIZE REMOVAL OF POLLUTANTS PRIOR TO DISCHARGE	1	Conduct at least one comprehensive cleaning of wet wells annually to remove sediment prior to the start of the rainy season to minimize discharge of sediment. Clean wet wells with a vactor, if possible.				July 1, 2014	
	2	If there is a large potential for pollutant discharge, have a spill kit readily available.				July 1, 2014	
	3	If any spill is reported or observed, try to remove the material at the nearest access point. As practical, shut down the pump station if the material may reach it. (A storm event may necessitate operation of the pump station.) As possible, prevent spill from discharging.				July 1, 2014	
	4	Store oil absorbent materials in appropriate maintenance vehicles.				July 1, 2014	
	5	Track spills upstream to try and locate the source(s) of pollution. Document spill incidents as part of the illicit discharge program. Implement enforcement, as appropriate.				July 1, 2017	See also Task V.7.
	6	Conduct at least one comprehensive cleaning of wet wells annually to remove sediment prior to the start of the rainy season to minimize discharge of sediment. Clean wet wells with a vactor, if possible.				July 1, 2019	
DISPOSAL	1	Dispose of screenings at a landfill, sediment at a location that will not re-enter the storm drain system or receiving waters through erosion, and oil-absorbed materials at a site licensed to accept hazardous waste.				July 1, 2014	
EDUCATION/TRAINING	1	Educate all personnel responsible for maintaining stormwater pump stations about these performance standards. City staff will conduct or provide at least one training session annually to educate pump station personnel about these performance standards and illicit discharge identification and reporting.				July 1, 2015	
	2	Conduct drills as part of the training, as appropriate				July 1, 2017	

ISWMP 2022 Performance Standards

Public Information and Participation

(See Chapters II, III &

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
Coordination with Existing Opportunities/ Activities	1	Stay sufficiently informed about the programs and materials being developed by Oregon Association of Clean Water Agencies (ACWA) and/or other suitable programs and groups by regularly attending or tracking ACWA or other appropriate stormwater, groundwater and public outreach committees.				July 1, 2014	
	2	Distribute and/or make readily available outreach and educational materials to appropriate audiences within the City. This includes, but is not limited to schools, volunteer committees, neighborhood associations, community groups, business groups and /or other environmental groups.				July 1, 2014	
City Staff and Officials	1	Identify, develop, and communicate at least annually, information about the City's stormwater quality program to city management and elected officials so that they are well informed about the requirements, their role in implementing the local stormwater program, and the City's progress.				July 1, 2014	
	2	Train new employees involved with stormwater pollution prevention activities on their role in implementing the local stormwater program.				July 1, 2014	
Procedures and Training for Handling Telephone Calls from the Public About Stormwater Pollution Prevention	1	Establish procedures for answering, tracking, and efficiently routing stormwater-related telephone calls to the appropriate staff for handling.				July 1, 2014	
	2	Train staff assigned to answering or responding to telephone calls on the established procedures.				July 1, 2014	
	3	Promote the use of a City telephone number to facilitate public reporting of illicit discharges.				July 1, 2014	
Storm Drain Inlet Stencils and Signs	1	The City will have an active program to install stencils/storm drain markers on publicly owned storm drain inlets. This includes installation by municipal staff, contractors, volunteers, and/or community groups.				July 1, 2014	
	2	As a goal, stencils and signs will be maintained sufficiently to be legible.				July 1, 2016	
COORDINATION WITH PUBLIC SCHOOLS (K-12)	1	The Stormwater Program Manager will either be responsible for distributing, or delegating the distribution of, information about school based outreach and educational materials to public schools within the City. This may include disseminating information on how to obtain copies of materials and providing lending opportunities for the watershed diorama, and may include working with outside groups who work directly with school children providing pollution prevention and water education				July 1, 2014	
Local Community Outreach Program	1	The City will participate in community outreach activities from the areas listed below for the purpose of communicating the general stormwater pollution prevention message, complementing regional or statewide coordinated specific messages for target audiences, and facilitating the proper management and disposal of targeted pollutants. The City will participate in at least three activities annually.				July 1, 2014	
	a	Distributing local, regional or statewide information through other venues (e.g., local newsletter, local magazine, mailing to target group, computer web site or network, local telephone directories, etc.).				July 1, 2014	
	b	Participating in existing community events such as fairs, festivals, exhibits, etc. This participation may include setting up a booth, kiosk display, or other creative means for communicating the general stormwater pollution prevention message; using a specific message to a target group; or making a presentation at a local community service group				July 1, 2014	
	c	Initiating new community events or playing a major role in planning and staging a community or city-wide event. Examples include, but are not limited to, Earth Day, Stream Stewardship Day, or other festival or fair, business mixer, seminar or workshop for a target group, contest, or coordination with businesses to provide pollution prevention discounts (e.g., recycled car wash discount).				July 1, 2014	
	d	Developing and raising watershed awareness				July 1, 2014	
	e	Coordinating with local volunteer groups to conduct outreach.				July 1, 2014	

ISWMP 2022 Performance Standards

Road Repair and Maintenance

(See Chapter VII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
GENERAL PRACTICES/ TRAINING	1	Schedule excavation and road maintenance activities for dry weather, if feasible.				July 1, 2014	
	2	Equipment repairs and fueling or maintaining vehicles and equipment will be conducted in accordance with the Corporation Yard Performance Standards.				July 1, 2014	
	3	Recycle used motor oil, diesel oil, concrete, broken asphalt, etc. whenever possible.				July 1, 2014	
	4	Distribute educational and outreach materials, as appropriate, to those utility contractors (e.g., water supply, sewer, cable, phone, electrical, etc.) seeking encroachment and/or grading permits from the City.				July 1, 2016	Community Development Department distributes materials as appropriate.
	5	Train at least biennially municipal staff and contractors conducting road repair and maintenance to comply with these performance standards.				July 1, 2016	Municipal staff are trained. See Task V.7. The City project manager is responsible for making their contractor aware of local requirements.
ASPHALT/CONCRETE REMOVAL	1	After breaking up old pavement, remove and recycle as much as possible to avoid contact with rainfall and stormwater runoff.				July 1, 2014	
	2	Take measures to protect storm drain inlets prior to asphalt breaking or concrete sawing operations (e.g., place sand bags or filtering barrier around inlets). Clean afterwards by sweeping or removing as much material as possible. Do not wash down to the storm drain.				July 1, 2016	Training occurring. See Task V.7.
	3	During saw-cutting operations, block or berm around storm drain inlets using sand bags or an equivalent appropriate filter device, or absorbent materials such as pads, pillows, or socks to contain slurry, or wet/dry vacuum the slurry. If slurry enters the storm drain system, remove the material immediately.				July 1, 2016	Training occurring. See Task V.7.
	4	Remove saw-cut slurry (e.g., with a shovel or vacuum) before leaving at the end of the day.				July 1, 2016	Training occurring. See Task V.7.
PATCHING AND RESURFACING	1	To minimize runoff from patching and resurfacing activities, materials will not be stockpiled in streets, gutter areas, or near storm drain inlets or waterbodies unless these areas are protected (i.e., stockpiled material should be covered to minimize stormwater runoff.)				July 1, 2014	
	2	Cover and seal manholes and storm drain inlets before applying seal coat, slurry seal, etc				July 1, 2014	
	3	Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain inlet. Designate an unpaved area for clean up and proper disposal of excess materials.				July 1, 2014	
	4	Use only as much water as necessary for dust control to avoid runoff.				July 1, 2014	
	5	Sweep up as much material as possible and dispose of properly.				July 1, 2014	
	6	Clean up spills and leaks from other equipment and work site areas using "dry" methods (absorbent materials and/or rags). Properly dispose of absorbent materials and rags. If spills occur on dirt areas, the contaminated soil will be removed properly and on a timely basis				July 1, 2014	
	7	After the job is complete, remove stockpiles (asphalt materials, sand, etc.) and other extra materials as soon as possible.				July 1, 2014	
	8	If it rains unexpectedly, take appropriate action to prevent pollution of stormwater runoff (e.g., divert runoff around work areas).				July 1, 2016	Training occurring. See Task V.7.
	9	Wash down of streets is only permitted if runoff is controlled or contained, or appropriate best management practices are followed.				July 1, 2017	Training occurring. Washdown of spills is not allowed. See Task V.7.
SIGNING AND STRIPING	1	Have spill kits or store spill absorbent materials on trucks to be used in the event of a spill.				July 1, 2014	
	2	Contain and clean up waste materials and dispose of them properly according to the MSDS.				July 1, 2014	

ISWMP 2022 Performance Standards

Road Repair and Maintenance (See Chapter VII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
EQUIPMENT CLEAN UP/STORAGE	1	Clean sprayers, patch and paving equipment at the end of the day. Use approved collection methods and dispose or recycle waste materials at an approved facility.				July 1, 2014	
	2	If stored outdoors, cover sprayers, patch and paving equipment, if they contain pollutants, to prevent rainfall from transporting pollutants to the storm drain system.				July 1, 2014	
	3	Flush paint sprayer supply lines at the corporation yard. Use approved collection methods and dispose or recycle waste materials at an approved hazardous waste facility				July 1, 2015	

ISWMP 2022 Performance Standards

Storm Drain Facilities

(See Chapter VIII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
ROUTINE INSPECTION AND CLEANING6	1	When cleaning storm drain inlets and lines, remove the maximum amount of material at the nearest access point to minimize the potential for discharges to watercourses.				July 1, 2014	
	2	Inspect and clean as necessary, storm drain facilities (catch basins, UICs, inlets, culverts, and v-ditches) at least biennially. The inspections and needed cleaning will preferably occur prior to winter.				July 1, 2017	
RECORD KEEPING	1	Report the amount of material removed when cleaning storm drainage facilities in monthly record keeping forms.				July 1, 2014	
	2	Document and track areas where spills were reported and coordinate with the City's illicit discharge control staff.				July 1, 2016	
	3	As needed, identify and target areas for: 1) more frequent cleaning throughout the year or just prior to the rainy season; and 2) distribution of public education materials to discourage illegal dumping, etc.				July 1, 2018	
SPILL RESPONSE (MULTIPLE AGENCIES INVOLVED)	1	If non-hazardous materials are spilled, maintenance staff will contain the spill area immediately and clean when practical to prevent additional release and discharge of pollutants into the storm drain system.				July 1, 2014	
	2	Maintenance staff will establish a response/removal procedure for non-hazardous materials after work hours (e.g., per spill plan).				July 1, 2014	
	3	Maintenance staff will coordinate to determine the most appropriate follow-up response (e.g., tracking the source of a spill, identifying product labels, contacting Building and Planning Departments, contacting Stormwater Program Analyst with records and for educational follow-up, sending a clean-up bill to the responsible party, etc.).				July 1, 2014	
	4	Work with local Fire and Police Departments to obtain summaries or copies of spill reports to the Stormwater Manager or his/her designee.				July 1, 2016	For any spills with the potential to impact Utilities, our Utility Risk Management and Safety Program Manager Ken Vaughan gets advised. As our assigned point person it Utilities, Ken is working with Police and Fire to finalize the udpate to the Emergency Operations plan. Of note, our Fire (Doug Koellermeier) and Police (Steve Esselstyne) contacts have both retired and Bill Boos (Fire) and Paul Kansky (Police) have taken over the roles as utility liaisons.
	5	Maintenance staff will be aware and up to date on the City's around-the-clock immediate response/removal procedure for hazardous or unknown materials.				July 1, 2017	
DISPOSAL OF MATERIAL	1	Store material removed from storm drainage facilities on a concrete pad or other type of impermeable material away from storm drainage facilities. Drain wastewater to the sanitary sewer or allow to evaporate to prevent discharges to the storm drain system. Dispose of the material at an appropriate facility. Contact collections utility's staff prior to any new type of discharge in sanitary sewer.				July 1, 2017	

ISWMP 2022 Performance Standards

Winter Road Care (See Chapter VII.)

Subsection		Performance Standard	Implementation Status			Implementation Date	Comments
			Scheduled	Partial	Full		
WINTER ROAD CARE TO MINIMIZE POLLUTANT CONTRIBUTION	1	City will consider full long-term social costs and environmental/public safety risks when determining winter road care strategies.				July 1, 2014	Training occurring (See also Task V.7)
	2	The City will use alternative materials, such as basalt application, as much as possible and appropriate to minimize the use of chemical deicier (e.g., Mag Chloride), especially in sensitive areas.				July 1, 2015	
	3	Chemical deicers will be properly stored and handled per the chemical storage performance standards.				July 1, 2015	
	4	Any solid deicers used shall be properly covered to prevent contact with stormwater, and be stored outside of the 100 year floodplain.				July 1, 2017	Both corp yards are outside the 100 year floodplain. Streets corp yard contains several new large huts for material protection.
SPILL RESPONSE	1	Report spills observed on streets immediately for quick response by appropriate personnel.				July 1, 2014	
	2	Respond to spills in accordance with appropriate response procedures.				July 1, 2014	
RECORD KEEPING	1	Track amount of product used per month (chemical deicer and basalt sanding).				July 1, 2015	
EDUCATION/TRAINING	1	Train at least biennially, municipal staff and contractors, as appropriate, responsible for winter road care and chemical deicer (e.g., MgCl2) application to minimize overuse, to vary amounts to reflect site-specific characteristics, such as road width and design, traffic concentration, and proximity to surface waters and sensitive areas; to identify and report illicit discharges, and to comply with the other winter road care performance standards.				July 1, 2014	See FY2012-13 Annual Report Appendix G. See also Task V.7.

Appendix C

Public Involvement and Participation

City of Bend
Stormwater Quality Public Advisory Group
Meeting Attendance Sheet
October 27, 2015

	Name:	Organization:	Contact Changes:
1.	Wendy Edde	City of Bend	
2.	Tom Headley	Century West	
3.	Todd Cleveland	Deschutes County CDD	
4.	David Burn	City of Bend	
5.	Steve Prazak	City of Bend	
6.	Joanne Richter	Upper Deschutes Watershed Council	
7.	Chris Hart-Henderson	Heart Springs Landscape Design	
8.	Mark Ellington	Bend Park & Rec	
9.	Kristin Ratliff	DEQ	
10.	Ron Reuter	OSU-Cascades	
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City of Bend
Stormwater Quality Public Advisory Group
Tuesday, October 27, 2015

Attending: Joanne Richter (UDWC), Mark Ellington (Bend Park & Rec.), Ron Reuter (OSU Cascades), Tom Hedley (Century West) Todd Cleveland (Deschutes County (BPRD); Chris Hart-Henderson (Heart Springs Landscape Design); David Buchanan (City of Bend), Wendy Edde (City of Bend), Steve Prazak (City of Bend)

Key Items Discussed:

- **Storm Drain Art Project.** Wendy provided an overview of the storm drain art project, the project received a lot of media coverage and was used to promote Stream Stewardship Day. The PAG felt that the art project was well received and brought a lot of attention to stormwater issues. Wendy discussed lesson learned, including the need for more volunteers for traffic control and spotters.

- **Clean Water Works Program Update**
  - **TV/Radio Spots.** Several of the PAG members saw and/or heard the commercials. The radio commercial with field crew message was a favorite.
  - **Bend Film Contest Winner.** Wendy showed the City Edition video that covered the student produced stormwater commercial.
  - **Discount Card Program.** Wendy provided an overview of the discount program. The program took allot of staff time to implement but was very successful. The discount program is wrapping up and is scheduled to end in January.
  - **School Outreach Program/Environmental Center.** The City is continuing to work with the Environmental Center on this program in FY15-16.
  - **Fire Free.** The City coordinated with Deschutes County to help advertise the fire free program.
  - **CCW Post Survey.** Wendy is working with a consultant to finalize the questions to evaluate the effectiveness of the program. The PAG recommended continuing the CWW program and felt it would take a couple years to get the message out to the public.

- **Regulatory Updates.**
  - **New Inspector Position.** The City is looking to hire a new Inspector that will focus on construction site inspection for erosion controls. This position will work closely with the Building and the Engineering Department staff.
  - **NPDES Permit Negations.** Wendy is reviewing a conceptual draft NPDES permit as part of the state MS4 Advisory Committee. Comments are due November 4, 2015. A public draft is estimated will be available for review in 2016.
  - **UIC General Permit.** DEQ is working on drafting a general UIC permit. This permit will be helpful for small businesses with UICs located in a wellhead time of travel area.
  - **1200C Update.** Krista Ratliff (DEQ) provided an update on the 1200C reissuance process. Delays in the review process may cause a gap in permit coverage. This may prevent DEQ from issuing new 1200C permits for a couple weeks. The new permit includes sections that reduces inspections during frozen conditions and some changes to buffer areas.

- **Annual Report Comments.** Chris provided a list of corrections; staff will update the annual report.

- **Webinar/ Trainings.**
  - **Upcoming Webinars.** Wendy handed out two flyers for the upcoming webinar training that the City is hosting.
  - **Onsite Erosion Control Class**. PAG discussed the need to make the connection between the amount of impervious surface and the total volume of runoff. They thought it would be helpful to have a video showing how impervious surface is changing thought the City (Smaller lots and Bigger Homes).

- **Roundtable.**
  - Chris was looking for local suppliers that stock erosion control materials.
  - Ron thought that OSU digital media program may make for a good partnership. He also thought OSU could help on some mapping projects.

Key Decisions Made / Key Action Items

- PAG to provide any additional annual report comments to Wendy by 10/29.

Stormwater Quality

Public Advisory Group Meeting

Thursday, April 7, 2016
1:00 PM – 2:30 PM
City Utility Annex—Eisenhower Conference Room
62975 Boyd Acres

Proposed Agenda

I. **Welcoming Remarks and Introductions**, All, 10 minutes
Objectives: Introductions, review agenda; provide comments on October meeting summary.

II. **General Updates,** All, 10 min.
Objectives: Receive updates on action items and activities of the Stormwater Program since our last meeting including regulatory issues such as NPDES permit reissuance, UIC General Permit, DEQ 1200-C permit; infrastructure improvement projects; monitoring, etc.

III. **Review: Certified Erosion and Sediment Control Lead Training,** All, 10 minutes
Objectives: Receive overview of and review recent CESCL course evaluation results; discuss additional ESC needs.

IV. **Clean Water Works Partnership Program: First Year Evaluation Results Review and Year Two Planning,** Wendy, All, 20 minutes
Objectives: Receive evaluation results of 2015 education and incentive campaign; provide input on modifications for 2016.

V. **Illicit Discharge Elimination Outreach--Review**, All, 20 minutes
Objectives: Review/provide comment on draft outreach pieces related to pressure-washing and landscape maintenance, potential target audiences for CWW Partner expansion.

VI. **Roundtable Discussion,** All, 5-10 minutes
Objectives: Open discussion, sharing of ideas.

City of Bend
Stormwater Quality Public Advisory Group
Meeting Attendance Sheet
April 7, 2016

	Name:	Organization:	Contact Changes:
1.	Wendy Edde	City of Bend	4/7/16
2.	Todd Cleveland	Deschutes County - CDD	
3.	David Buchanan	City of Bend	4/7/16
4.	Galen Nordgang	DEA	4/7/16
5.	MARK ELLINGSON	BPRD	4-7-2016
6.	Joanne Richter	UDWC	4/7/16
7.	TOM HEADLEY	CENTURY WEST	" "
8.	Kelly Walker	Intrepid Marketing	04.07.16
9.	Chris Henderson	Heart Springs Landscape	4-7-16
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Stormwater Quality

Public Advisory Group Meeting Summary

Thursday, April 7, 2016 1:00 PM – 2:30 PM

Attending

Todd Cleveland (Deschutes County); Galen Norgang (DEA), Mark Ellington (BPRD), Tom Headley (Century-West), Kelly Walker (Intrepid-Think Forward), Chris Hart Henderson (Heart Spring Design), Joanne Richter (UDWC); Wendy Edde, David Buchanan (City of Bend)

Key Items Discussed

- Updates:
  - Chris Hart-Henderson gave a presentation to ACWA, on the landscape designer
  - The City of Bend submitted the annual report on time.
  - Wendy gave a status update on the NPDES update process. DEQ has assigned a new permit writer, Mark Riedel, to work on the NPDES permit.
  - The Home Depot UIC permit is out for review, and several more in the Bend area are due to be released in the next 6 months.
  - The number of individual permits to be issued has risen, due to the response-to-comments change that permits will to be issued my geologic unit and not statewide. As a result, DEQ is making some changes to the newly released permit including removing some monitoring requirements.
  - DEQ now has a UIC general permit—this is helpful to those UIC owners in wellhead time of travel areas who have small numbers of wells and were not able to get rule authorization due to their location.
  - DEQ also updated their 1200C permit for construction activities. Wendy displayed a map showing the areas within Bend that would be covered by the permit.
  - An overview of the Awbrey Butte Hillside Study being led by Garrett Sabourin (Engineering Infrastructure Planning Department) was provided.
  - A brief overview on the City's UIC monitoring program was provided.
- Certified Erosion and Sediment Control Lead Training
  - The training was held in March 2016 and included a field component. The two day training was full with 25 attendees, 7 of which completed evaluation forms. Evaluations were good. Local information was provided by Krista Ratliff (DEQ), Kyle Thomas, City of Bend, CDD, Construction & ROW Manager; and Wendy Edde). The certification is good in both Washington and Oregon.
  - Question for the group, how do we reach the building/ contractor community? Public Advisory Group members indicated that there is now a new head of COBA, Andy High has left the organization. COBA is not doing a lot of training at this time. Todd indicated that the County uses a newsletter / flyers. Text messages and emails were also suggested.

- Wendy provided an erosion control inspection personnel update. The City is working on inspection and enforcement process

- Clean Water Works Partnership Program –Year One Results and Year Two Planning
  - Wendy provided the Riley Survey Results for review and a PPT presentation overview. PAG members felt the program was successful as a pilot and should be continued. They saw evidence of the program in action. For instance, Stack House Coffee had the Clean Water Works Partner sticker on the door.
  - Year 2 Clean Water Works Film Contest. Wendy provide a copy of the contest flyer. BendFilm is helping to get the word out through their connections with Future Filmmakers, and will be conducting a How To workshop just prior to the Stream Stewardship Day event on August 6 from 9AM-10 AM. The Environmental Center is also helping to get the word out through their water related education efforts funded by the City.
  - The storm drain pilot painting contest received a lot of media coverage, helping drive people to awareness about Stream Stewardship Day in 2015. The paint has not helped up well with the harsh winters and the Communication Department is determining that they may need to have it removed soon.
- Illicit Discharge Elimination Outreach—draft materials review
  - Wendy is working with ACWA to create standard outreach/ tool box with a number of materials seeking to minimize illicit discharges. A statewide survey of stormwater programs was conducted to focus on those areas of highest concern. Attendees reviewed and provided comments on draft outreach for two of these areas—pressure washing and landscape services.

Key Decisions Made

- City should continue to improve construction site erosion and sediment control program—the certification training with field component was useful.
- City will continue with Clean Water Works Partnerships Program—consider the timing to be longer, such as over a year. Discount card is useful as part of program. Film contest should be continued—work to continue to incorporate BendFilm.
- The suggestions were made to improve the draft public outreach IDDE materials will be drafted and reviewed by statewide group to provide consistent high-quality guidance.
- PAG members offered to help support recognition of the partnership program.
- Because media attention will lesson over time, and the lack of longevity, the PAG supported the idea that the storm drain painting efforts not be continued at this time.

Key Action Items

- Wendy will share DEQ's 1200c information.
- PAG members will send ideas for other groups the City should consider contacting regarding the Clean Water Works Partnership Program.
- Wendy will update the illicit discharge outreach and will have the PAG review a future version.

Stormwater Quality

Public Advisory Group Meeting

Monday, June 13, 2016
10:00 AM – 11:30 AM
City Utility Annex—Eisenhower Conference Room
62975 Boyd Acres

Proposed Agenda

I. **Welcoming Remarks and Introductions**, All, 5 minutes
Objectives: Introductions, review agenda; provide comments on April meeting summary.

II. **General Updates,** All, 10 min.
Objectives: Receive updates Stormwater Program activities since our last meeting including regulatory issues (e.g. NPDES permit reissuance; UIC permits), infrastructure improvement projects; monitoring, UIC retrofit project update, recent trainings, etc.

III. **Review: ACWA IDDE Toolkit Graphic Mockup Draft** All, 10-15 minutes
Objectives: Review internal draft mockup of toolkit outreach materials designed to assist with awareness and minimization of illicit discharges with consistent, efficient messaging including potential target audiences for CWW Partner expansion.

IV. **Clean Water Works Partnership Program: Year Two Timeline,** Wendy, All, 15-20 minutes
Objectives: Review proposed timeline for year 2 activities; provide comments on draft note-pads; expanding storm drain marking; and proposed lending library

V. **Pollutant Focus: Sediment**, All, 20-25 minutes
Objectives: Discuss efforts to continue to reduce sediment in runoff across areas, including: increasing street sweeping efficiency, reviewing draft erosion and sediment control inspection sheet to assist on-site contractors.

VI. **Post Construction Facilities**, All, 20-25 minutes
Objectives: Discuss maintenance guidance needs, such as methods to identify/mark desirable plants in landscape facilities; improving inspection forms, field guide.

VII. **Summer Activities,** Wendy and All, 10 minutes
Objectives: Receive updates with regards to Clean Water Works film contest, UDWC's Deschutes River Cleanup (Stream Stewardship Day); opportunity to review draft Waterwise Landscaping Guide, Munch n Movies.

VIII. **Roundtable Discussion,** All, 5-10 minutes
Objectives: Open discussion, sharing of ideas.

THANK YOU FOR ATTENDING!

Stormwater Quality Public Advisory Group

***Date:** June 13, 2016 **Time:** 10-11:30 AM*

UTILITY DEPARTMENT

PLEASE SIGN IN

	Name	Affiliation	E-mail / Changes / Comments
1	Wendy Edde	City of Bend	—
2	Tom HEADLEY	CENTURY WEST	—
3	Todd Cleveland	Deschutes County	—
4	Krista Katiff	DEQ	
5	Joanne Rychter	Upper Deschutes Watershed Council	—
6	Chris Hart-Henderson	Heart Springs Landscape	—
7	Kelly Walker	Resonant Agency	
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Stormwater Quality

Public Advisory Group Meeting

Monday, June 13, 2016
10:00 AM – 11:30 AM

Attending

Todd Cleveland (Deschutes County); Tom Headley (Century-West), Kelly Walker (Resonant Agency), Chris Hart Henderson (Heart Spring Design), Joanne Richter (UDWC); Krista Ratliff (DEQ), Wendy Edde (City of Bend)

Key Items Discussed

- **General Updates:** DEQ is scheduled to release the statewide NPDES MS4 Phase II permit for a 35 day public review on July 1, 2016. Current infrastructure improvement projects for stormwater include the Awbrey Butte study, drill hole reconditioning, and the UIC retrofit project.

- **IDDE Toolkit Graphic Mockup Draft:** Wendy provided selections from the statewide ACWA internal draft outreach related to pressure washing, RV discharge, landscape outreach, and spill prevention and cleanup—pieces being considered for expanding the Clean Water Works Partnership program. Kelly indicated that the Latino Community Association is able to provide translation services for a fee—the contact there is Brad Porterfield.

- **Clean Water Works Partnership Program timeline and Lending Library.** City is looking to release new discount cards in the fall. City is purchasing a car wash kit, classroom monitoring kits, and two storm drain marker starter packs to increase its Clean Water Works lending library. Consider developing a shelf talker for car wash materials to be placed in auto parts stores.

- **Sediment Pollutant Reduction.** Wendy shared two initial draft erosion and sediment control inspection forms modified from examples on the web including EPA, as potential guidance for contractors to use for discussion. Most contractors to date are using their own forms, but the thought was it may be useful to have an example for those that do not have a form already. Feedback from PAG members included: both forms are multiple pages and would be time intensive to complete—may be useful for an initial review, but continue with goal of finding a one to two page form if possible; be real clear when need to complete otherwise it will not be used; items such as amount of recent rainfall are time and resource intensive—simplify to keep it clean and quick so it will be used, and clarify when it is applicable. Krista indicated she put the elements in the permit and let the contractors create their own forms from there; Krista will send her example form upon request. A lot are doing electronic forms. It would be helpful to have a form to start from. City is also working on City forms to improve record keeping.

- **Post Construction Controls.** Field guide may not be as useful as the maintenance checklists with photos as guidance. City is also continuing work on developing private control database, and is developing an inspection form for use on verifying long term O&M of vegetated facilities to be used initially on City-owned.

- **Summer Activities.** Summer activities that PAG members may consider and the City will participate in include promoting the Clean Water Works film contest, attending Quest at the Fest where we will have the UIC model on display, participating in the UDWC's Deschutes River Clean (Steam Stewardship Day) on August 6; reviewing the draft Waterwise Landscaping Guide, screening the film contest winner entry at Munch n Movies.

- **Roundtable Discussion.** The UDWC's recent gathering of area students involved in the UDWC's education programs, held recently at Eagle Crest, was again successful. Students provided speeches and prepared artwork at the celebration of learning.

- Some members were able to provide input on the draft notepad layout and text ideas to be used with pens as an upcoming give-away. Concept 3 was preferred by the two who were able to review it. A suggestion was made to consider using a Deschutes rapids watermark in the background.

Key Decisions Made/Key Action Items

- The outreach fact sheet targeting landscapers should be translated into Spanish as well.
- Public Advisory Group members will provide comments on the draft outreach pieces by Tuesday June 28, 2016 at noon.
- Attendees agreed with the logic behind kicking off year 2 of the Partnership program and discount card at the Film Contest in October, with the cards good through 2017. General Clean Water Works outreach will continue throughout the summer and fall including at Quest at the Fest, Stream Stewardship Day, and Munch n Movies. City will again target contractors, car washes, and others for the partner program, together will pressure washers, and landscape contractors as materials become ready. City will also consider ways to promote Stream Stewardship Day with regards to the volunteer aspect of the Clean Water Works partnership perhaps with a press release.
- Wendy will prepare a press release addressing residential car washing.
- Krista will provide a copy of the two page Washington DOE inspection form that she uses.
- Edit to 1-2 pages the construction inspection form guidance.
- Add photos to maintenance inspection sheets in COSM to provide visual assistance.
- PAG members to provide review of City's draft Waterwise Landscaping Guide offline when provided in the next couple of weeks.
- Next meeting after summer due to vacation scheduling conflicts.
- Wendy to move forward with development of the notepad to be ready for Quest at the Fest.

City of Bend
Stormwater Quality Public Advisory Group
FY 2015-16 Action Item Tracking (Last Updated: 10/24/16)

Date Action Initiated	Action Item	Key Personnel	Status Update
June 13, 2016	The outreach fact sheet targeting landscapers should be translated into Spanish as well.	Wendy Edde	**In Process.**
June 13, 2016	Public Advisory Group members will provide comments on the draft IDDE outreach pieces by Tuesday June 28, 2016 at noon.	PAG Members	**Completed.** Comments incorporated and review of text/graphic mockup by statewide committees conducted. Incorporating comments and prepping for graphic.
June 13, 2016	Attendees agreed with the logic behind kicking off year 2 of the Partnership program and discount card at the Film Contest in October, with the cards good through 2017. General Clean Water Works outreach will continue throughout the summer and fall including at Quest at the Fest, Stream Stewardship Day, and Munch n Movies. City will again target contractors, car washes, and others for the partner program, together will pressure washers, and landscape contractors as materials become ready. City will also consider ways to promote Stream Stewardship Day with regards to the volunteer	Wendy	**In Process/Partially Completed.** General Outreach continued/completed. No Film Contest entries together with staff shortages due to an extended leave made staff re-evaluate CWW Partnership 2017 start date. Staff included outreach on Deschutes River Clean-up Day in social media (Facebook/Twitter)

Date Action Initiated	Action Item	Key Personnel	Status Update
	aspect of the Clean Water Works partnership perhaps with a press release.		
June 13, 2016	Wendy will prepare a press release addressing residential car washing.	Wendy Edde	**Not Yet Started.**
June 13, 2016	Krista will provide a copy of the two page Washington DOE inspection form that she uses.	Krista Ratliff	**Underway.**
June 13, 2016	Edit to 1-2 pages the construction inspection form guidance.	Wendy, New Hire	**In Process**
June 13, 2016	Add photos to maintenance inspection sheets in COSM to provide visual assistance.	Wendy	**In Process.** Collecting photos.
June 13, 2016	PAG members to provide review of City's draft Waterwise Landscaping Guide offline when provided in the next couple of weeks.	PAG members	**Completed.** City conservation staff expressed great appreciation for the efforts of PAG members, have incorporated comments and is working through reviews.
June 13, 2016	Next meeting after summer due to vacation scheduling conflicts.	Wendy	**In Process.** Scheduled for October 26, 2016.
June 13, 2016	Wendy to move forward with development of the notepad to be ready for Quest at the Fest.	Wendy	**Completed.** Notepads completed, printed, and released in time for Quest at the Fest, together with pens.
April 7, 2016	Wendy will share DEQ's 1200c information	Wendy	**Completed.** With June meeting materials. See link: http://www.deq.state.or.us/wq/stormwater/construction.htm.

Date Action Initiated	Action Item	Key Personnel	Status Update
April 7, 2016	PAG members will send ideas for other groups the City should consider contacting regarding the Clean Water Works Partnership Program.	PAG	**Ongoing.**
April 7, 2016	Wendy will update the illicit discharge outreach and will have the PAG review a future version.	Wendy, ACWA IDDE Work group	**Completed.** PAG reviewed in June.
October 9, 2015	PAG to provide any additional annual report comments to Wendy by 10/29.	PAG	**Completed.** Comments received were addressed. Annual report was submitted on time.

UPPER DESCHUTES WATERSHED COUNCIL

PROTECTING AND RESTORING THE UPPER DESCHUTES RIVER WATERSHED

Join Us

Join Us

There are many ways that you can connect with the Watershed Council and the work that we are doing!

Sign up for our electronic newsletter! Get periodic updates about our work and opportunities to get involved and learn more about the Upper Deschutes River watershed.

Come to Upstream! Every May, we host our annual Upstream fundraiser for our education programs. You can find out more about the event here, and sign up for our mailing list to get an update when tickets go on sale for Upstream.

Help clean up the river for the annual Stream Stewardship Day! Stream Stewardship Day is a chance to volunteer and make a difference in our community. The Upper Deschutes Watershed Council partners with the City of Bend, REI, Bend Parks and Recreation District, Tumalo Creek Kayak and Canoe, Bend Paddle Trail Alliance, and Central Oregon Divers for a day of learning and taking action to clean up the Deschutes River as it runs through the Old Mill District. This year's event will take place on Saturday, August 8th, 2015 at Riverbend Park!

Volunteer for our monitoring program with Stream Sampling Day on Whychus Creek! In areas where extensive restoration work is taking place to improve habitat for returning steelhead and salmon, UDWC is using macroinvertebrates to measure how stream conditions are changing as restoration progresses. Volunteers will learn sampling methods and spend the day collecting macroinvertebrate samples in teams along the creek. These samples will give UDWC and our partners essential information about the quality of stream conditions for aquatic life.



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City of Bend, Oregon

City Edition, the City of Bend's video news magazine.

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City Edition - Stream Stewardship Day

Filed under: City Edition — cityofbendoregon @ 6:12 pm

The City of Bend was a major sponsor of the Upper Deschutes Watershed Council's Stream Stewardship Day, when volunteers did their part to clean up the Deschutes River.

Watch Now:



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This entry was posted on Tuesday, September 15th, 2015 at 6:12 pm and is filed under City Edition. You can follow any responses to this entry through the RSS 2.0 feed. Both comments and pings are currently closed.

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City of Bend, Oregon

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CALL FOR ENTRIES

CLEAN WATER WORKS

We work for clean water!

PRODUCTION	Clean Water Works - TV Commercial
DIRECTOR	Student Filmmakers Grades 5-12
LOCATION	Bend, Oregon
DATE	

Entries due: Aug. 22, 2016

FREE WORKSHOP

BENDFILM: a celebration of independent cinema

"How to Make a Sweet Film on Your Mobile Device!"

Sat., August 6th

9-10am

Right before UDWC's Stream Stewardship Day

Riverbend Park

SCENE SHORT

Contest—Create a 30-Sec. Commercial

$150 Grand Prize

Chance to work with television industry professionals in studio

Chance to help out our planet

No fee to enter

Open to amateur filmmakers only from 5-12th grade

Check out last year's winner: https://youtu.be/rlOa3GCB4fQ

FOCUS

We're looking for a 30 sec spot that makes people consider the effects of pollution in our storm drains and waters.

Pollutants in Our Waters:

Where Do They Come From?

Where Do They Go?

What Can We Do?

Why Should We Care?

AWARDS

Grand prize:

- **$150**
- **Professional reproduction of film for local TV on-air flight**
- **Film screened at: BendFilm Future Filmmaker event**

Division Winners:

→ 5th-8th Grade: $100
→ 9th-12th Grade Prize: $100
→People's Choice Award: $100

All Winners:

-Entrance into Future Filmmaker award ceremony
-Film/Commercial featured on social media.

HOW TO ENTER / MORE INFO

Visit www.bendoregon.gov/cleanwaterworks,

Click the "Kid's" button

WANT B-ROLL?

Save the date: Stream Stewardship Day (10AM -1PM at Riverbend Park, Saturday August 6) and join BendFilm for the free workshop, open to all ages, just beforehand!

PC-M1

BEND UTILITY DEPARTMENT

BENDFILM: a celebration of independent cinema

zolo

Kodak

Accommodation Information for People with Disabilities
To obtain this information in an alternate format such as Braille, large print, electronic formats and audio cassette tape, please contact Karin Morris at (541)693-2141, or email Kmorris@bendoregon.gov.

July 2, 2015

RE: Clean Water Works Partnership Opportunity

Dear Carpet Cleaning Company Owner:

The City of Bend Stormwater Utility would like to partner with you to help keep our waters clean. If you appreciate clean water *and* business enhancement, please consider this voluntary opportunity. The City of Bend is undertaking an exciting new incentive-based watershed campaign entitled Clean Water Works. Please see our website at: bendoregon.gov/cleanwaterworks. Here you can see that we have both educational and partnership aspects to the campaign.

UTILITY DEPARTMENT

62975 BOYD ACRES RD
PO BOX 118
BEND, OR 97701
[541] 317-3000 TEL
[541] 317-3046 FAX
WWW.BENDOREGON.GOV

JIM CLINTON
Mayor

SALLY RUSSELL
Mayor Pro Tem

VICTOR CHUDOWSKY
City Councilor

DOUG KNIGHT
City Councilor

NATHAN BODDIE
City Councilor

CASEY ROATS
City Councilor

BARB CAMPBELL
City Councilor

ERIC KING
City Manager

PAUL RHEAULT
Utility Department Director

We are seeking to support businesses that are working to keep our waters clean. We have selected Food Service/Restaurant facilities within the City of Bend as potential Clean Water Works Partners. Should you choose to participate, the City would like to reward you by providing the following promotional materials:

➢**Promotion** on our "Discounts and Partners" page on our website (bendoregon.gov/cleanwaterworkspartners) and by other electronic media means (e.g., mention on Facebook, Twitter, or radio advertisements). We will actively encourage people to visit this page beginning in August through October, 2015 and likely beyond. The campaign will include: TV, radio, print, events and social media.

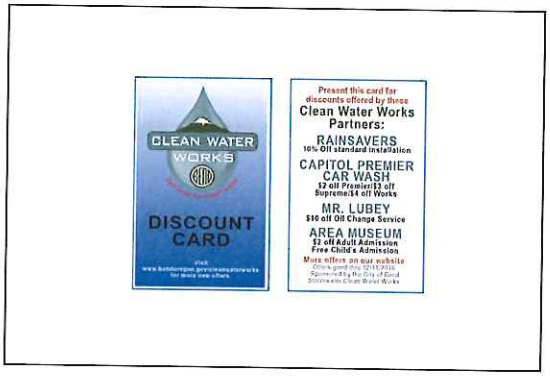
➢**Decal**—The City will provide you a Clean Water Works window decal (see image at right) to help advertise your business as one that cares about Clean Water!

CLEAN WATER WORKS
We work for clean water
PARTNER
bendoregon.gov/cleanwaterworks

➢**Discount Card**—The City will list your business and the discount of your choosing (e.g., $1 off or "buy one get one free") on our website "Discount and Partner" page, and if you respond by July 20, 2015 we will on a first come/first served basis list your business and discount on the back of our discount cards that we will print and distribute at outreach events during the fall 2015 campaign and mention your business in a Clean Water Works partner radio advertisement. The discount card will also be available on line for your customers to print. (See back for an example discount card layout.)

➢**Water Bottle**—The City will provide you at least two stainless steel Clean Water Works Partner logo-ed water bottles for your use and enjoyment.

- **Display Holder Promotion** for your customer waiting area with a Clean Water Works Partner outreach sheet promoting your participation as a company that cares about clean water to your customers.



The partnership works like this—if you meet the following basic steps for your business category, just fill out the attached certification form and you can take part. The criteria for your business category is as follows:

- ✓ You have registered for a Bend Business license (and if you are receiving this letter, then you already have!),
- ☐ You agree to follow best management practices for keeping carpet-cleaning related pollutants out of the storm drain, proper disposal, and preventing spills (see the attached brochure);
- ☐ You agree to share the best management practices information in the attached brochure with your staff;
- ☐ You agree to honor the discount that you specify through at least December 31, 2015.

Just review the fact sheet, complete the short partnership form and email it to me at wedde@bendoregon.gov or fax it to 541-317-3046. You may also mail it to my attention at: 62975 Boyd Acres Road, Bend, OR 97701. Please contact me directly at 541-317-3018 should you have any questions. And remember, if you contact me by July 20th, we will do our best to include your business name on the back of the Discount card, and a mention of your business on our fall radio commercial on a first come first served basis.

Remember, this is a voluntary program and a means to appreciate your interest and efforts in keeping our river and drinking waters clean. Should you have any questions or if you wish additional brochures or brochures in an electronic format to distribute them to your staff, please do not hesitate to contact me at the phone number or email above.

We look forward to working with you.

Sincerely,

Wendy S. Edde

Wendy Edde, CSM
Stormwater Program Manager
City of Bend Utility Department

Att: Carpet Cleaner Brochure, Clean Water Works Partnership formp

Clean Water Works
Partnership Participation

Yes! I would like my business to be recognized as a Clean Water Works Partner! I certify that I/my business will meet the overall criteria of the Clean Water Works Partnership program to participate.

Name (Please Print)	Signature
Business Name	Business Category
Discount I Will Offer and Honor	Discount End Date (if any)

So that we may contact you to coordinate on the promotional materials, please provide the following information:

Email Address	Phone	Business Website

Please scan and email to Wendy Edde, Stormwater Program Manager, City of Bend at wedde@bendoregon.gov, fax 541-317-3046, or mail to 62975 Boyd Acres Road, Bend, OR 97701. Any questions, please contact Wendy at 541-317-3018.

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UTILITY DEPARTMENT

Discharging Carpet Waste Water To A Storm Drain Is Illegal

Carpet cleaning is widely practiced in homes and commercial premises to prolong the life of carpets and to ensure that living and working areas are clean and sanitary.

Carpet cleaning activities generate wastewater. It is the responsibility of the carpet cleaning service to properly manage and dispose of this by-product.

Wastewater is attributed to the location where it is generated. If the wastewater is not being collected and hauled offsite for proper disposal, the carpet cleaner must arrange with the customer to dispose of the wastewater at the cleaning location.



Untreated wastewater may kill plants. Do not use carpet wastewater for landscape irrigation or otherwise dump on the ground.

The wastewater disposal requirements discussed in this brochure also apply to cleaning products that are labeled "non-toxic" and/or "biodegradable."

Smart Carpet Cleaning Tips

Check with your clients: When booking the job, check if this location is on sewer or septic system. If on a septic system, store the wastewater in a collection tank and transport to an authorized sewage discharge point to avoid damage to the septic system.

Assess the site: Before starting the job locate stormwater drains and ensure that they are protected from any runoff or spills.

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

Follow instructions: Always use the recommended type and quantity of chemicals according to the manufacturer's instructions.

Filter all wastewater: Before discharging into the sewer system. Filter to prevent clogging.

Dispose of wastewater properly: (See Proper Disposal Methods for more details).

BEND UTILITY DEPARTMENT

City of Bend
62975 Boyd Acres Rd.
Bend, Oregon 97701
(541) 317-3000
www.bendoregon.gov
www.bendoregon.gov/cleanwaterworks

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CARPET & UPHOLSTERY CLEANING WASTE DISPOSAL

BEST MANAGEMENT PRACTICES (BMPs)



CLEAN WATER WORKS
We work for clean water

Carpet & Upholstery Cleaning Best Management Practices

Why Is The Disposal Of Carpet and Upholstery Cleaning Regulated?

Carpet and upholstery cleaning wastewater may contain chemicals from the cleaning formula, as well as waste products such as grease and organic matter from the carpet or upholstery. Aggressive enzymes and disinfectants can cause harm to humans and the environment.

Some carpet-cleaning agents are directly toxic to plants or animal life. These cleaning chemicals can act as nutrients in water and can promote excessive algae growth. Other residues from carpet cleaning may add to nutrient loadings and may themselves be toxic under certain circumstances.

Carpet cleaning wastewater that gets dumped onto streets or into storm drains can leach into the ground towards our drinking water supplies or directly to the Deschutes River. For these reasons such activity is a violation of City Code.

Best Management Practices:

- Train operators and employees on pollution prevention and wastewater discharge requirements.
- Make sure your equipment is well serviced and that all filters are operating properly. Maintain the tanks, hoses, and fittings to prevent leaks.
- Where possible, invest in cleaning equipment and cleaning practices that minimize water use and proper disposal method.

Proper Disposal Methods

Wastewater Disposal Prohibitions

It is prohibited to discharge wastewater and residues from carpet cleaning onto any paved surfaces, into the gutter or storm drain or directly onto the ground because it can contaminate our rivers and underground drinking water.

Filtering of Wastewater

Residents and professional carpet cleaners should be sure to filter the washwater from carpet cleaning before discharging it to the sanitary sewer since fibers and other debris in the wastewater can clog pipes.

Acceptable Waste Disposal Methods

Discharged filtered wastewater from the cleaning operations to a sink, toilet, or other drain connected to the sanitary sewer system within the client's residence/business or at an appropriate disposal facility (e.g. R.V. dump station or recycling carwash recycling with owner approval). Alternatively, use a closed loop water recycle system can be used.

The filtered material can be disposed of in the garbage, provided that the carpet was not contaminated with hazardous materials, which cannot be discharged to the sanitary sewer. For additional information contact the City's Industrial Pretreatment Program at (541) 322-6348 prior to disposal.

Septic Systems

Do not dump carpet cleaning waste into septic systems. Store wastewater in a collection tank and transport to an authorized sewage discharge point.

Code Requirements

City Code 16.20.010 General Requirements and Prohibitions - A. An illicit discharge is anything not entirely composed of stormwater that is allowed to enter a storm drainage system that discharges to surface water or groundwater. Dumping materials into or that may reach a storm drain facility, including but not limited to a storm drain inlet, a dry well or drill hole, or connecting a wastewater pipe into the storm drainage system, are prohibited under various state and local laws and result in illicit discharge.... Any illicit discharge to any storm drain, dry well or drill hole, including the municipal separate storm sewer system, underground injection controls and private storm drainage systems, is a violation of this title unless exempted by section 16.20.030.

City Code 16.20.040 Discharge Pursuant to Bend's Stormwater Quality Permits or Regulations - B. Violation of stormwater quality permits or regulations. Any discharge that would cause a violation of Bend's NPDES permit, TMDL, or WPCF-UIC permit and any amendments, revisions or re-issuance thereof, either separately considered or when combined with other discharges, is prohibited. Liability for any such discharge shall be the responsibility of the person(s) causing or responsible for the discharge.

Oregon DEQ BMPs for Washing Activity (March 1998). 6.2 mobile washing service such as carpet cleaners must collect and discharge all waste water to a sanitary sewer or collect and treat waste water in a closed loop recycle system. Disposal to sanitary sewer must be in accordance with the requirements of the local sewer authority.

Appendix D

Illicit Discharge Controls

July 2, 2015

RE: Clean Water Works Partnership Opportunity

Dear Food Service Facility Owner:

The City of Bend Stormwater Utility would like to partner with you to help keep our waters clean. If you appreciate clean water *and* business enhancement, please consider this voluntary opportunity. The City of Bend is undertaking an exciting new incentive-based watershed campaign entitled Clean Water Works. Please see our website at: bendoregon.gov/cleanwaterworks. Here you can see that we have both educational and partnership aspects to the campaign.

We are seeking to support businesses that are working to keep our waters clean. We have selected Food Service/Restaurant facilities within the City of Bend as potential Clean Water Works Partners. Should you choose to participate, the City would like to reward you by providing the following promotional materials:

➢**Promotion** on our "Discounts and Partners" page on our website (bendoregon.gov/cleanwaterworkspartners) and by other electronic media means (e.g., mention on Facebook, Twitter, or radio advertisements). We will actively encourage people to visit this page beginning in August through October, 2015 and likely beyond. The campaign will include: TV, radio, print, events and social media.

➢**Decal**—The City will provide you a Clean Water Works window decal (see image at right) to help advertise your business as one that cares about Clean Water!



➢**Discount Card**—The City will list your business and the discount of your choosing (e.g., $1 off or "buy one get one free") on our website "Discount and Partner" page, and if you respond by July 20, 2015 we will list your business and discount on the back of our discount cards that we will print and distribute at outreach events during the fall 2015 campaign and mention your business in a Clean Water Works partner radio advertisement on a first come/first served basis. The discount card will also be available on line for your customers to print. (See back for an example discount card layout.)

➢**Water Bottle**—The City will provide you at least two stainless steel Clean Water Works Partner logo-ed water bottles for your use and enjoyment.

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JIM CLINTON
Mayor

SALLY RUSSELL
Mayor Pro Tem

VICTOR CHUDOWSKY
City Councilor

DOUG KNIGHT
City Councilor

NATHAN BODDIE
City Councilor

CASEY ROATS
City Councilor

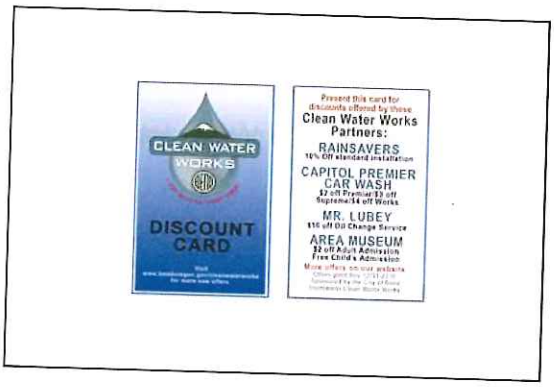
BARB CAMPBELL
City Councilor

ERIC KING
City Manager

PAUL RHEAULT
Utility Department Director

UTILITY DEPARTMENT

- **Display Holder Promotion** for your customer waiting area with a Clean Water Works Partner outreach sheet promoting your participation as a company that cares about clean water to your customers.



The partnership works like this—if you meet the following basic steps for your business category, just fill out the attached certification form and you can take part. The criteria for your business category is as follows:

- ✓ You have registered for a Bend Business license (and if you are receiving this letter, then you already have!),
- ✓ Your grease trap program is in good standing per the City's Industrial Pretreatment Program (and if you are receiving this letter, then you already have!),
- ☐ You agree to follow best management practices for keeping food-service-related pollutants out of the storm drain and preventing spills (e.g., washing mats and hoods so rinse water drains through your grease trap; properly disposing of grease and oil by way of a direct hauler service or in a secure, leak-proof container with secured lids designed to spill resistant);
- ☐ You agree to share the best management practices information in the attached fact sheet with your staff;
- ☐ You agree to honor the discount that you specify through at least December 31, 2015.

Just review the fact sheet, complete the short partnership form and email it to me at wedde@bendoregon.gov or fax it to 541-317-3046. You may also mail it to my attention at: 62975 Boyd Acres Road, Bend, OR 97701. Please contact me directly at 541-317-3018 should you have any questions. And remember, if you contact me by July 20th, we will do our best on a first come first served basis to include your business name on the back of the Discount card and a mention of your business on our fall radio commercial.

Remember, this is a voluntary program and a means to appreciate your interest and efforts in keeping our river and drinking waters clean. Should you have any questions or if you wish additional fact sheets or fact sheets in an electronic format to distribute them to your staff, please do not hesitate to contact me at the phone number or email above.

We look forward to working with you.

Sincerely,

Wendy S. Edde

Wendy Edde, CSM
Stormwater Program Manager
City of Bend Utility Department

Att: Food Service Fact Sheet, Clean Water Works Partnership form

CLEAN WATER TIPS FOR FOOD SERVICE

Pollutant of Concern: Grease and Oil, Debris

What's the Problem?



Did you know that anything that is dumped or spilled onto outside surfaces, or is hosed into the gutter eventually gets washed by rainwater into storm drains? Unlike sanitary sewers (sinks, toilets, etc.) that flow to the water reclamation plant for treatment, our storm drains in Bend flow directly to the Deschutes River or into the ground towards our drinking water supplies without treatment.

- When it comes to cleaning, do the right thing because it's all connected! Help keep the water you serve clean!
- Take this quick survey. Do you or your staff do any of the following?

Food Service Activity Consideration	Yes	No	N/A
Do you or your staff wash kitchen mats outside in the alley or on the sidewalk?	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Do you wash building exteriors or other outside areas using soaps without blocking the storm drains, vacuuming up the wash water and pumping it to the sanitary sewer?	☐	☐	☐
Do you wash waste and dirt particles from trash containers or enclosures into the alley or street gutter?	☐	☐	☐
Do you dump grease into trash bins, street gutters, or sewers?	☐	☐	☐
Do you litter?	☐	☐	☐
Do you look the other way when an activity is occurring that can pollute our waters or harm our stormwater or sanitary sewer facilities?	☐	☐	☐

These types of activities can cause pollutants to enter and clog or pollute the storm drain system and our waters. If you answered **Yes** to any of these questions, please see the back of this fact sheet for best management practices to help keep the water you serve clean!

POLLUTANT: MULTIPLE

What Can You Do At Your Food Service Establishment to Keep Our River and Drinking Waters Clean?

Please review and implement these best management practices.

- Wash mats indoors near the kitchen floor drain or in the mop sink. If you do not have a mop sink or floor drain, take the mats to a coin- operated car wash.
- Clean outside waste storage areas and parking areas by first sweeping up debris and trash. Then, if water or cleansers are needed, spot mop the area. Dispose of water into a mop sink or toilet.
- Discharge all wash waters to the sanitary sewer. If it contains grease or oil or fats, it must be sent through a grease trap. Contract with a mobile cleaning company who agrees to collect all wash water for proper disposal.
- Keep grease storage areas clean. Collect bulk grease in containers, use a grease trap, and contract a company to haul them away. Look under "grease traps and service" in your phone directory.
- Control pests using less toxic pest management methods and appropriate timing of use.
- Train your staff to understand and use these best management practices. Be a part of the pollution solution. After all, it's all connected.
- Disposing of grease into the sanitary sewer or outside in the storm drain is prohibited. It clogs the pipes and facilities. Never put fats, grease, or oil down the storm drain or sanitary sewer.
- Make sure landscaping maintenance activities do not involve blowing, sweeping, or washing dirt and debris to the street or storm drain system. Use dry sweeping and collection methods.
- Provide adequate waste receptacles and keep dumpster lids closed.

Resources

City of Bend Illicit Discharge Minimization Best Management Practices Manual
Bendoregon.gov/idmanual

Clean Water Works Business Resources Webpage –
access from the "Business Resources" tab on bendoregon.gov/cleanwaterworks

City of Bend Industrial Pretreatment Program Fats-Oils-Grease Program
bendoregon.gov/fog

Commercial Illicit Discharge Prevention Fact Sheet
http://www.bendoregon.gov/modules/showdocument.aspx?documentid=22513

Bend Code Title 16.20 Illicit Discharges
http://www.bend.or.us/Modules/ShowDocument.aspx?documentid=7216

Fines & Penalties
Violating Bend Code Title 16 is a Class-A Civil Infraction, and could result in a maximum civil penalty of $750.00 per day. Each day that a violation remains uncured in effect is a separate violation.

The City of Bend gratefully acknowledges the City of Santa Monica and the Alameda Countywide Clean Water Program for the original concept and best practices noted herein.

Accomodation Information for People with Disabilities

To obtain this information in an alternate format such as Braille, large print, electronic formats and audio cassette tape please contact Karen Morris at 541-693-2141 or email kmorris@bendoregon.gov.

UTILITY DEPARTMENT

Clean Water Works
Partnership Participation

Yes! I would like my business to be recognized as a Clean Water Works Partner! I certify that I/my business will meet the overall criteria of the Clean Water Works Partnership program to participate.

Name (Please Print) _____ Signature _____

Business Name _____ Business Category _____

Discount I Will Offer and Honor _____ Discount End Date (if any) _____

So that we may contact you to coordinate on the promotional materials, please provide the following information:

Email Address _____ Phone _____ Business Website _____

Please scan and email to Wendy Edde, Stormwater Program Manager, City of Bend at wedde@bendoregon.gov, fax 541-317-3046, or mail to 62975 Boyd Acres Road, Bend, OR 97701. Any questions, please contact Wendy at 541-317-3018.

Accomodation Information for People with Disabilities
To obtain this information in an alternate format such as Braille, large print, electronic fomats and audio cassette tape please contact Karin Morris at (541) 693-2141, or email Kmorris@bendoregon.gov.

UTILITY DEPARTMENT

City of Bend (FY-15-16)
Illicit Discharge Follow-up Database

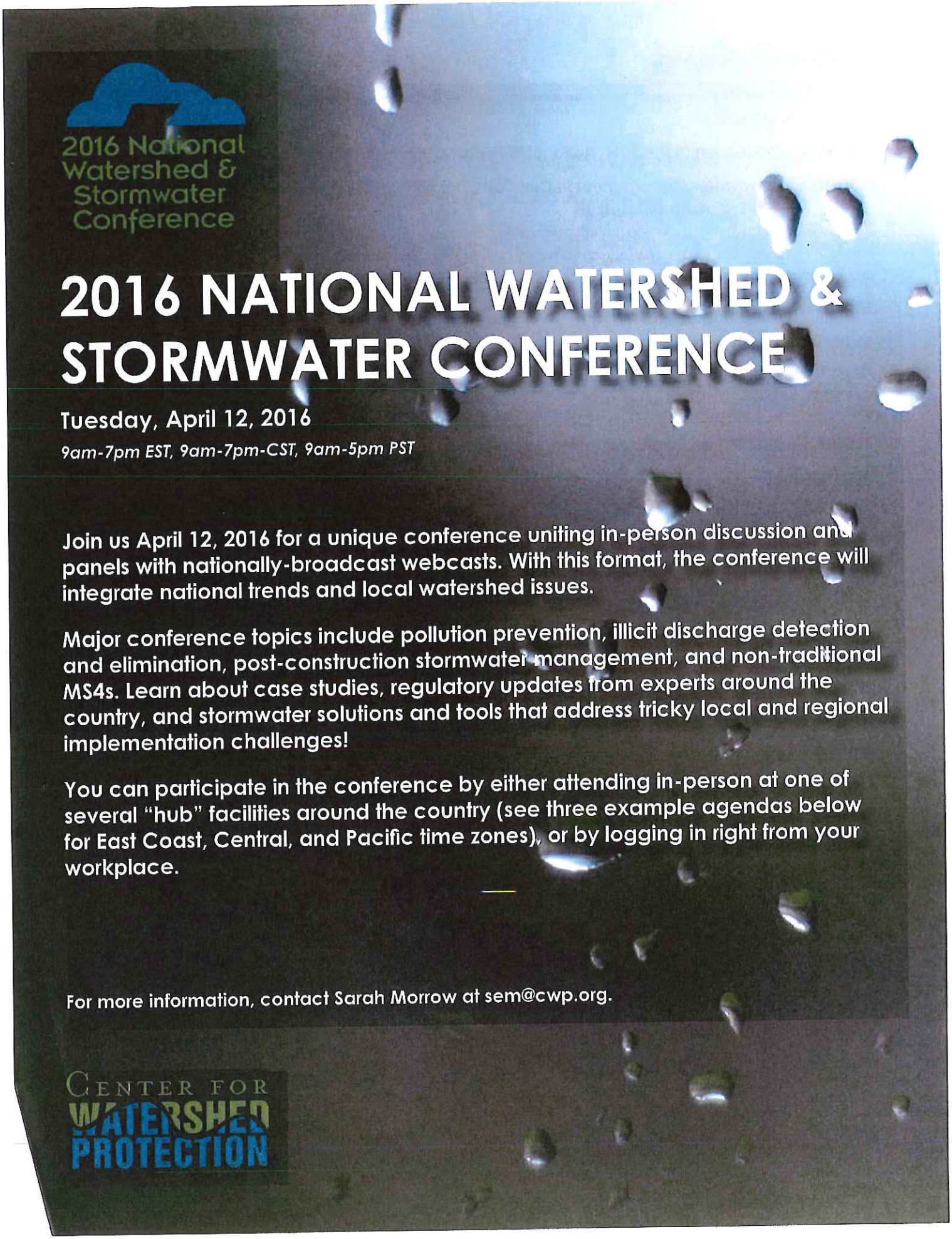
Date Reported	Reported By	Type	Description	Location	Date/Time Noticed	Reported To	Followed up By	Date followed up	Status	Actions Taken/ Comments	MS4 / WPCF	Educ. Info. Provided	Enforcement Taken	Date Followed up with Reporter
7/1/2015	Public	Leak/Spill	A tow truck leaked hydraulic fluid onto the ground.	235 Lalayette	7/1/15 1:50 PM	Front Desk	Will (streets)				Yes			
7/2/2015	City of Bend	Landscape Maintenance	Large pile of bark chips was dumped into the roadway along Boyd Acres Rd.	63217 BOYD ACRES RD	7/2/2015 2:00PM	Wendy Edde	David Buchanan	7/2/2015 2:30PM	Closed	Spoke with the landscape companies on-site Forman, he said that they will have the material removed in the next couple of hours.	Yes	Yes	Verbal Warning	7/2/2015
7/6/2015	Public	Leak/Spill	Someone is dumping oil into the catch basin.	NW Trenton & NW Eastes	7/6/15 12:00 PM	David Buchanan	David Buchanan	7/6/15 1:00 PM	Closed	City staff inspected the site and found an up-basin full of water and some other unknown materials. City staff could not determine if the material was oil or just the organic material from the up-basin breaking down . City staff distributed illicit discharge flyers to adjacent property owners. City crew will clean-out the up basin and continue to monitor the basin for signs of oil..	NPDES	Yes	No	7/6/2015
7/24/2015	Public	Private Drainage	A neighboring property owners extended a gutter several feet and is directing runoff into the alley.	26 NW McCabb Ave.	ongoing	Connie Sweet	David Buchanan	7/29/15 2:00 PM	Closed	City staff inspected the site and found a gutter was extended beyond the fence line, allowing water to flow into the alley. Stormwater staff send the property owner a notice of violation and requested the gutter be removed by the 30th of September, 2015.	NPDES	Yes	Notice of Violation	7/29/2015
7/28/2015	Public	Mobile Food Unit	The caller left a message on the City message service, that a mobile food cart was dumping grease/sludge into the catch basin.	285 NW Riverside Blvd	7/28/15 5:00 PM	David Buchanan	David Buchanan	7/30/15 12:00 AM	Closed	Oakley Taylor and David Buchanan met on-site with the property owner and the mobile BBQ unit operator. During the inspection City staff found no evidence of staining on adjacent catch basin grates. Stormwater staff provided the property owner an Illicit Discharge flyer and Restaurant BMP Fact sheet.	NPDES	Yes	Verbal Warning	7/30/2015
8/4/2015	City of Bend	Landscape Maintenance	A landscape maintenance crew was blowing grass clippings into the roadway.	333 NW TUMALO AVE	8/4/15 10:00 AM	Wendy Edde	Wendy Edde	8/4/15 10:00 AM	Closed	City of Bend staff spoke with the landscape maintenance crew. City staff recommended blowing the material into a pile for pick up or blow it back onto the grass.	NPDES	Yes	Verbal Warning	8/4/2015
8/11/2015	Public	Mobile Pressure Washing	A neighbor called in to report that an Auto detailer was pressure washing off an engine the roadway on Buckshot Place.	61077 Buckshot Place	8/11/15 11:00 AM	David Buchanan	David Buchanan	8/11/15 1:00 PM	Closed	City staff inspected the site at 1pm. The pavement in the area appeared wet, but the auto detailer had already left the area. City staff called and left a message for Mario. City staff contacted Mario and his Son on 8/12/2015 to discusses the issue. City staff also followed-up with an emailed to the business owner that included a pressure washing BMP's brochure along with information on City stormwater codes.	WPCF	Yes	Verbal Warning	8/12/2015
8/26/2015	Public	Construction Site Erosion	The caller reported that the catch basin filter fabric (erosion control BMP) were installed wrong along Chandler road. Fabric was installed under the grate and will allows the sediment to fall into the basin when removed.	1500 SW Chandler Ave	8/26/15 12:00 AM	David Buchanan	David Buchanan	8/26/15 12:00 AM	Closed	Sent email to Kyle Thomas, City inspection manager for follow-up.	WPCF			
9/2/2015	City of Bend	Construction Site Erosion	Sediment for a construction site was spilling into the roadway lawords a city stormwater facility.	63040 Lower Meadow Dr.	9/2/15 2:00 PM	David Buchanan	Kyle Thomas	9/7/15 3:30 PM	Closed	Sent email to Kyle Thomas, City Engineering Inspection manager for follow-up.	WPCF			
9/3/2015	Public	Leak/Spill	A renter called in to ask about the proper clean up methods, The callers truck had leaked a small oil onto the street and stainded the road in front of his rental house.	45 NW Gordon Rd.	9/3/15 2:00 PM	David Buchanan	Ian Koltz	9/3/15 2:00 PM	Closed	Stormwater staff inspected the site and found that the renter has already placed some aspobent on the stained area. I small count of staling was not cover with asorbant, so City staff called back and asked the renter to plance some adiations asorbent.	NPDES	Yes	Verbal Warning	9/3/2015
9/18/2015	City of Bend	Construction Site Erosion	Rock and dirt stock piles in roadway.	61049 SE RUBY PEAK LN	9/18/15 1:30 PM	David Buchanan	David Buchanan	9/22/15 8:30 AM	Closed	City of Bend staff spoke with the developer for the project, the Developer said the material most likely belonged to a home builder. City staff forwarded the inforamtion to the street department and they will remove the material.	WPCF	NA	NA	9/18/15 1:30 PM
9/18/2015	City of Bend	Leak/Spill	Someone had dumped oil into the catch basin.	20336 Mell Court	9/18/15 1:30 PM	David Buchanan	David Buchanan	9/22/15 8:30 AM	Closed	City staff has inspected the sight and found some oil on the catch basin grate. City staff left illicet discharge flyers on neighboting propoerty. During the inspection staff noticed allot of lawn maintnace equipment parked in the roadway. Stormwater crews will clean the basin and greats.	WPCF	Yes	Verbal Warning	9/21/15 1:50 PM
9/20/2015	Public	Carpet Cleaning	Received a complaint that a carpet cleaner had leaked a significant amount of water into the street.	106 NW WALL ST	9/20/15 7:45 PM	David Buchanan	David Buchanan	9/21/15 12:30 PM	Closed	City staff spoke with Ken Copsey about the complaint, Ken said the water was clean rinse water that he had used to flush out his hose. City of Bend staff emailed Ken a copy of the carpet cleaning brochure.	WPCF	Yes	Written Warning	9/21/15 12:45 PM
9/21/2015	City of Bend	Education	A new mobile food unit called Taco Stop opened up on Boyd Acres road. City of Bend stormwater and IPP staff stopped by to provide BMP information and check on waste tank dumping practices.	62930 BOYD ACRES RD	9/21/15 10:30 AM	Oakley Taylor	David Buchanan	9/21/15 10:30 AM	Closed	City staff provided the food cart owner (John) a copy of the food service fact sheet and a BMP manual. The owner said he is currently dumping his waste tank at the all seasons RV dealer, about every two weeks.	NA	Yes	Verbal Warning	9/21/15 10:30 AM
10/2/2015	Public	Leak/Spill	Homeowner is parking equipment and other items form his lawn care business in the roadway.	20336 Mell Court	10/2/15 12:30 PM	David Buchanan	David Buchanan	10/5/15 10:00 AM	Closed	This is the second visits to the sight. The equipment has been removed from the road, parking still looks to be an issue. The onwer had a truck and truck/trailer double parked along the curb.	WPCF	Not on this vist.	Not on this vist.	10/5/15 2:00 PM
10/8/2015	Public	Carpet Cleaning	Received a complaint that a carpet cleaner had dumped their waste tank (50-100 Gallons) into a catch basin.	917 NW Wall S	10/8/15 8:30 AM	Wendy Edde	David Buchanan	10/8/15 11:00 AM	Open	The carpet cleaning waste was dumped into an up-basin, most of the waste water was captured in the catch basin and pipe. The material was removed using a vector truck. This is the second illegal dumping complaint received for this business. City stormwater staff are coordinating with City legal staff on enforcement remedies.	WPCF	Yes	Consent Agrement	10/9/15 10:00 AM
10/8/2015	Public	Leak/Spill	Received a report that a septic service has been dumping in on-site storm drain.	211 SE Bridgeford Blvd	10/8/2015	David Buchanan	David Buchanan	10/8/2015	Closed	City staff forwarded the complaint to Bob Beget with Oregon DEQ and drove by the site several times looking for signs of illegal dumping. City staff inspected the site on 10/15/2015 and found no signs of illegal dumping, staff did observe the septic hauler transferring material from one truck to another truck. The transfer process produced a strong odor. During the follow-up the caller mentioned that they get complaints about the smell from their customers.	Private WPCF	NA	Na	10/15/2015
10/8/2015	ODOT	Leak/Spill	A ODOT employee reported that a leaking truck was parked in roadway behind USPS.	2300 NE 4th Street	10/8/2015 12:00PM	Krista DEQ	David Buchanan	10/8/15 2:30 PM	Closed	City staff left an ID flyer on the trucks windshield and cleaned up the roadway using absorbent. The truck was also reported to Bend PD non-emergency line.	WPCF	Yes	No	10/12/2015
10/12/2015	Public	Surface Cleaning	Received a report and a Photo of the a gas station on Galveston is wasting allot of water, hosing down the driveway and parking area into the street.	719 NW Columbia St	ongoing	Wendy Edde	David Buchanan	10/12/2015	Closed	Sent Notice of Violation Letter	NPDES	Yes	Notice of Violation	10/12/2015
10/15/2015	Public	Leak/Spill	A blue pickup truck parked on hunters Circle is leaking allot of oil onto the road.	63881 HUNTERS CIR	10/14/2015	David Buchanan	David Buchanan	10/15/15 10:00 AM	Closed	City staff left an illicit discharge flyer on the trucks windshield and reported it to Bend PD abandoned vehicle line. Stormwater crews will cleanup the oil in the roadway.	WPCF	Yes	No	10/15/2015
10/22/2015	City of Bend	Construction Site Erosion	City of Bend stormwater meintanance staff contacted the onsite forman and asked them to protect the inlet	19698 Apen Ridge Lp	10/22/2015	David Buchanan	David Buchanan	10/22/15 3:20 PM	Closed	City stormwater staff inspected the site and found allot of building materials stored in the roadway and sediment tracked into the roadway. City staff requested that materil be placed on-site and the curb line swept. The contractor said he will have the material removed by Monday.	WPCF	Yes (Verbal)	Verbal Warning	10/22/2015
10/26/2015	Public	Landscape Maintenance	His neighbor hired a Landscape maintenance company that is blowing grass clippings out into the roadway every Thursday.	1880 NW Hartford Ave	ongoing	David Buchanan	David Buchanan	10/30/2015	Closed	City stormwater staff spoke with the owner of the landscaping company (EcoLogic Landscaping PH# 541-385-0326). The Owner said his staff are trained to blow material back into the planting beds. He will discuss the issue with his staff and make sure they are not blowing material out into the roadway.	WPCF	Yes (Verbal)	Verbal Warning	10/30/2015
11/10/2015	City of Bend	Landscape Maintenance	Homeowner is regularly blowing grass clippings a leals out into the roadway.	62982 March Orchid Dr.	ongoing	David Buchanan	David Buchanan	11/10/15 1:00 PM	Closed	City of Bend staff left an illicit discharge flyers on the door.	WPCF	Yes	No	11/10/15 2:00 PM
11/10/2015	City of Bend	Construction Site Erosion	A contractor has stockpiled building material in the roadway. They are also using a table saw to cut wood in street, the street is covered in saw dust.	2754 NW Rainbow Ridge.	11/10/2015	Wendy Edde	David Buchanan	11/10/15 1:30 PM	Closed	City of Bend stormwater staff stopped by the site. Contractor said he will have the material removed and road cleaned by Friday (11/12/2015).	WPCF	Yes (Verbal)	Verbal Warning	11/10/15 2:00 PM
12/10/2015	City of Bend	Leak/Spill	City stormwater crews found an unknown green material spilled in the alley behind 700 Bond St. Another City employee called in a similar colored spilled material near the dumpster at 777 NW WALL ST.	700 NW BOND ST & 777 NW WALL ST	12/10/15 8:00 AM	Kelly Gram & Wendy Edde	David Buchanan	12/10/15 9:00 AM	Closed	City of Bend Water Quality staff collected a sample of the spill and sent it out for analysis. City crew also used street sweepers and vectors to clean up the material. City staff contacted adjacent business owners. One employee said he noticed the spill after the Garbage Company picked up the trash. City staff also contact the garbage company. The operations manager checked with the garbage truck driver and said they did not spill any material or notice any spills that day.	WPCF	Could not locate who caused the spill	Could not locate who caused the spill	12/18/2015
12/17/2015	City of Bend	Other Erosion	A water hauling company spilled water from a hydrant while filling a water truck. The water washed some sediment out into the roadway.	63634 HUNNELL RD	12/17/15 12:00 PM	David Buchanan	David Oak	12/17/15 12:00 PM	Closed	Stormwater staff talked with the water truck driver, who said he would come back and clean up the street.	WPCF	Yes (Verbal)	No	12/17/2015
1/19/2016	Public	Construction Site Erosion	The caller reported that contractors in his neighborhood are tracking mud into the road and sidewalks.	20819 BOULDERFIELD AVE	1/19/2016 2:00PM	DEQ	David Buchanan	1/19/2016 3:00PM	Closed	City staff spoke with a landscape company that was working in the area. The landscaper said "most the dirt came form the excavation contractor who had just left". City staff also called and left a message with (Josh) at Polishs Homes. 1/20/2016 City staff spoke with Josh with at Polishs Homes, He said that they would get it cleaned up over the weekend.	WPCF	Yes (Verbal)	No	1/19/2016
1/27/2016	Public	Pool/ Spa Drainage	Received a report of water pouring out of a pipe and onto sidewalk.	3075 NW CRAFTSMAN DR	1/27/16 2:45 PM	Front Desk	Tyler Patterson	1/27/16 3:20 PM	Closed	City staff inspected the site and found a homeowner that was draining a hot tub in the back yard. Water was running into the retaining wall drain and onto the sidewalk.	Private WPCF	Yes (Verbal)	No	1/27/2016
2/23/2016	Public	Leak/Spill	The City revived a report of blueish patches of oil floating in the River near pageant park. They were all on the west side and appeared to be coming from down stream from Galveston. Ducks puddling upstream would stir up the oil from the mud.	691 NW DRAKE RD	2/23/16 4:00 PM	City Manager	Chris Wood / David Buchanan	2/23/2016 4:15:00 PM / 2/24/2016 7:30:00 AM	Closed	Stormwater staff went out and inspected both the Pageant Park outfalls, Galveston outfall and up-gradient storm drains, City staff did not see any material in the River or any signs that the material from the storm drain.	NPDES	NA	No	NA

City of Bend (FY-15-16)
Illicit Discharge Follow-up Database

Date Reported	Reported By	Type	Description	Location	Date/Time Noticed	Reported To	Followed up By	Date followed up	Status	Actions Taken/ Comments	MS4 / WPCF	Educ. Info. Provided	Enforcement Taken	Date Followed up with Reporter
2/9/2016	Public	Construction Site Erosion	Phone call was a followup from a day he stopped by being directed here from the permit center asking if swales are allowed in the City. Construction Site BP-15-4822. Concern that not being built to plan on steep slope; big boulder had rolled and hit a tree. there are several things about the development that the neighbors are not happy regarding; lawyers are involved.	2489 NW 2nd Street	Ongoing during construction	Building Dept.; Private Engineering; Stormwater Utility	Wendy Edde/Billy Staten	2/10/16 and thereafter	Closed	Wendy Edde spoke with Roger by phone on 2/8/16, 2/10/16; 2/11/16; 2/17/16, 2/29/16. Billy Staten spoke by phone on 2/29/16. WE spoke with BS coordinating on 2/11/16, and WE provided ESC materials for inspectors to drop by. Trying to coordinate through Building. Roger was to asked to send photos but they did not come through from his 2/11/16 email. Roger did confirm that adtional ESC materials wereerected afer guidance provided. He would prefer we see in person. Billy is not going to send an inspector until next standard checkin as progress is being met appropriately based on stanard inspections to date. On 2/29/16, Wendy agreed to look at from an Illicit discharge perspective given statements that erosion have come of site (although not threatenin public right of way). 2/29/16 Wendy Edde and David Buchanan visited site, took photos. No evidence of erosion occurring. Provided verbal education reminder that they are required to keep sediement on site, so to be ready given the steep slopes and stage of development to prevent sediment from moving off site. Took photos. As written educational materials have been provided previously, they were not provided again. Left business card at reporter's home when did not answer; and left message as to result upon return to office. City staff provieded the following documents to the contractor: Erosion and Sediment Control Fact Sheet, Sample Erosion and Sediment Control Plan--SFR, Construction Site Stormwater Guide--Illustrated BMPs and Maintain Construction Site BMP Poster	WPCF	Yes (Written)	No	Multiple. Final: 2/29/16
3/11/2016	Public	Carpet Cleaning	On Wednesday March 2nd around 9am I was at the Deschutes Brewery Pub on Bond street working with two teams on our annual fire system checks. As we ran water through the Fire Riser system I noticed that the carpet cleaning guy also started to run water down the street. I didn't know what the rules where for the carpet industry but I thought it was a bit odd that they just released the soapy water into the storm drains. Unfortunately I didn't get a picture of the situation but on a side note that company will return on Wednesday April 13. I also will we working at the pub that morning and I will keep an eye out for anything out of sorts.	1440 NW Bond	3/2/2016	Wendy Edde	Wendy Edde		Closed	Stormwater regulatory group is working with City legal staff to pursue a civil infraction. City legal and management reviewed the information and did not feel that City had enough information to peruse a fine at this time. Since this is a monthly operation, City staff went back out to the restaurant the following month to observer the carpet cleaner. During this event the carpet cleaner did not dump any waste onsite. This carpet cleaner is under a consent agreement from another complaint and is required to submit monthly waste disposal logs.	WPCF	NA	No	NA
3/14/2016	City of Bend	Private Drainage Flowing Offsite	The roof down-spout is allowing water to flow across the landscaping and into the City stormdrain. The flowing water is waking barkdust and sediment into a City stormdrain.	20760 High Desert	3/14/2016	David Buchanan	David Buchanan	3/14/2016	Active	I called and left a phone message for the onsite manager. I did not recive a call back.	WPCF	No	No	Ongiong
3/24/2016	City of Bend	Construction Site Erosion	Stormwater crews out cleaning stormdrains, noticed a that a contractor had tracked allot of dirt and gravel into the roadway.	2945 NW CHARDONNAY LN	3/24/2016	David Buchanan	David Buchanan	3/25/2016	Closed	I spoke with the on site excavator and also called and spoke directly to the builder. Stormwater staff notified City of Bend Engineering inspector supervisor for additional follow-up.	WPCF	Yes (Verbal)	Forwareded to Engineering	3/25/2016
3/24/2016	City of Bend	Road Safety Issue	Contractor had placed shipping containers in roadway, blocking access for stormwater maintenance crews.	63250 NW NEWHALL PL	3/24/2016	David Buchanan	David Buchanan	3/25/2016	Closed	This is ROW/safety issue not a stormwater quility issue.	NA	No	Forwareded to Engineering	3/25/2016
3/30/2016	DEQ	Leak/Spill	DEQ received a report on 3/24 of ongoing spill control issues and dumping of gallons of oil at an auto repair business	High Desert Hydraulics 20437 Cady Way #F	3/24/2016	David Buchanan	Wendy Edde	3/30/2016	Closed (Transferd to DEQ)	Reviewed site. spill control product is kept on site. Recommended using drip pans under leaking vehicles and cleaning up small spills. Provided verbal information regarding drains to unknown stormdrainage facility (needs cleaning) and ultimately further downhill to an open top drywell; and the importance of pollution prevention for water quality. Oil stains on dirt in side yard--DEQ to address/take further action. Photos provided to K. Ratliff.	WPCF	Yes (Verbal)	No (DEQ is taking the lead)	
4/8/2016	City of Bend	Leak/Spill	Saw small quantity antifreeze leak. (Dripping car) Location in residnetial neighborhood bordering Galveston that sees lots of short-term parking for local eateries, etc.	East side of Federal, one block north of Galveston	4/8/2016 About 1 PM	Wendy Edde	Wendy Edde/Billy S	4/8/2016	Closed	Knocked on door of bordering home (no answer). Given the short-term parking transient nature of the area and size of spill, took photos of clean-up for use in a general outreach piece.	MS4 / WPCF	Yes	No	4/8/2016
4/20/2016	City of Bend	Leak/Spill	Stormwater crews out cleaning stormdrains, noticed an oily substsance a catch basin on Armour Rd.	915 SE Armour RD	4/15/2016	4/19/2016	David Buchanan	4/20/2016	Closed	Stormwater Quality staff collected a grab sample and sent it out for analysis. Staff did not see any obvious signs of illicit dumping, no noticeable staining on catch basin grates. The standing water in the basin had a rainbow sheen floating on the waters surface. Stormwater crews cleand out the basin using a vactor truck. The Lab results came back with low levels of both diesiel and gasoline.	WPCF	No	No	4/20/2016
4/22/2016	Public	Leak/Spill	Received a complaint that a homeowner had blown out irrigation system and sprayed antifreeze all over the street and sidewalk. CSR58600	2042 NW Hill St	4/21/2016	4/21/2016	David Buchanan	4/21/2016	Closed	Both City of Bend Streets and stormwater crews inspected the area, finding no signs of antifreeze. City crews did find a water leak in the area, water was bubbling up between the curb and sidewalk. The leak was reported to the water department.	WPCF	No	No	4/21/2016
4/12/2016	City of Bend	Construction Site Erosion	Catch basin 3/4 full. David spoke with the contractor a couple days ago when he saw the catch basin was 3/4 full with sediment. Swung by today and no improvements.	Third and Powers; New Assisted Living facilities on SE side where working by fence	4/12/2016; 4/14/2016	Kyle Thomas originally; Wendy Edde	Wendy Edde/Kyle Thomas	4/12/2016; 4/14; 4/19; 4/25	Open	When originally noticed on 4/12, David spoke with R2 Contractors (541-312-4143) and called Kyle. The onsite personnel said they would clean it up. 4/14/2016 David saw no improvement. Could not get ahold of Kyle. Contacted Wendy; shared photo. 4/14 Wendy emailed Kyle with David's photo. 4/19 Wendy emailed again; 4/25 Kyle responded by phone--Sunwest Builders is general construction contractors. Kyle will contact Mike with Sunwest builders to get it cleaned out. We have a Col O. on that that City will hold until cleaned.	WPCF	Yes	In process.	4/25. Wendy provided update to Travis Sommers to share with David. 4/26 Emailed David.
4/22/2016	City of Bend	Construction Site Erosion	Tracking of sediment from multiple Pahlisch home construction sites onto SW Magesllo Way. startign to wash down aggregate on new driveway pour.	SW Magestic Way towards end of street.	4/22, 2016 4:15 PM	Kyle Thomas originally; Wendy Edde	Wendy Edde	4/22/2016	Open	Spoke with two workers -- verbal education. Provided two ACWA guides, one to David, who promised to speak with "Vic" his supervisor to get it cleaned up. 4/25/2016, let Kyle Thomas know of my contact.	WPCF	Yes	Verbal Warning	
4/26/2016	City of Bend	Construction Site Erosion	Sediment in roadway both on Boyd Acres and on Warner from new construction. No ESC or inlet controls apparent.	Boyd Acres and Warner, SE corner	4/26/2016 15:25		Wendy Edde	4/26/2016	Open	Provided Joshua with ACWA guide and verbal education	WPCF	Yes	Verbal Warning	NA
4/6/2016	Public	Leak/Spill	A garbage truck broke a Hydraulic line, spilling hydraulic oil in the alley behind 500 NW Wall St.	845 NW Wall St (Alley)	5/6/2016 8:30am	David Buchanan	David Buchanan	4/6/2016	Closed	City staff inspected the site around 8:45 am. It looked like the oil was contained in the alley and did not reach any storm drain facilities. The garbage company had two employees on site applying absorbent and dry sweeping. Most of the hydraulic oil had already been absorbed and sweated up. City staff noticed a visible oil sheen in a small puddle and asked the onsite crew to soak it up with absorbent. The crew began cleaning up the puddle immediately. The Street Departments is going to make a final pass with a sweeper to remove any remaining absorbent.	WPCF	NA	Na	4/6/2016
5/31/2016	Public	Restaurant Hood Cleaning	The Bend Police department received a complaint that a food truck was degreasing a range hood in the roadway/ sidewalk. Bend Police contacted City of Bend stormwater about the issue around 9am.	735 NW COLUMBIA ST	5/31/2016 9:15	David Buchanan	Wendy Edde & Da	5/31/2016 9:30	Closed	Stormwater staff responded to the complaint and found a large soapy puddle in the street abject to the mobile food unit. Absolute Fire Protection was still onsite finishing up degreasing inside the food unit. Stormwater staff spoke with Don Pecoff with Absolute Fire Protection (phd 541-388-3473) about this issue, providing him a copy of the City's IDDE manual and an Illicit Discharge Flyer. City staff also spoke with the mobile food unit's owner Jason Hogan about the importance of collecting and properly disposing of greases waste. Absolute Fire Protection used a shop vat to suck up the puddle and hand towels to mop up the remaining grease. Due to the sites drainage, none of the de-greasing waste reached city storm drains.	NPDES	Yes	Verbal Warning	5/31/2016
6/7/2016	City of Bend	Concrete Washout/ Slurry	Stormwater crews noticed concrete looking material in the catch basin near NW Davenport and 14th.	1367 NW Davenport Ave	6/7/2016 15:00	David Buchanan	David Buchanan	6/8/2016 8:45	Open	Stormwater staff went out and inspected the site and found that the concrete material came from a recently poured exposed aggregate patio. Looks like the slurry ran across the backyard and down into the curb line. City staff contacted the contractor and provide a verbal warning.	NPDES	Yes	Verbal Warning	6/8/2016
6/10/2016	City of Bend	Landscape Debris	New landscaping --using dirt in road to mark off landscaping	Brinson Ave	6/10/2016 ~ 4:45 PM	Wendy Edde	Wendy Edde	6/10/2016 ~ 4:45 PM	Closed	Spoke directly with the landscaper on site. Explained to him how the debris left in the street needed to get swept up and why (swept to the storm drain; clogs the facilities). Landscaper understood. Immediate cleanup occurred.	WPCF	Yes	Verbal Warning	NA
6/17/2016	Public	Construction Site Erosion	BMP failures resulting in slope failures, erosion and sediment debris across sidewalk and clogging multiple catchbasins. Channelization on slope.	Mt. Washington at Awbrey	6/17/2016 0:00	Wendy Edde	Wendy Edde, John	6/17/2016 and continuing	Open	Contacted Chad Towell to determine lead inspector. Visiting the site and documented issues. Spoke with concrete contractor. Back at office Jim with Stone Bridge called--would get fence up before scheduled rains on Saturday; full clean up on Monday. Wrote the notes up on 6/18 and send to John Umbarger. Drove by on 6/20 and saw fence was up and City storm drains cleaned out. John Umbarger has been providing updates.	WPCF in river basin	Yes	Verbal Warning	6/18 and 6/21

City of Bend (FY-15-16)
Illicit Discharge Follow-up Database

Date Reported	Reported By	Type	Description	Location	Date/Time Noticed	Reported To	Followed up By	Date followed up	Status	Actions Taken/ Comments	MS4 / WPCF	Educ. Info. Provided	Enforcement Taken	Date Followed up with Reporter
6/21/2016	City of Bend	Construction Site Erosion	Pipeline construction trench down NW Crosby Drive off of Skyliners behind the school--dirt piled on curb line and material is in and around the catch basin.	Crosby Drive just north of Skyliners	6/21/2016 9:14	Wendy Edde	Wendy Edde	6/21-6/22	Open	Forwarded to Kyle Thomas to get contact information. (No response by afternoon, so visited afterhours. Took photos, noted dirt piled upwards of 2 feet high right a curb, and having impacted catch basins for 0.2 miles along Crosby Drive. Noted nearby workers on Skyliner and spoke with Shane Bardon (Site Supervisor, Taylor NW) about need for ESC. Shane indicated they would get on it. On 6/22, Justin Bardon (Taylor NW) called with a plan to protect catch basins with inlet protection, and will clean out any debris.	WPCF	Yes	Verbal Warning	6/21/2016
6/21/2016	Public	Landscape Debris	Cut weeds blown into street--will clog storm drains	Streets surrounding vacant lots around 3000 block of Rainier Drive, Black Oak Place, Hawkview	6/21/2016 4:37PM and on 6/24; Jerry called again at 1:22 PM on 6/28 noticing more work done.	Wendy Edde	Wendy Edde and D	6/22/2016 12:00:00 AM - 6/28	Closed	Called Code Enforcement to confer--no specific names but letters re: flammable vegetation went out recently. Received copy of flammable vegetation brochure from Julie Craig. Visited site on 6/21; took photos. Contacted Jerry to see if he noticed name of contractor--received message on 6/23 Kelly Rogers (incomplete phone given). REsearched Kelly Rogers: Construction Connection LTD 541-460-7791. Tried to call Becky Breeze (Principal Broker for lots along Black Oak Place) at 541-385-3939 (Becky Breeze & Company Real Estate) but phone line dead. On 6/24 left messages for DESCHCO LTD, Kelly Rogers, and wrote educational/warning letters to DESCHCO LTD, and McDougal Foundation Inc. 6/27/2016 In response to follow-up, complainant not happy with the approach, so I forwarded on his multiple subject concerns to Code Enforcement Officer James Golf for additional follow-up and placed a CSR for sweeping and catch basin cleaning to occur after 7/1 (flammable vegetation deadline). After a new phone call on 6/28, David went to site to see if in action. It was not. Properties on east side of NE Black Oak Pl (3003 NE Rainier, 2724, 2720 and 2716 Black Oak Place at 21342 Beall Dr, all owned by Kelly W. adn Gala J Rogers (PO Box 6195 zip-08) were now mowed, in street. Other debris not yet cleaned up. David took photos. I called Becky Breeze Realtors--Carol(?) will talk with Becky to talk with Kelly Rogers--she confirmed DESCHCO is Kelly Rogers. David contacting Chris Blake (Sweeping) to coordinate cleanup.	WPCF	Yes	Written Warning	6/27/2016



2016 NATIONAL WATERSHED & STORMWATER CONFERENCE

Tuesday, April 12, 2016

9am-7pm EST, 9am-7pm-CST, 9am-5pm PST

Join us April 12, 2016 for a unique conference uniting in-person discussion and panels with nationally-broadcast webcasts. With this format, the conference will integrate national trends and local watershed issues.

Major conference topics include pollution prevention, illicit discharge detection and elimination, post-construction stormwater management, and non-traditional MS4s. Learn about case studies, regulatory updates from experts around the country, and stormwater solutions and tools that address tricky local and regional implementation challenges!

You can participate in the conference by either attending in-person at one of several "hub" facilities around the country (see three example agendas below for East Coast, Central, and Pacific time zones), or by logging in right from your workplace.

For more information, contact Sarah Morrow at sem@cwp.org.

CENTER FOR WATERSHED PROTECTION

Eastern Time

8:00-9:00 Registration

9:00-9:30 Introduction to the 2016 National Webcast Conference and the Local Hub

9:30-10:30 Stormwater Management in Coastal & Flat Areas, Cold Climates, Cities, and Bad Soils —YES WE CAN DO IT HERE!

Review of stormwater practice design adaptations for climates and terrains of the Southeast, providing an antidote to the refrain, "it's a great idea, but we can't do it here." Discussion of pollutants of concern for special environments, and regional resources for design, construction, and maintenance.

10:30-11:00 Local Hub Discussion

11:00-12:00 Overview of Pollution Prevention: An ounce of prevention is worth a pound of cure...

Is it more cost-effective to prevent pollutants from entering your system compared to trying to remove them later in a structural BMP? From pet waste to leaf litter to dumpster juice, car wash water, plastic bags, and stormwater hotspots, learn what others are doing to educate, prevent, and enforce pollution prevention in their communities.

12:00-1:00 LUNCH, Local Hub Discussion & Networking

1:00-1:30 Overview of Illicit Discharge Detection and Elimination (IDDE):

Current status of IDDE programs across the country—is this a missed opportunity for low-cost pollutant reductions? What is the prevalence of these "hidden sources of pollution?"

1:30-2:15 In the Field:

Types of discharges and characteristics, field screening techniques and equipment, parameters to screen for, what to do if you get a "hit," some good field guides.

2:15-3:00 In the Office—Key Programmatic Issues:

What does it take to have a robust IDDE program, staffing and resources, legal authority, tips for eliminating discharges, some good case studies

3:00-4:00 Local Hub Discussion/Break

4:00-4:30 Overview of Post-Construction Stormwater Management:

Current status of post-construction programs across the country, why is this the juggernaut of minimum measures? The terminology tug: BMPs, SMPs, LIDs, GI, etc. and overarching stormwater paradigms. Stormwater practices for new and redevelopment vs. retrofits of existing developed areas.

4:30-5:10 Let's Start with Maintenance:

How considerations of long-term maintenance will influence your front-end program decisions—know what you are getting in to. Review of common maintenance issues with BMPs, with particular emphasis on vegetated BMPs.

5:10-5:30 Local Hub Discussion/Final Remarks

For the diehards...

5:30-6:00 Overview of Non-Traditional MS4s—Prisons, Campuses, etc.:

How are these MS4s treated in the regulatory process? What are unique considerations for special MS4s?

6:00-6:30 Master Planning and Avoiding a Thousand Cuts:

How facility master planning can lead to efficiencies and better BMPs. What are opportunities to collaborate with surrounding MS4s/ communities?

6:30 End Web Conference in Eastern Time

Items in blue will be broadcast nationally, via webcast

Central Time

7:30-8:30 Registration

8:30-9:00 Introduction to the 2016 National Webcast Conference and the Local Hub

9:00-10:00 Stormwater Management in Coastal & Flat Areas, Cold Climates, Cities, and Bad Soils —YES WE CAN DO IT HERE!

Review of stormwater practice design adaptations for climates and terrains of the Midwest, providing an antidote to the refrain, "it's a great idea, but we can't do it here." Discussion of pollutants of concern for special environments, and regional resources for design, construction, and maintenance.

10:00-11:00 Overview of Pollution Prevention:

An ounce of prevention is worth a pound of cure…
Is it more cost-effective to prevent pollutants from entering your system compared to trying to remove them later in a structural BMP? From pet waste to leaf litter to dumpster juice, car wash water, plastic bags, and stormwater hotspots, learn what others are doing to educate, prevent, and enforce pollution prevention in their communities.

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12:30-1:15 In the Field:

Types of discharges and characteristic, field screening techniques and equipment, parameters to screen for, what to do if you get a "hit", some good field guides.

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What does it take to have a robust IDDE program, staffing and resources, Legal authority, tips for eliminating discharges, some good case studies

2:00-3:00 Local Hub Discussion/Break

3:00-3:30 Overview of Post-Construction Stormwater Management:

Current status of post-construction programs across the country, why is this the juggernaut of minimum measures? The terminology tug: BMPs, SMPs, LIDs, GI, etc. and overarching stormwater paradigms. Stormwater practices for new and redevelopment vs. retrofits of existing developed areas.

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4:10-4:30 Local Hub Discussion/Break

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How are these MS4s treated in the regulatory process? What are unique considerations for special MS4s?

5:00-5:30 Master Planning and Avoiding a Thousand Cuts:

How facility masterplanning can lead to efficiencies and better BMPs. What are opportunities to collaborate with surrounding MS4s/ communities?

5:30-6:15 Keeping it Clean:

Top tips for facility SWPPPs, what is likely to happen during an audit?

6:15-End of Web Conference in Central Time

Items in blue will be broadcast nationally, via webcast

Pacific Time

7:00-8:00 Registration

For the Early Bird...

8:00-9:00 Overview of Pollution Prevention: An ounce of prevention is worth a pound of cure...
Is it more cost-effective to prevent pollutants from entering your system compared to trying to remove them later in a structural BMP? From pet waste to leaf litter to dumpster juice, car wash water, plastic bags, and stormwater hotspots, learn what others are doing to educate, prevent, and enforce pollution prevention in their communities.

9:00-9:15 Introduction to the 2016 National Webcast Conference and the Local Hub

9:15-10:00 Stormwater Management in Coastal & Flat Areas, Cold Climates, Cities, and Bad Soils —YES WE CAN DO IT HERE!
Review of stormwater practice design adaptations for terrains and climates of California and other West Coast locales, providing an antidote to the refrain, "it's a great idea, but we can't do it here." Discussion of pollutants of concern for special environments and regional resources for design, construction, and maintenance.

10:00-10:30 Overview of Illicit Discharge Detection and Elimination (IDDE):
Current status of IDDE programs across the country—is this a missed opportunity for low-cost pollutant reductions? What is the prevalence of these "hidden sources of pollution?"

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How considerations of long-term maintenance will influence your front-end program decisions—know what you are getting in to. Review of common maintenance issues with BMPs, with particular emphasis on vegetated BMPs.

2:10-2:30 Local Hub Discussion/Break:
Example from trash, separators, can they afford O&M, moving to more regional facilities

2:30-3:00 Overview of Non-Traditional MS4s—Prisons, Campuses, etc.:
How are these MS4s treated in the regulatory process? What are unique considerations for special MS4s?

3:00-3:30 Master Planning and Avoiding a Thousand Cuts:
How facility master planning can lead to efficiencies and better BMPs. What are opportunities to collaborate with surrounding MS4s/ communities?

3:30-4:15 Keeping it Clean:
Top tips for facility SWPPPs, what is likely to happen during an audit?

4:15-5:15 Local Hub Discussion

5:15-5:45 Concluding Remarks

5:45 End of Web Conference for Pacific Time

Items in blue will be broadcast nationally, via webcast

Compliance Detail
City of Bend

Filtered by: Training: Leaky Equipment and Fueling Training

	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
1	Thompson, Scott	Water Reclamation Facility	Complete	9/18/15	9/10/15	Thompson, Scott	9/10/15	View
2	Vencill, Gary	Boyd Acres	Complete	9/18/15	9/8/15	Vencill, Gary	9/8/15	View
3	Libolt, Orrin	Boyd Acres	Complete	9/18/15	9/10/15	Libolt, Orrin	9/10/15	View
4	Brick, Paul	Boyd Acres	Complete	9/18/15	12/10/15	Brick, Paul	12/10/15	View
5	Pierce, David	Pilot Butte Campus	Not Started	9/18/15				
6	Vaughan, Ken	Boyd Acres	Complete	9/18/15	9/10/15	Vaughan, Ken	9/10/15	View
7	Ristoff (AKA: Briggs), Teresa	Boyd Acres	Complete	9/18/15	9/14/15	Ristoff (AKA: Briggs), Teresa	9/14/15	View
8	Waldrop, Will	Pilot Butte Campus	Complete	9/18/15	9/17/15	Waldrop, Will	9/17/15	View
9	Canaday, Diane	Pilot Butte Campus	Complete	9/18/15	10/29/15	Canaday, Diane	10/29/15	View
10	Hopkins, Robert	Boyd Acres	Complete	9/18/15	9/8/15	Hopkins, Robert	9/8/15	View
11	Burghardt, Joe	Water Reclamation Facility	Complete	9/18/15	9/10/15	Burghardt, Joe	9/10/15	View
12	Malinowski, Adam	Pilot Butte Campus	Complete	9/18/15	10/1/15	Malinowski, Adam	10/1/15	View
13	Moody, Reese	Boyd Acres	Complete	9/18/15	10/22/15	Moody, Reese	10/22/15	View
14	Byrd, Steve	Boyd Acres	Complete	9/18/15	9/14/15	Byrd, Steve	9/14/15	View
15	Judd, Arthur	Boyd Acres	Complete	9/18/15	9/8/15	Judd, Arthur	9/8/15	View
16	Riley, Steve	Boyd Acres	Complete	9/18/15	9/17/15	Riley, Steve	9/17/15	View

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City of Bend

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
17	Taylor, Oakley	Boyd Acres	Complete	9/18/15	10/12/15	Taylor, Oakley	10/12/15	View
18	Rogers, William "Ed"	Water Reclamation Facility	Complete	9/18/15	12/10/15	Rogers, William "Ed"	12/10/15	View
19	Roshone, Elmer	Water Reclamation Facility	Complete	9/18/15	9/13/15	Roshone, Elmer	9/13/15	View
20	Alexander, Mark	Pilot Butte Campus	Complete	9/18/15	12/9/15	Alexander, Mark	12/9/15	View
21	Patterson, Tyler	Boyd Acres	Complete	9/18/15	10/28/15	Patterson, Tyler	10/28/15	View
22	Howe, Carl	Pilot Butte Campus	Complete	9/18/15	7/20/16	Howe, Carl	7/20/16	View
23	Elpi-Trainor, Michelle	Water Reclamation Facility	Complete	9/18/15	10/4/15	Elpi-Trainor, Michelle	10/4/15	View
24	Fore, Erynne	Water Reclamation Facility	Complete	9/18/15	9/8/15	Fore, Erynne	9/8/15	View
25	Combs, Ty	Pilot Butte Campus	Complete	9/18/15	9/21/15	Combs, Ty	9/21/15	View
26	Abbas, David	Pilot Butte Campus	Not Started	9/18/15				
27	Combs, Ken	Pilot Butte Campus	Complete	9/18/15	9/16/15	Combs, Ken	9/16/15	View
28	Parent, Ethan	Water Reclamation Facility	Complete	9/18/15	9/10/15	Parent, Ethan	9/10/15	View

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Row	To	Location	Progress	Due Date	Start	By	On	View
29	Walling, Tom	Water Reclamation Facility	Complete	9/18/15	9/17/15	Walling, Tom	9/17/15	View
30	Utley, Aaron	Water Reclamation Facility	Complete	9/18/15	9/8/15	Utley, Aaron	9/8/15	View
31	Armenta, David	Boyd Acres	Complete	9/18/15	9/10/15	Armenta, David	9/10/15	View
32	Lessar, Joshua	Pilot Butte Campus	Complete	9/18/15	9/10/15	Lessar, Joshua	9/10/15	View
33	Winter, Scott	Boyd Acres	Complete	9/18/15	9/4/15	Winter, Scott	9/4/15	View
34	Goe, Kerry	Pilot Butte Campus	Complete	9/18/15	11/18/15	Goe, Kerry	11/18/15	View
35	Trask, Kris	Boyd Acres	Complete	9/18/15	1/20/16	Trask, Kris	1/20/16	View
36	Gillespie, Rhett	Bend Municipal Airport	Complete	1/4/16	2/17/16	Gillespie, Rhett	2/17/16	View
37	LaCasse, Gary	Pilot Butte Campus	Complete	5/26/16	8/3/16	LaCasse, Gary	8/3/16	View
38	Bean, Everett	Pilot Butte Campus	Not Started	4/12/16				
39	Newton, Joe	Pilot Butte Campus	Complete	9/18/15	9/15/15	Newton, Joe	9/15/15	View
40	Woods, Rawlin	Boyd Acres	Complete	9/18/15	9/14/15	Woods, Rawlin	9/14/15	View
41	Follose, Brandon	Boyd Acres	Complete	9/18/15	9/10/15	Follose, Brandon	9/10/15	View
42	Beck, Troy	Boyd Acres	Complete	9/18/15	11/30/15	Beck, Troy	11/30/15	View
43	Alley, Mary Beth	Pilot Butte Campus	Complete	9/18/15	9/14/15	Alley, Mary Beth	9/14/15	View

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Row	To	Location	Progress	Due Date	Start	By	On	View
44	Daniel, Jay	Pilot Butte Campus	Complete	9/18/15	11/23/15	Daniel, Jay	11/23/15	View
45	Wood, Chris	Boyd Acres	Complete	9/18/15	9/9/15	Wood, Chris	9/9/15	View
46	Edwards, Mike	Boyd Acres	Complete	9/18/15	9/16/15	Edwards, Mike	9/16/15	View
47	McQuillen, Christy	Pilot Butte Campus	Not Started	9/18/15				
48	Cashwell, Spencer	Boyd Acres	Complete	9/18/15	9/10/15	Cashwell, Spencer	9/10/15	View
49	Oliver, Josh	Pilot Butte Campus	Complete	9/18/15	10/28/15	Oliver, Josh	10/28/15	View
50	Cannon, Dennis	Pilot Butte Campus	Complete	9/18/15	11/13/15	Cannon, Dennis	11/13/15	View
51	Walsworth, Justin	Boyd Acres	Complete	9/18/15	9/17/15	Walsworth, Justin	9/17/15	View
52	Kadow, Gina	Bend Municipal Airport	Complete	9/18/15	9/24/15	Kadow, Gina	9/24/15	View
53	Rounds, Stuart	Boyd Acres	Complete	9/18/15	9/10/15	Rounds, Stuart	9/10/15	View
54	Cota, Tony	Pilot Butte Campus	Complete	9/18/15	9/14/15	Cota, Tony	9/14/15	View
55	Volkman, Richard	Pilot Butte Campus	Complete	9/18/15	10/1/15	Volkman, Richard	10/1/15	View
56	Somers, Travis	Boyd Acres	Complete	9/18/15	9/10/15	Somers, Travis	12/24/15	View
57	Thomasson, Shanon (John)	Pilot Butte Campus	Complete	9/18/15	11/3/15	Thomasson, Shanon (John)	11/3/15	View
58	Neiswonger, Paul	Pilot Butte Campus	Complete	9/18/15	10/15/15	Neiswonger, Paul	10/15/15	View
59	Wolter, Mark	Boyd Acres	Complete	9/18/15	12/24/15	Wolter, Mark	12/24/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
60	Lee, Dave	Boyd Acres	Complete	9/18/15	10/12/15	Lee, Dave	10/12/15	View
61	Graham, Kelly	Boyd Acres	Complete	9/18/15	9/8/15	Graham, Kelly	9/8/15	View
62	Hamilton, Grant	Boyd Acres	Complete	9/18/15	9/9/15	Hamilton, Grant	9/9/15	View
63	Sweet, Connie	Boyd Acres	Complete	9/18/15	9/10/15	Sweet, Connie	9/10/15	View
64	Borrego, David	Boyd Acres	Complete	9/18/15	9/10/15	Borrego, David	9/10/15	View
65	Scarbrough, Saedell	Pilot Butte Campus	Complete	9/18/15	10/30/15	Scarbrough, Saedell	10/30/15	View
66	Dorsey, Christine	Pilot Butte Campus	Complete	9/18/15	9/11/15	Dorsey, Christine	9/11/15	View
67	Morrison, George	Pilot Butte Campus	Not Started	9/18/15				
68	Hanson, Hardy	Pilot Butte Campus	Not Started	9/18/15				
69	Finney, Lance	Water Reclamation Facility	Complete	11/30/15	12/15/15	Finney, Lance	12/15/15	View
70	Bradley III, Roy	Water Reclamation Facility	Complete	3/21/16	3/30/16	Bradley III, Roy	3/30/16	View
71	Prince, Jeannette	Pilot Butte Campus	Complete	9/18/15	9/8/15	Prince, Jeannette	9/8/15	View
72	Clarno, Karen	Boyd Acres	Complete	9/18/15	9/17/15	Clarno, Karen	9/17/15	View
73	Prazak, Steve	Boyd Acres	Complete	9/18/15	9/17/15	Prazak, Steve	9/17/15	View
74	Meistrell, Brenda	Pilot Butte Campus	Complete	9/18/15	9/10/15	Meistrell, Brenda	9/10/15	View
75	Somers, Robyn	Boyd Acres	Complete	9/18/15	9/10/15	Somers, Robyn	9/10/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
76	Skaggs, Dan	Boyd Acres	Complete	9/18/15	9/17/15	Skaggs, Dan	9/17/15	View
77	Schmidt, Daniel	Pilot Butte Campus	Complete	9/18/15	10/19/15	Schmidt, Daniel	10/19/15	View
78	Gardner, Lucas	Pilot Butte Campus	Complete	9/18/15	9/10/15	Gardner, Lucas	9/10/15	View
79	Findley, Mike	Boyd Acres	Complete	9/18/15	11/23/15	Findley, Mike	11/23/15	View
80	Sanvitale, Spencer	Boyd Acres	Complete	9/18/15	9/10/15	Sanvitale, Spencer	9/10/15	View
81	Hobbs, Eric	Boyd Acres	Complete	9/18/15	9/9/15	Hobbs, Eric	9/9/15	View
82	Byrd, Daniel	Pilot Butte Campus	Complete	9/18/15	9/16/15	Byrd, Daniel	9/16/15	View
83	Buystedt, Jeff	Water Reclamation Facility	Complete	9/18/15	2/4/16	Buystedt, Jeff	2/4/16	View
84	Hansen, Matthew	Water Reclamation Facility	Complete	9/18/15	1/2/16	Hansen, Matthew	1/2/16	View
85	Armer, Mike	Pilot Butte Campus	Complete	9/18/15	9/9/15	Armer, Mike	9/9/15	View
86	Stensland, David	Boyd Acres	Complete	9/18/15	9/17/15	Stensland, David	9/17/15	View
87	Milligan, Will	Boyd Acres	Complete	9/18/15	9/11/15	Milligan, Will	9/11/15	View
88	Buchanan, David	Boyd Acres	Complete	9/18/15	9/17/15	Buchanan, David	9/17/15	View
89	McConnell, George	Water Reclamation Facility	Complete	9/18/15	9/11/15	McConnell, George	9/11/15	View
90	Lindsey, James	Pilot Butte Campus	Complete	9/18/15	9/9/15	Lindsey, James	9/9/15	View

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
91	McCloskey, Marcus	Boyd Acres	Complete	9/18/15	9/10/15	McCloskey, Marcus	9/10/15	View
92	Blackwelder, Brice	Boyd Acres	Complete	9/18/15	9/17/15	Blackwelder, Brice	9/17/15	View
93	Mosher, Chris	Boyd Acres	Complete	9/18/15	12/3/15	Mosher, Chris	12/3/15	View
94	Carlson, Tim	Water Reclamation Facility	Complete	9/18/15	9/17/15	Carlson, Tim	9/17/15	View
95	Barnes, Drexell	Water Reclamation Facility	Complete	9/18/15	9/17/15	Barnes, Drexell	9/17/15	View
96	Winter, Kyle	Boyd Acres	Complete	9/18/15	9/10/15	Winter, Kyle	9/10/15	View
97	Mingus, Rod	Boyd Acres	Complete	9/18/15	11/13/15	Mingus, Rod	11/13/15	View
98	Oak, David	Boyd Acres	Complete	9/18/15	9/18/15	Oak, David	9/18/15	View
99	Price, Julie	Boyd Acres	Complete	9/18/15	10/29/15	Price, Julie	10/29/15	View
100	Qual, Craig	Pilot Butte Campus	Complete	9/18/15	10/12/15	Qual, Craig	10/12/15	View
101	Mastrud, Corey	Boyd Acres	Complete	9/18/15	9/8/15	Mastrud, Corey	9/8/15	View
102	Vieira, Steven	Boyd Acres	Complete	9/18/15	9/11/15	Vieira, Steven	9/11/15	View
103	Jackson, Dylan	Pilot Butte Campus	Complete	9/18/15	9/14/15	Jackson, Dylan	9/14/15	View
104	Packebush, Warren	Boyd Acres	Complete	9/18/15	9/17/15	Packebush, Warren	9/17/15	View
105	Leath, David	Boyd Acres	Complete	9/28/15	4/28/16	Leath, David	4/28/16	View
106	Truax, Tim	Water Reclamation Facility	Not Started	11/10/15				

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
107	Baker, Galen	Pilot Butte Campus	Not Started	9/18/15				
108	Barnard, Justin	Pilot Butte Campus	Complete	3/28/16	5/17/16	Barnard, Justin	5/17/16	View
109	Chamberlain, Eric	Boyd Acres	Complete	5/10/16	5/23/16	Chamberlain, Eric	5/23/16	View
110	Mickey, Marc	Water Reclamation Facility	Complete	9/18/15	9/11/15	Mickey, Marc	9/11/15	View
111	Schwartz, James	Pilot Butte Campus	Complete	9/18/15	7/7/16	Schwartz, James	7/7/16	View
112	Edde, Wendy	Boyd Acres	Complete	9/18/15	10/1/15	Edde, Wendy	10/1/15	View
113	Blake, Christopher	Pilot Butte Campus	Complete	9/18/15	9/23/15	Blake, Christopher	9/23/15	View
114	Buhmann, Donald	Boyd Acres	Complete	9/18/15	9/28/15	Buhmann, Donald	9/28/15	View
115	Hall, Matt	Boyd Acres	Complete	9/18/15	9/21/15	Hall, Matt	9/21/15	View
116	Ostendorff, Shannon	Boyd Acres	Complete	9/18/15	7/14/16	Ostendorff, Shannon	7/14/16	View
117	Newberg, Doug	Pilot Butte Campus	Complete	9/18/15	9/10/15	Newberg, Doug	9/10/15	View
118	Donato, Natalie	Boyd Acres	Complete	9/18/15	9/10/15	Donato, Natalie	9/10/15	View
119	Borgognoni, Sam	Water Reclamation Facility	Complete	9/18/15	9/18/15	Borgognoni, Sam	9/18/15	View
120	Judd, Gary	Bend Municipal Airport	Complete	9/18/15	9/10/15	Judd, Gary	9/10/15	View
121	Larson, Ron	Boyd Acres	Complete	9/18/15	9/9/15	Larson, Ron	9/9/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
122	Petitmermet, Sean	Boyd Acres	Complete	9/18/15	9/10/15	Petitmermet, Sean	9/10/15	View
123	Moulder, Lon	Water Reclamation Facility	Complete	9/18/15	9/22/15	Moulder, Lon	9/22/15	View
124	Gillette, Mike	Boyd Acres	Complete	9/18/15	11/5/15	Gillette, Mike	11/5/15	View
125	Smith, William	Pilot Butte Campus	Complete	9/18/15	12/16/15	Smith, William	12/16/15	View
126	Klotz, Ian	Boyd Acres	Complete	9/18/15	9/22/15	Klotz, Ian	9/22/15	View
127	Richmond, Paul "Stu"	Boyd Acres	Complete	9/18/15	9/10/15	Richmond, Paul "Stu"	9/10/15	View
128	Babich, Tyler	Boyd Acres	Complete	9/18/15	9/11/15	Babich, Tyler	9/11/15	View
129	Rader, Barbara	Pilot Butte Campus	Complete	9/18/15	9/17/15	Rader, Barbara	9/17/15	View
130	Kuss, Richard	Boyd Acres	Complete	9/18/15	9/17/15	Kuss, Richard	9/17/15	View
131	Wright, Kim	Boyd Acres	Complete	9/18/15	9/9/15	Wright, Kim	9/9/15	View
132	Stenkamp, Skippy	Pilot Butte Campus	Complete	9/18/15	9/8/15	Stenkamp, Skippy	9/8/15	View
133	Packebush (pka: Kristiansen), Mary	Boyd Acres	Complete	9/18/15	9/4/15	Packebush (pka: Kristiansen), Mary	9/4/15	View
134	Munson, AJ	Pilot Butte Campus	Complete	9/18/15	9/14/15	Munson, AJ	9/14/15	View
135	Richardson, Ty	Boyd Acres	Complete	9/18/15	1/28/16	Richardson, Ty	1/28/16	View
136	Davenport, Christina	Boyd Acres	Complete	9/18/15	9/29/15	Davenport, Christina	9/29/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
137	Jones, Shane	Pilot Butte Campus	Complete	9/18/15	10/20/15	Jones, Shane	10/20/15	View
138	Ristoff, Kelly	Boyd Acres	Complete	9/18/15	9/18/15	Ristoff, Kelly	9/18/15	View
139	Lancaster, Quirt	Pilot Butte Campus	Complete	9/18/15	9/18/15	Lancaster, Quirt	9/18/15	View
140	Hall, Harold "Jimmy"	Pilot Butte Campus	Complete	9/18/15	9/9/15	Hall, Harold "Jimmy"	9/9/15	View
141	Gardner, Greg "Scott"	Boyd Acres	Complete	9/18/15	9/8/15	Gardner, Greg "Scott"	9/8/15	View
142	McAteer, Nick	Boyd Acres	Complete	12/7/15	12/31/15	McAteer, Nick	12/31/15	View
143	Dennis, Jay	Pilot Butte Campus	Complete	3/28/16	5/19/16	Dennis, Jay	5/19/16	View
144	Denning, Dan	Boyd Acres	Complete	8/8/16	9/8/16	Denning, Dan	9/8/16	View

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Row	Assigned		Progress	Due Date	Start	Completed		View
	To	Location				By	On	
1	Edwards, Mike	Boyd Acres	Complete	9/30/15	9/16/15	Edwards, Mike	9/16/15	View
2	Packebush, Warren	Boyd Acres	Complete	9/30/15	9/17/15	Packebush, Warren	9/17/15	View
3	Lindsey, James	Pilot Butte Campus	Complete	9/30/15	10/9/15	Lindsey, James	10/9/15	View
4	Wolter, Mark	Boyd Acres	Complete	9/30/15	12/24/15	Wolter, Mark	12/24/15	View
5	Graham, Kelly	Boyd Acres	Complete	9/30/15	10/1/15	Graham, Kelly	10/1/15	View
6	Pierce, David	Pilot Butte Campus	Not Started	9/30/15				
7	Somers, Travis	Boyd Acres	Complete	9/30/15	12/24/15	Somers, Travis	12/24/15	View
8	Canaday, Diane	Pilot Butte Campus	Complete	9/30/15	10/29/15	Canaday, Diane	10/29/15	View
9	Vieira, Steven	Boyd Acres	Complete	9/30/15	10/1/15	Vieira, Steven	10/1/15	View
10	McConnell, George	Water Reclamation Facility	Complete	9/30/15	9/24/15	McConnell, George	9/24/15	View
11	Woods, Rawlin	Boyd Acres	Complete	9/30/15	9/17/15	Woods, Rawlin	10/1/15	View
12	Judd, Arthur	Boyd Acres	Complete	9/30/15	9/17/15	Judd, Arthur	9/17/15	View
13	Riley, Steve	Boyd Acres	Complete	9/30/15	9/17/15	Riley, Steve	9/17/15	View
14	Alley, Mary Beth	Pilot Butte Campus	Complete	9/30/15	9/21/15	Alley, Mary Beth	9/21/15	View
15	Walsworth, Justin	Boyd Acres	Complete	9/30/15	9/17/15	Walsworth, Justin	9/17/15	View
16	Hanson, Hardy	Pilot Butte Campus	Not Started	9/30/15				
17	Skaggs, Dan	Boyd Acres	Complete	9/30/15	9/17/15	Skaggs, Dan	9/17/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
18	Kuss, Richard	Boyd Acres	Complete	9/30/15	9/17/15	Kuss, Richard	9/17/15	View
19	Oak, David	Boyd Acres	Complete	9/30/15	9/18/15	Oak, David	9/18/15	View
20	Klotz, Ian	Boyd Acres	Complete	9/30/15	11/9/15	Klotz, Ian	11/9/15	View
21	Walling, Tom	Water Reclamation Facility	Complete	9/30/15	9/17/15	Walling, Tom	9/17/15	View
22	Utley, Aaron	Water Reclamation Facility	Complete	9/30/15	9/17/15	Utley, Aaron	9/17/15	View
23	Lessar, Joshua	Pilot Butte Campus	Complete	9/30/15	9/17/15	Lessar, Joshua	9/17/15	View
24	Schmidt, Daniel	Pilot Butte Campus	Complete	9/30/15	10/19/15	Schmidt, Daniel	10/19/15	View
25	Mastrud, Corey	Boyd Acres	Complete	9/30/15	10/23/15	Mastrud, Corey	10/23/15	View
26	Goe, Kerry	Pilot Butte Campus	Complete	9/30/15	11/17/15	Goe, Kerry	11/17/15	View
27	Barnard, Justin	Pilot Butte Campus	Complete	3/28/16	5/18/16	Barnard, Justin	5/18/16	View
28	Denning, Dan	Boyd Acres	Complete	8/8/16	9/8/16	Denning, Dan	9/8/16	View
29	Beck, Troy	Boyd Acres	Complete	9/30/15	11/30/15	Beck, Troy	11/30/15	View
30	Rogers, William "Ed"	Water Reclamation Facility	Complete	9/30/15	12/10/15	Rogers, William "Ed"	12/10/15	View
31	Hall, Harold "Jimmy"	Pilot Butte Campus	Complete	9/30/15	10/9/15	Hall, Harold "Jimmy"	10/9/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
32	Packebush (pka: Kristiansen), Mary	Boyd Acres	Complete	9/30/15	9/30/15	Packebush (pka: Kristiansen), Mary	9/30/15	View
33	Larson, Ron	Boyd Acres	Complete	9/30/15	9/16/15	Larson, Ron	9/16/15	View
34	Davenport, Christina	Boyd Acres	Complete	9/30/15	9/29/15	Davenport, Christina	9/29/15	View
35	Sanvitale, Spencer	Boyd Acres	Complete	9/30/15	9/17/15	Sanvitale, Spencer	9/17/15	View
36	Schwartz, James	Pilot Butte Campus	Complete	9/30/15	7/7/16	Schwartz, James	7/7/16	View
37	Daniel, Jay	Pilot Butte Campus	Complete	9/30/15	11/23/15	Daniel, Jay	11/23/15	View
38	Newberg, Doug	Pilot Butte Campus	Complete	9/30/15	9/17/15	Newberg, Doug	9/17/15	View
39	Prince, Jeannette	Pilot Butte Campus	Complete	9/30/15	9/17/15	Prince, Jeannette	9/17/15	View
40	Price, Julie	Boyd Acres	Complete	9/30/15	10/29/15	Price, Julie	10/29/15	View
41	Brick, Paul	Boyd Acres	Complete	9/30/15	12/10/15	Brick, Paul	12/10/15	View
42	Gillette, Mike	Boyd Acres	Complete	9/30/15	11/5/15	Gillette, Mike	11/5/15	View
43	Roshone, Elmer	Water Reclamation Facility	Complete	9/30/15	9/20/15	Roshone, Elmer	9/20/15	View
44	Petitmermet, Sean	Boyd Acres	Complete	9/30/15	9/21/15	Petitmermet, Sean	9/21/15	View
45	Volkman, Richard	Pilot Butte Campus	Complete	9/30/15	10/1/15	Volkman, Richard	10/1/15	View
46	Byrd, Steve	Boyd Acres	Complete	9/30/15	9/21/15	Byrd, Steve	9/21/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
47	Oliver, Josh	Pilot Butte Campus	Complete	9/30/15	10/28/15	Oliver, Josh	10/28/15	View
48	Thompson, Scott	Water Reclamation Facility	Complete	9/30/15	1/25/16	Thompson, Scott	1/25/16	View
49	Hansen, Matthew	Water Reclamation Facility	Complete	9/30/15	1/2/16	Hansen, Matthew	1/2/16	View
50	Byrd, Daniel	Pilot Butte Campus	Complete	9/30/15	9/16/15	Byrd, Daniel	9/16/15	View
51	Patterson, Tyler	Boyd Acres	Complete	9/30/15	10/28/15	Patterson, Tyler	10/28/15	View
52	Combs, Ken	Pilot Butte Campus	Complete	9/30/15	9/16/15	Combs, Ken	9/16/15	View
53	McCloskey, Marcus	Boyd Acres	Complete	9/30/15	10/1/15	McCloskey, Marcus	10/1/15	View
54	Blake, Christopher	Pilot Butte Campus	Complete	9/30/15	10/12/15	Blake, Christopher	10/12/15	View
55	Wright, Kim	Boyd Acres	Complete	9/30/15	9/24/15	Wright, Kim	9/24/15	View
56	Moulder, Lon	Water Reclamation Facility	Complete	9/30/15	9/22/15	Moulder, Lon	9/22/15	View
57	Winter, Kyle	Boyd Acres	Complete	9/30/15	10/1/15	Winter, Kyle	10/1/15	View
58	Scarbrough, Saedell	Pilot Butte Campus	Complete	9/30/15	10/9/15	Scarbrough, Saedell	10/9/15	View
59	Armenta, David	Boyd Acres	Complete	9/30/15	10/8/15	Armenta, David	10/8/15	View
60	Buhmann, Donald	Boyd Acres	Complete	9/30/15	9/28/15	Buhmann, Donald	9/28/15	View
61	Babich, Tyler	Boyd Acres	Complete	9/30/15	9/24/15	Babich, Tyler	9/24/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
62	Hall, Matt	Boyd Acres	Complete	9/30/15	9/21/15	Hall, Matt	9/21/15	View
63	Mosher, Chris	Boyd Acres	Complete	9/30/15	12/3/15	Mosher, Chris	12/3/15	View
64	Rader, Barbara	Pilot Butte Campus	Complete	9/30/15	9/17/15	Rader, Barbara	9/17/15	View
65	Cota, Tony	Pilot Butte Campus	Complete	9/30/15	10/28/15	Cota, Tony	10/28/15	View
66	Malinowski, Adam	Pilot Butte Campus	Complete	9/30/15	10/1/15	Malinowski, Adam	10/1/15	View
67	Elpi-Trainor, Michelle	Water Reclamation Facility	Complete	9/30/15	10/4/15	Elpi-Trainor, Michelle	10/4/15	View
68	Leath, David	Boyd Acres	Complete	9/30/15	10/13/15	Leath, David	10/13/15	View
69	Trask, Kris	Boyd Acres	Complete	9/30/15	4/25/16	Trask, Kris	4/25/16	View
70	Truax, Tim	Water Reclamation Facility	Not Started	11/10/15				
71	Gillespie, Rhett	Bend Municipal Airport	Complete	1/4/16	2/17/16	Gillespie, Rhett	2/17/16	View
72	Chamberlain, Eric	Boyd Acres	Complete	5/10/16	5/23/16	Chamberlain, Eric	5/23/16	View
73	Bean, Everett	Pilot Butte Campus	Not Started	4/12/16				
74	Prazak, Steve	Boyd Acres	Complete	9/30/15	10/1/15	Prazak, Steve	10/1/15	View
75	Jones, Shane	Pilot Butte Campus	Complete	9/30/15	10/20/15	Jones, Shane	10/20/15	View
76	Meistrell, Brenda	Pilot Butte Campus	Complete	9/30/15	9/17/15	Meistrell, Brenda	9/17/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
77	Gardner, Lucas	Pilot Butte Campus	Complete	9/30/15	9/15/15	Gardner, Lucas	9/15/15	View
78	Howe, Carl	Pilot Butte Campus	Complete	9/30/15	7/20/16	Howe, Carl	7/20/16	View
79	Blackwelder, Brice	Boyd Acres	Complete	9/30/15	9/17/15	Blackwelder, Brice	9/17/15	View
80	Morrison, George	Pilot Butte Campus	Not Started	9/30/15				
81	Winter, Scott	Boyd Acres	Complete	9/30/15	9/18/15	Winter, Scott	9/18/15	View
82	Buchanan, David	Boyd Acres	Complete	9/30/15	9/17/15	Buchanan, David	9/17/15	View
83	Mingus, Rod	Boyd Acres	Complete	9/30/15	11/13/15	Mingus, Rod	11/13/15	View
84	Sweet, Connie	Boyd Acres	Complete	9/30/15	9/24/15	Sweet, Connie	9/24/15	View
85	Clarno, Karen	Boyd Acres	Complete	9/30/15	9/17/15	Clarno, Karen	9/17/15	View
86	Carlson, Tim	Water Reclamation Facility	Complete	9/30/15	9/17/15	Carlson, Tim	9/17/15	View
87	Edde, Wendy	Boyd Acres	Complete	9/30/15	10/1/15	Edde, Wendy	10/1/15	View
88	Moody, Reese	Boyd Acres	Complete	9/30/15	10/22/15	Moody, Reese	10/22/15	View
89	Borgognoni, Sam	Water Reclamation Facility	Complete	9/30/15	9/18/15	Borgognoni, Sam	9/18/15	View
90	Taylor, Oakley	Boyd Acres	Complete	9/30/15	10/12/15	Taylor, Oakley	10/12/15	View
91	Cashwell, Spencer	Boyd Acres	Complete	9/30/15	9/21/15	Cashwell, Spencer	9/21/15	View
92	McQuillen, Christy	Pilot Butte Campus	Not Started	9/30/15				

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
93	Kadow, Gina	Bend Municipal Airport	Complete	9/30/15	9/24/15	Kadow, Gina	9/24/15	View
94	Follose, Brandon	Boyd Acres	Complete	9/30/15	9/17/15	Follose, Brandon	9/17/15	View
95	Fore, Erynne	Water Reclamation Facility	Complete	9/30/15	10/6/15	Fore, Erynne	10/6/15	View
96	Hobbs, Eric	Boyd Acres	Complete	9/30/15	9/23/15	Hobbs, Eric	9/23/15	View
97	Gardner, Greg "Scott"	Boyd Acres	Complete	9/30/15	10/1/15	Gardner, Greg "Scott"	10/1/15	View
98	Burghardt, Joe	Water Reclamation Facility	Complete	9/30/15	9/24/15	Burghardt, Joe	9/24/15	View
99	Somers, Robyn	Boyd Acres	Complete	9/30/15	9/24/15	Somers, Robyn	9/24/15	View
100	Hopkins, Robert	Boyd Acres	Complete	9/30/15	9/15/15	Hopkins, Robert	9/15/15	View
101	Borrego, David	Boyd Acres	Complete	9/30/15	9/17/15	Borrego, David	9/17/15	View
102	Cannon, Dennis	Pilot Butte Campus	Complete	9/30/15	11/13/15	Cannon, Dennis	11/13/15	View
103	Ristoff (AKA: Briggs), Teresa	Boyd Acres	Complete	9/30/15	9/21/15	Ristoff (AKA: Briggs), Teresa	9/21/15	View
104	Alexander, Mark	Pilot Butte Campus	Complete	9/30/15	12/9/15	Alexander, Mark	12/9/15	View
105	McAteer, Nick	Boyd Acres	Complete	12/7/15	1/22/16	McAteer, Nick	1/22/16	View
106	Baker, Galen	Pilot Butte Campus	Not Started	9/30/15				

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
107	Bradley III, Roy	Water Reclamation Facility	Complete	3/21/16	3/30/16	Bradley III, Roy	3/30/16	View
108	Dennis, Jay	Pilot Butte Campus	Complete	3/28/16	5/19/16	Dennis, Jay	5/19/16	View
109	Buystedt, Jeff	Water Reclamation Facility	Complete	9/30/15	10/2/15	Buystedt, Jeff	10/2/15	View
110	Richmond, Paul "Stu"	Boyd Acres	Complete	9/30/15	9/17/15	Richmond, Paul "Stu"	9/17/15	View
111	Qual, Craig	Pilot Butte Campus	Complete	9/30/15	10/12/15	Qual, Craig	10/12/15	View
112	Lee, Dave	Boyd Acres	Complete	9/30/15	10/12/15	Lee, Dave	10/12/15	View
113	Jackson, Dylan	Pilot Butte Campus	Complete	9/30/15	1/8/16	Jackson, Dylan	1/8/16	View
114	Armer, Mike	Pilot Butte Campus	Complete	9/30/15	9/22/15	Armer, Mike	9/22/15	View
115	Mickey, Marc	Water Reclamation Facility	Complete	9/30/15	9/24/15	Mickey, Marc	9/24/15	View
116	Vaughan, Ken	Boyd Acres	Complete	9/30/15	9/17/15	Vaughan, Ken	9/17/15	View
117	Stenkamp, Skippy	Pilot Butte Campus	Complete	9/30/15	9/21/15	Stenkamp, Skippy	9/21/15	View
118	Abbas, David	Pilot Butte Campus	Not Started	9/30/15				
119	Munson, AJ	Pilot Butte Campus	Complete	9/30/15	9/15/15	Munson, AJ	9/15/15	View
120	Vencill, Gary	Boyd Acres	Complete	9/30/15	9/17/15	Vencill, Gary	9/17/15	View
121	Findley, Mike	Boyd Acres	Complete	9/30/15	11/23/15	Findley, Mike	11/23/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
122	Rounds, Stuart	Boyd Acres	Complete	9/30/15	9/21/15	Rounds, Stuart	9/21/15	View
123	Ostendorff, Shannon	Boyd Acres	Complete	9/30/15	7/14/16	Ostendorff, Shannon	7/14/16	View
124	Wood, Chris	Boyd Acres	Complete	9/30/15	9/16/15	Wood, Chris	9/16/15	View
125	Smith, William	Pilot Butte Campus	Complete	9/30/15	12/16/15	Smith, William	12/16/15	View
126	Barnes, Drexell	Water Reclamation Facility	Complete	9/30/15	9/17/15	Barnes, Drexell	9/17/15	View
127	Combs, Ty	Pilot Butte Campus	Complete	9/30/15	9/21/15	Combs, Ty	9/21/15	View
128	Waldrop, Will	Pilot Butte Campus	Complete	9/30/15	9/17/15	Waldrop, Will	9/17/15	View
129	Parent, Ethan	Water Reclamation Facility	Complete	9/30/15	9/29/15	Parent, Ethan	9/29/15	View
130	Judd, Gary	Bend Municipal Airport	Complete	9/30/15	9/18/15	Judd, Gary	9/18/15	View
131	Ristoff, Kelly	Boyd Acres	Complete	9/30/15	9/18/15	Ristoff, Kelly	9/18/15	View
132	Richardson, Ty	Boyd Acres	Complete	9/30/15	1/28/16	Richardson, Ty	1/28/16	View
133	Newton, Joe	Pilot Butte Campus	Complete	9/30/15	9/15/15	Newton, Joe	9/15/15	View
134	Thomasson, Shanon (John)	Pilot Butte Campus	Complete	9/30/15	11/5/15	Thomasson, Shanon (John)	11/5/15	View
135	Libolt, Orrin	Boyd Acres	Complete	9/30/15	9/17/15	Libolt, Orrin	9/17/15	View
136	Milligan, Will	Boyd Acres	Complete	9/30/15	9/29/15	Milligan, Will	9/29/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
137	Neiswonger, Paul	Pilot Butte Campus	Complete	9/30/15	10/15/15	Neiswonger, Paul	10/15/15	View
138	Donato, Natalie	Boyd Acres	Complete	9/30/15	9/17/15	Donato, Natalie	9/17/15	View
139	Lancaster, Quirt	Pilot Butte Campus	Complete	9/30/15	9/18/15	Lancaster, Quirt	9/18/15	View
140	Stensland, David	Boyd Acres	Complete	9/30/15	9/17/15	Stensland, David	9/17/15	View
141	Dorsey, Christine	Pilot Butte Campus	Complete	9/30/15	9/17/15	Dorsey, Christine	9/17/15	View
142	Hamilton, Grant	Boyd Acres	Complete	9/30/15	9/18/15	Hamilton, Grant	9/18/15	View
143	Finney, Lance	Water Reclamation Facility	Complete	11/30/15	12/15/15	Finney, Lance	12/15/15	View
144	LaCasse, Gary	Pilot Butte Campus	Complete	5/26/16	8/3/16	LaCasse, Gary	8/3/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
1	Gillette, Mike	Boyd Acres	Complete	5/31/16	5/9/16	Gillette, Mike	5/9/16	View
2	Daniel, Jay	Pilot Butte Campus	Complete	5/31/16	6/23/16	Daniel, Jay	6/23/16	View
3	Ristoff, Kelly	Boyd Acres	Complete	5/31/16	5/17/16	Ristoff, Kelly	5/17/16	View
4	Lancaster, Quirt	Pilot Butte Campus	Complete	5/31/16	5/16/16	Lancaster, Quirt	5/16/16	View
5	Cashwell, Spencer	Boyd Acres	Complete	5/31/16	5/5/16	Cashwell, Spencer	5/5/16	View
6	Cannon, Dennis	Pilot Butte Campus	Not Started	5/31/16				
7	Lee, Dave	Boyd Acres	Complete	5/31/16	5/3/16	Lee, Dave	5/3/16	View
8	Judd, Arthur	Boyd Acres	Not Started	5/31/16				
9	Riley, Steve	Boyd Acres	Complete	5/31/16	6/2/16	Riley, Steve	6/2/16	View
10	Prince, Jeannette	Pilot Butte Campus	Complete	5/31/16	5/4/16	Prince, Jeannette	5/4/16	View
11	Taylor, Oakley	Boyd Acres	Complete	5/31/16	5/5/16	Taylor, Oakley	5/5/16	View
12	Findley, Mike	Boyd Acres	Complete	5/31/16	5/19/16	Findley, Mike	5/19/16	View
13	Babich, Tyler	Boyd Acres	Complete	5/31/16	5/11/16	Babich, Tyler	5/11/16	View
14	Patterson, Tyler	Boyd Acres	Complete	5/31/16	5/25/16	Patterson, Tyler	5/25/16	View
15	Carlson, Tim	Water Reclamation Facility	Complete	5/31/16	5/26/16	Carlson, Tim	5/26/16	View
16	Richardson, Ty	Boyd Acres	Complete	5/31/16	6/14/16	Richardson, Ty	6/14/16	View
17	Rounds, Stuart	Boyd Acres	Complete	5/31/16	5/5/16	Rounds, Stuart	5/5/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
18	Blake, Christopher	Pilot Butte Campus	Complete	5/31/16	5/4/16	Blake, Christopher	5/4/16	View
19	Cota, Tony	Pilot Butte Campus	Complete	5/31/16	6/21/16	Cota, Tony	6/21/16	View
20	Neiswonger, Paul	Pilot Butte Campus	Complete	5/31/16	6/2/16	Neiswonger, Paul	6/2/16	View
21	Follose, Brandon	Boyd Acres	Complete	5/31/16	5/5/16	Follose, Brandon	5/5/16	View
22	Gardner, Lucas	Pilot Butte Campus	Complete	5/31/16	5/18/16	Gardner, Lucas	5/18/16	View
23	Lessar, Joshua	Pilot Butte Campus	Complete	5/31/16	5/2/16	Lessar, Joshua	5/2/16	View
24	Davenport, Christina	Boyd Acres	Complete	5/31/16	6/13/16	Davenport, Christina	6/13/16	View
25	Hall, Matt	Boyd Acres	Complete	5/31/16	5/6/16	Hall, Matt	5/6/16	View
26	Robertson, Joshua	Wall St Annex	Not Started	5/31/16				
27	Webster, Jessica	Wall St Annex	Complete	5/31/16	6/2/16	Webster, Jessica	6/2/16	View
28	Barnard, Justin	Pilot Butte Campus	Complete	5/31/16	5/17/16	Barnard, Justin	5/17/16	View
29	Chamberlain, Eric	Boyd Acres	Complete	5/31/16	5/23/16	Chamberlain, Eric	5/23/16	View
30	Homgren, Joseph	Boyd Acres	Not Started	7/26/16				
31	Woods, Rawlin	Boyd Acres	Complete	5/31/16	5/5/16	Woods, Rawlin	5/5/16	View
32	Schwartz, James	Pilot Butte Campus	Complete	5/31/16	7/7/16	Schwartz, James	7/7/16	View
33	Somers, Robyn	Boyd Acres	Complete	5/31/16	5/5/16	Somers, Robyn	5/5/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
34	Combs, Ken	Pilot Butte Campus	Complete	5/31/16	5/17/16	Combs, Ken	5/17/16	View
35	Wood, Chris	Boyd Acres	Complete	5/31/16	5/3/16	Wood, Chris	5/3/16	View
36	Fore, Erynne	Water Reclamation Facility	Complete	5/31/16	5/5/16	Fore, Erynne	5/5/16	View
37	Konop, Patrick	Wall St Annex	Complete	5/31/16	6/9/16	Konop, Patrick	6/9/16	View
38	Borgognoni, Sam	Water Reclamation Facility	Complete	5/31/16	5/3/16	Borgognoni, Sam	5/3/16	View
39	Larson, Ron	Boyd Acres	Complete	5/31/16	5/2/16	Larson, Ron	5/2/16	View
40	Armer, Mike	Pilot Butte Campus	Complete	5/31/16	5/11/16	Armer, Mike	5/11/16	View
41	Petitmermet, Sean	Boyd Acres	Complete	5/31/16	5/4/16	Petitmermet, Sean	5/4/16	View
42	Smith, William	Pilot Butte Campus	Complete	5/31/16	5/5/16	Smith, William	5/5/16	View
43	Klotz, Ian	Boyd Acres	In-Process	5/31/16	7/21/16			
44	Thomasson, Shanon (John)	Pilot Butte Campus	Not Started	5/31/16				
45	Blackwelder, Brice	Boyd Acres	Complete	5/31/16	6/17/16	Blackwelder, Brice	6/17/16	View
46	Mosher, Chris	Boyd Acres	Complete	5/31/16	5/26/16	Mosher, Chris	5/26/16	View
47	Wolter, Mark	Boyd Acres	Complete	5/31/16	5/9/16	Wolter, Mark	5/9/16	View
48	Mingus, Rod	Boyd Acres	Complete	5/31/16	5/16/16	Mingus, Rod	5/16/16	View
49	Munson, AJ	Pilot Butte Campus	Complete	5/31/16	5/5/16	Munson, AJ	5/5/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
50	Qual, Craig	Pilot Butte Campus	Complete	5/31/16	5/5/16	Qual, Craig	5/5/16	View
51	Hopkins, Robert	Boyd Acres	Complete	5/31/16	5/3/16	Hopkins, Robert	5/3/16	View
52	Goe, Kerry	Pilot Butte Campus	Complete	5/31/16	5/18/16	Goe, Kerry	5/18/16	View
53	Packebush, Warren	Boyd Acres	Complete	5/31/16	5/24/16	Packebush, Warren	5/24/16	View
54	Vencill, Gary	Boyd Acres	Complete	5/31/16	5/6/16	Vencill, Gary	5/6/16	View
55	Bean, Everett	Pilot Butte Campus	Not Started	5/31/16				
56	Nichols, Garrett	Boyd Acres	Not Started	8/15/16				
57	Howe, Carl	Pilot Butte Campus	Not Started	5/31/16				
58	Parent, Ethan	Water Reclamation Facility	Complete	5/31/16	5/24/16	Parent, Ethan	5/24/16	View
59	Mickey, Marc	Water Reclamation Facility	Complete	5/31/16	5/9/16	Mickey, Marc	5/9/16	View
60	Beck, Troy	Boyd Acres	Complete	5/31/16	5/9/16	Beck, Troy	5/9/16	View
61	Brick, Paul	Boyd Acres	Complete	5/31/16	8/18/16	Brick, Paul	8/18/16	View
62	Bradley III, Roy	Water Reclamation Facility	Complete	5/31/16	6/2/16	Bradley III, Roy	6/2/16	View
63	Buhmann, Donald	Boyd Acres	Complete	5/31/16	6/22/16	Buhmann, Donald	6/22/16	View
64	Edwards, Mike	Boyd Acres	Complete	5/31/16	5/5/16	Edwards, Mike	5/5/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
65	Waldrop, Will	Pilot Butte Campus	Complete	5/31/16	5/10/16	Waldrop, Will	5/10/16	View
66	Hobbs, Eric	Boyd Acres	Complete	5/31/16	5/12/16	Hobbs, Eric	5/12/16	View
67	Byrd, Daniel	Pilot Butte Campus	Complete	5/31/16	5/9/16	Byrd, Daniel	5/9/16	View
68	Moody, Reese	Boyd Acres	Complete	5/31/16	9/22/16	Moody, Reese	9/22/16	View
69	Rogers, William "Ed"	Water Reclamation Facility	Complete	5/31/16	6/9/16	Rogers, William "Ed"	6/9/16	View
70	Milligan, Will	Boyd Acres	Complete	5/31/16	5/6/16	Milligan, Will	5/6/16	View
71	Winter, Scott	Boyd Acres	Complete	5/31/16	5/5/16	Winter, Scott	5/5/16	View
72	Volkman, Richard	Pilot Butte Campus	Complete	5/31/16	5/5/16	Volkman, Richard	5/5/16	View
73	Somers, Travis	Boyd Acres	Not Started	5/31/16				
74	Byrd, Steve	Boyd Acres	Complete	5/31/16	5/5/16	Byrd, Steve	5/5/16	View
75	Rader, Barbara	Pilot Butte Campus	Complete	5/31/16	5/11/16	Rader, Barbara	5/11/16	View
76	Kuss, Richard	Boyd Acres	Complete	5/31/16	5/5/16	Kuss, Richard	5/5/16	View
77	Stenkamp, Skippy	Pilot Butte Campus	Complete	5/31/16	5/10/16	Stenkamp, Skippy	5/10/16	View
78	Roshone, Elmer	Water Reclamation Facility	Complete	5/31/16	5/9/16	Roshone, Elmer	5/9/16	View
79	Thompson, Scott	Water Reclamation Facility	Complete	5/31/16	8/31/16	Thompson, Scott	8/31/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
80	Jones, Shane	Pilot Butte Campus	Not Started	5/31/16				
81	Mastrud, Corey	Boyd Acres	Complete	5/31/16	6/20/16	Mastrud, Corey	6/20/16	View
82	Hall, Harold "Jimmy"	Pilot Butte Campus	Complete	5/31/16	6/28/16	Hall, Harold "Jimmy"	6/28/16	View
83	Gardner, Greg "Scott"	Boyd Acres	Complete	5/31/16	8/19/16	Gardner, Greg "Scott"	8/19/16	View
84	Dennis, Jay	Pilot Butte Campus	Complete	5/31/16	5/19/16	Dennis, Jay	5/19/16	View
85	Denning, Dan	Boyd Acres	Complete	8/8/16	9/8/16	Denning, Dan	9/8/16	View
86	Sabourin, Garrett	Wall St Annex	Not Started	5/31/16				
87	Pierce, David	Pilot Butte Campus	Not Started	5/31/16				
88	Baker, Galen	Pilot Butte Campus	Not Started	5/31/16				
89	Newton, Joe	Pilot Butte Campus	Complete	5/31/16	5/25/16	Newton, Joe	5/25/16	View
90	Vaughan, Ken	Boyd Acres	Complete	5/31/16	5/5/16	Vaughan, Ken	5/5/16	View
91	Leath, David	Boyd Acres	Complete	5/31/16	5/5/16	Leath, David	5/5/16	View
92	Skaggs, Dan	Boyd Acres	Complete	5/31/16	5/5/16	Skaggs, Dan	5/5/16	View
93	Schmidt, Daniel	Pilot Butte Campus	Complete	5/31/16	5/17/16	Schmidt, Daniel	5/17/16	View
94	Finney, Lance	Water Reclamation Facility	Complete	5/31/16	6/23/16	Finney, Lance	6/23/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
95	Burghardt, Joe	Water Reclamation Facility	Complete	5/31/16	5/9/16	Burghardt, Joe	5/9/16	View
96	Libolt, Orrin	Boyd Acres	Complete	5/31/16	5/5/16	Libolt, Orrin	5/5/16	View
97	Newberg, Doug	Pilot Butte Campus	Complete	5/31/16	5/9/16	Newberg, Doug	5/9/16	View
98	Armenta, David	Boyd Acres	Complete	5/31/16	5/5/16	Armenta, David	5/5/16	View
99	Walsworth, Justin	Boyd Acres	Complete	5/31/16	5/5/16	Walsworth, Justin	5/5/16	View
100	Moulder, Lon	Water Reclamation Facility	Complete	5/31/16	6/9/16	Moulder, Lon	6/9/16	View
101	McConnell, George	Water Reclamation Facility	Complete	5/31/16	5/5/16	McConnell, George	5/5/16	View
102	Lindsey, James	Pilot Butte Campus	Complete	5/31/16	5/13/16	Lindsey, James	5/13/16	View
103	Combs, Ty	Pilot Butte Campus	Complete	5/31/16	6/2/16	Combs, Ty	6/2/16	View
104	McCloskey, Marcus	Boyd Acres	Complete	5/31/16	6/23/16	McCloskey, Marcus	6/23/16	View
105	Malinowski, Adam	Pilot Butte Campus	Complete	5/31/16	5/12/16	Malinowski, Adam	5/12/16	View
106	Graham, Kelly	Boyd Acres	Complete	5/31/16	5/5/16	Graham, Kelly	5/5/16	View
107	Hamilton, Grant	Boyd Acres	Complete	5/31/16	5/5/16	Hamilton, Grant	5/5/16	View
108	Oak, David	Boyd Acres	Complete	5/31/16	5/12/16	Oak, David	5/12/16	View
109	Borrego, David	Boyd Acres	Complete	5/31/16	5/5/16	Borrego, David	5/5/16	View

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
110	Scarbrough, Saedell	Pilot Butte Campus	Complete	5/31/16	9/8/16	Scarbrough, Saedell	9/8/16	View
111	Vieira, Steven	Boyd Acres	Complete	5/31/16	6/7/16	Vieira, Steven	6/7/16	View
112	Gillespie, Rhett	Bend Municipal Airport	Complete	5/31/16	6/14/16	Gillespie, Rhett	6/14/16	View
113	Morrison, George	Pilot Butte Campus	Not Started	5/31/16				
114	Fugate, Lance	Pilot Butte Campus	Complete	6/16/16	8/3/16	Fugate, Lance	8/3/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
1	Sweet, Connie	Boyd Acres	Complete	11/30/15	11/16/15	Sweet, Connie	11/16/15	View
2	Hamilton, Grant	Boyd Acres	Complete	11/30/15	11/17/15	Hamilton, Grant	11/17/15	View
3	Wolter, Mark	Boyd Acres	Complete	11/30/15	12/24/15	Wolter, Mark	12/24/15	View
4	Graham, Kelly	Boyd Acres	Complete	11/30/15	11/5/15	Graham, Kelly	11/5/15	View
5	Price, Julie	Boyd Acres	Complete	11/30/15	12/17/15	Price, Julie	12/17/15	View
6	Cashwell, Spencer	Boyd Acres	Complete	11/30/15	11/5/15	Cashwell, Spencer	11/5/15	View
7	Cannon, Dennis	Pilot Butte Campus	Complete	11/30/15	1/20/16	Cannon, Dennis	1/20/16	View
8	Somers, Travis	Boyd Acres	Complete	11/30/15	12/24/15	Somers, Travis	12/24/15	View
9	Schwartz, James	Pilot Butte Campus	Complete	11/30/15	7/7/16	Schwartz, James	7/7/16	View
10	Waldrop, Will	Pilot Butte Campus	Complete	11/30/15	11/12/15	Waldrop, Will	11/12/15	View
11	Burghardt, Joe	Water Reclamation Facility	Complete	11/30/15	12/3/15	Burghardt, Joe	12/3/15	View
12	Lee, Dave	Boyd Acres	Complete	11/30/15	11/13/15	Lee, Dave	11/13/15	View
13	Malinowski, Adam	Pilot Butte Campus	Complete	11/30/15	1/4/16	Malinowski, Adam	1/4/16	View
14	Qual, Craig	Pilot Butte Campus	Complete	11/30/15	11/5/15	Qual, Craig	11/5/15	View
15	Prazak, Steve	Boyd Acres	Complete	11/30/15	11/5/15	Prazak, Steve	11/5/15	View
16	Volkman, Richard	Pilot Butte Campus	Complete	11/30/15	12/31/15	Volkman, Richard	12/31/15	View
17	Taylor, Oakley	Boyd Acres	Complete	11/30/15	11/5/15	Taylor, Oakley	11/5/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
18	Walsworth, Justin	Boyd Acres	Complete	11/30/15	11/5/15	Walsworth, Justin	11/5/15	View
19	Hanson, Hardy	Pilot Butte Campus	Not Started	11/30/15				
20	Morrison, George	Pilot Butte Campus	Not Started	11/30/15				
21	Alexander, Mark	Pilot Butte Campus	Complete	11/30/15	12/9/15	Alexander, Mark	12/9/15	View
22	Findley, Mike	Boyd Acres	Complete	11/30/15	11/23/15	Findley, Mike	11/23/15	View
23	Kadow, Gina	Bend Municipal Airport	Complete	11/30/15	11/12/15	Kadow, Gina	11/12/15	View
24	Oak, David	Boyd Acres	Complete	11/30/15	11/13/15	Oak, David	11/13/15	View
25	Elpi-Trainor, Michelle	Water Reclamation Facility	Complete	11/30/15	11/8/15	Elpi-Trainor, Michelle	11/8/15	View
26	Rounds, Stuart	Boyd Acres	Complete	11/30/15	11/5/15	Rounds, Stuart	11/5/15	View
27	Abbas, David	Pilot Butte Campus	Not Started	11/30/15				
28	Parent, Ethan	Water Reclamation Facility	Complete	11/30/15	11/5/15	Parent, Ethan	11/5/15	View
29	Utley, Aaron	Water Reclamation Facility	Complete	11/30/15	11/5/15	Utley, Aaron	11/5/15	View
30	Armenta, David	Boyd Acres	Complete	11/30/15	11/5/15	Armenta, David	11/5/15	View
31	Gardner, Lucas	Pilot Butte Campus	Complete	11/30/15	11/13/15	Gardner, Lucas	11/13/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
32	Winter, Scott	Boyd Acres	Complete	11/30/15	11/5/15	Winter, Scott	11/5/15	View
33	Mastrud, Corey	Boyd Acres	Complete	11/30/15	11/6/15	Mastrud, Corey	11/6/15	View
34	Leath, David	Boyd Acres	Complete	11/30/15	4/28/16	Leath, David	4/28/16	View
35	Finney, Lance	Water Reclamation Facility	Complete	11/30/15	12/15/15	Finney, Lance	12/15/15	View
36	McAteer, Nick	Boyd Acres	Complete	12/7/15	12/31/15	McAteer, Nick	12/31/15	View
37	Bradley III, Roy	Water Reclamation Facility	Complete	3/21/16	3/30/16	Bradley III, Roy	3/30/16	View
38	Newton, Joe	Pilot Butte Campus	Complete	11/30/15	11/5/15	Newton, Joe	11/5/15	View
39	Clarno, Karen	Boyd Acres	Complete	11/30/15	11/5/15	Clarno, Karen	11/5/15	View
40	Vaughan, Ken	Boyd Acres	Complete	11/30/15	11/12/15	Vaughan, Ken	11/12/15	View
41	Woods, Rawlin	Boyd Acres	Complete	11/30/15	11/2/15	Woods, Rawlin	11/2/15	View
42	Edde, Wendy	Boyd Acres	Complete	11/30/15	11/5/15	Edde, Wendy	11/5/15	View
43	Somers, Robyn	Boyd Acres	Complete	11/30/15	11/9/15	Somers, Robyn	11/9/15	View
44	Brick, Paul	Boyd Acres	Complete	11/30/15	12/18/15	Brick, Paul	12/18/15	View
45	Canaday, Diane	Pilot Butte Campus	Complete	11/30/15	12/15/15	Canaday, Diane	12/15/15	View
46	Combs, Ken	Pilot Butte Campus	Complete	11/30/15	11/5/15	Combs, Ken	11/5/15	View
47	Wood, Chris	Boyd Acres	Complete	11/30/15	12/3/15	Wood, Chris	12/3/15	View
48	Edwards, Mike	Boyd Acres	Complete	11/30/15	11/12/15	Edwards, Mike	11/12/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
49	McQuillen, Christy	Pilot Butte Campus	Not Started	11/30/15				
50	Oliver, Josh	Pilot Butte Campus	Complete	11/30/15	12/7/15	Oliver, Josh	12/7/15	View
51	Newberg, Doug	Pilot Butte Campus	Complete	11/30/15	11/16/15	Newberg, Doug	11/16/15	View
52	Donato, Natalie	Boyd Acres	Complete	11/30/15	11/5/15	Donato, Natalie	11/5/15	View
53	Borgognoni, Sam	Water Reclamation Facility	Complete	11/30/15	11/3/15	Borgognoni, Sam	11/3/15	View
54	Judd, Gary	Bend Municipal Airport	Complete	11/30/15	1/14/16	Judd, Gary	1/14/16	View
55	Cota, Tony	Pilot Butte Campus	Complete	11/30/15	11/13/15	Cota, Tony	11/13/15	View
56	Petitmermet, Sean	Boyd Acres	Complete	11/30/15	11/23/15	Petitmermet, Sean	11/23/15	View
57	Moulder, Lon	Water Reclamation Facility	Complete	11/30/15	12/10/15	Moulder, Lon	12/10/15	View
58	Gillette, Mike	Boyd Acres	Complete	11/30/15	11/5/15	Gillette, Mike	11/5/15	View
59	Smith, William	Pilot Butte Campus	Complete	11/30/15	12/16/15	Smith, William	12/16/15	View
60	Thomasson, Shanon (John)	Pilot Butte Campus	Complete	11/30/15	11/5/15	Thomasson, Shanon (John)	11/5/15	View
61	Neiswonger, Paul	Pilot Butte Campus	Complete	11/30/15	12/22/15	Neiswonger, Paul	12/22/15	View
62	Babich, Tyler	Boyd Acres	Complete	11/30/15	12/1/15	Babich, Tyler	12/1/15	View

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
63	Rader, Barbara	Pilot Butte Campus	Complete	11/30/15	11/13/15	Rader, Barbara	11/13/15	View
64	Kuss, Richard	Boyd Acres	Complete	11/30/15	11/20/15	Kuss, Richard	11/20/15	View
65	Wright, Kim	Boyd Acres	Complete	11/30/15	11/12/15	Wright, Kim	11/12/15	View
66	Winter, Kyle	Boyd Acres	Complete	11/30/15	11/12/15	Winter, Kyle	11/12/15	View
67	Mingus, Rod	Boyd Acres	Complete	11/30/15	1/29/16	Mingus, Rod	1/29/16	View
68	Thompson, Scott	Water Reclamation Facility	Complete	11/30/15	1/25/16	Thompson, Scott	1/25/16	View
69	Hopkins, Robert	Boyd Acres	Complete	11/30/15	11/2/15	Hopkins, Robert	11/2/15	View
70	Goe, Kerry	Pilot Butte Campus	Complete	11/30/15	11/18/15	Goe, Kerry	11/18/15	View
71	Ristoff (AKA: Briggs), Teresa	Boyd Acres	Complete	11/30/15	11/13/15	Ristoff (AKA: Briggs), Teresa	11/13/15	View
72	Ristoff, Kelly	Boyd Acres	Complete	11/30/15	11/5/15	Ristoff, Kelly	11/5/15	View
73	Lancaster, Quirt	Pilot Butte Campus	Complete	11/30/15	12/15/15	Lancaster, Quirt	12/15/15	View
74	Hall, Harold "Jimmy"	Pilot Butte Campus	Complete	11/30/15	11/3/15	Hall, Harold "Jimmy"	11/3/15	View
75	Barnard, Justin	Pilot Butte Campus	Complete	3/28/16	5/18/16	Barnard, Justin	5/18/16	View
76	Dennis, Jay	Pilot Butte Campus	Complete	3/28/16	5/19/16	Dennis, Jay	5/19/16	View
77	Denning, Dan	Boyd Acres	Complete	8/8/16	9/8/16	Denning, Dan	9/8/16	View
78	Mickey, Marc	Water Reclamation Facility	Complete	11/30/15	11/23/15	Mickey, Marc	11/23/15	View

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
79	Follose, Brandon	Boyd Acres	Complete	11/30/15	11/5/15	Follose, Brandon	11/5/15	View
80	Beck, Troy	Boyd Acres	Complete	11/30/15	11/30/15	Beck, Troy	11/30/15	View
81	Alley, Mary Beth	Pilot Butte Campus	Complete	11/30/15	11/8/15	Alley, Mary Beth	11/8/15	View
82	Skaggs, Dan	Boyd Acres	Complete	11/30/15	11/23/15	Skaggs, Dan	11/23/15	View
83	Schmidt, Daniel	Pilot Butte Campus	Complete	11/30/15	11/13/15	Schmidt, Daniel	11/13/15	View
84	Hall, Matt	Boyd Acres	Complete	11/30/15	12/7/15	Hall, Matt	12/7/15	View
85	Ostendorff, Shannon	Boyd Acres	Complete	11/30/15	7/14/16	Ostendorff, Shannon	7/14/16	View
86	Libolt, Orrin	Boyd Acres	Complete	11/30/15	11/5/15	Libolt, Orrin	11/5/15	View
87	Fore, Erynne	Water Reclamation Facility	Complete	11/30/15	12/3/15	Fore, Erynne	12/3/15	View
88	Hansen, Matthew	Water Reclamation Facility	Complete	11/30/15	1/2/16	Hansen, Matthew	1/2/16	View
89	Judd, Arthur	Boyd Acres	Complete	11/30/15	11/13/15	Judd, Arthur	11/13/15	View
90	Moody, Reese	Boyd Acres	Complete	11/30/15	12/24/15	Moody, Reese	12/24/15	View
91	Rogers, William "Ed"	Water Reclamation Facility	Complete	11/30/15	12/10/15	Rogers, William "Ed"	12/10/15	View
92	Riley, Steve	Boyd Acres	Complete	11/30/15	12/23/15	Riley, Steve	12/23/15	View
93	McConnell, George	Water Reclamation Facility	Complete	11/30/15	11/19/15	McConnell, George	11/19/15	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
94	Lindsey, James	Pilot Butte Campus	Complete	11/30/15	11/4/15	Lindsey, James	11/4/15	View
95	Combs, Ty	Pilot Butte Campus	Complete	11/30/15	1/7/16	Combs, Ty	1/7/16	View
96	Byrd, Steve	Boyd Acres	Complete	11/30/15	11/5/15	Byrd, Steve	11/5/15	View
97	Pierce, David	Pilot Butte Campus	Not Started	11/30/15				
98	Carlson, Tim	Water Reclamation Facility	Complete	11/30/15	11/19/15	Carlson, Tim	11/19/15	View
99	Barnes, Drexell	Water Reclamation Facility	Complete	11/30/15	12/17/15	Barnes, Drexell	12/17/15	View
100	Howe, Carl	Pilot Butte Campus	Not Started	11/30/15				
101	Lessar, Joshua	Pilot Butte Campus	Complete	11/30/15	11/2/15	Lessar, Joshua	11/2/15	View
102	Packebush (pka: Kristiansen), Mary	Boyd Acres	Complete	11/30/15	11/24/15	Packebush (pka: Kristiansen), Mary	12/11/15	View
103	Munson, AJ	Pilot Butte Campus	Complete	11/30/15	11/3/15	Munson, AJ	11/3/15	View
104	Richardson, Ty	Boyd Acres	Complete	11/30/15	1/28/16	Richardson, Ty	1/28/16	View
105	Davenport, Christina	Boyd Acres	Complete	11/30/15	2/4/16	Davenport, Christina	2/4/16	View
106	Jones, Shane	Pilot Butte Campus	Complete	11/30/15	2/11/16	Jones, Shane	2/11/16	View
107	Jackson, Dylan	Pilot Butte Campus	Complete	11/30/15	1/8/16	Jackson, Dylan	1/8/16	View

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108	Packebush, Warren	Boyd Acres	Complete	11/30/15	11/5/15	Packebush, Warren	11/5/15	View
109	Vencill, Gary	Boyd Acres	Complete	11/30/15	11/9/15	Vencill, Gary	11/9/15	View
110	Trask, Kris	Boyd Acres	Complete	11/30/15	4/25/16	Trask, Kris	4/25/16	View
111	Gillespie, Rhett	Bend Municipal Airport	Complete	1/4/16	2/17/16	Gillespie, Rhett	2/17/16	View
112	LaCasse, Gary	Pilot Butte Campus	Complete	5/26/16	8/3/16	LaCasse, Gary	8/3/16	View
113	Prince, Jeannette	Pilot Butte Campus	Complete	11/30/15	11/6/15	Prince, Jeannette	11/6/15	View
114	Meistrell, Brenda	Pilot Butte Campus	Complete	11/30/15	11/12/15	Meistrell, Brenda	11/12/15	View
115	Walling, Tom	Water Reclamation Facility	Complete	11/30/15	12/21/15	Walling, Tom	12/21/15	View
116	Patterson, Tyler	Boyd Acres	Complete	11/30/15	11/25/15	Patterson, Tyler	11/25/15	View
117	Daniel, Jay	Pilot Butte Campus	Complete	11/30/15	11/23/15	Daniel, Jay	11/23/15	View
118	Blake, Christopher	Pilot Butte Campus	Complete	11/30/15	5/4/16	Blake, Christopher	5/4/16	View
119	Buhmann, Donald	Boyd Acres	Complete	11/30/15	12/21/15	Buhmann, Donald	12/21/15	View
120	Sanvitale, Spencer	Boyd Acres	Complete	11/30/15	11/5/15	Sanvitale, Spencer	11/5/15	View
121	Hobbs, Eric	Boyd Acres	Complete	11/30/15	11/12/15	Hobbs, Eric	11/12/15	View
122	Byrd, Daniel	Pilot Butte Campus	Complete	11/30/15	11/6/15	Byrd, Daniel	11/6/15	View

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123	Buystedt, Jeff	Water Reclamation Facility	Complete	11/30/15	2/4/16	Buystedt, Jeff	2/4/16	View
124	Larson, Ron	Boyd Acres	Complete	11/30/15	11/13/15	Larson, Ron	11/13/15	View
125	Armer, Mike	Pilot Butte Campus	Complete	11/30/15	11/3/15	Armer, Mike	11/3/15	View
126	Stensland, David	Boyd Acres	Complete	11/30/15	11/10/15	Stensland, David	11/10/15	View
127	Milligan, Will	Boyd Acres	Complete	11/30/15	12/3/15	Milligan, Will	12/3/15	View
128	Buchanan, David	Boyd Acres	Complete	11/30/15	11/5/15	Buchanan, David	11/5/15	View
129	Klotz, Ian	Boyd Acres	Complete	11/30/15	11/9/15	Klotz, Ian	11/9/15	View
130	Richmond, Paul "Stu"	Boyd Acres	Complete	11/30/15	11/5/15	Richmond, Paul "Stu"	11/5/15	View
131	McCloskey, Marcus	Boyd Acres	Complete	11/30/15	2/12/16	McCloskey, Marcus	2/12/16	View
132	Blackwelder, Brice	Boyd Acres	Complete	11/30/15	12/14/15	Blackwelder, Brice	12/14/15	View
133	Mosher, Chris	Boyd Acres	Complete	11/30/15	12/3/15	Mosher, Chris	12/3/15	View
134	Stenkamp, Skippy	Pilot Butte Campus	Complete	11/30/15	11/6/15	Stenkamp, Skippy	11/6/15	View
135	Roshone, Elmer	Water Reclamation Facility	Complete	11/30/15	11/8/15	Roshone, Elmer	11/8/15	View
136	Borrego, David	Boyd Acres	Complete	11/30/15	11/5/15	Borrego, David	11/5/15	View
137	Scarbrough, Saedell	Pilot Butte Campus	Complete	11/30/15	11/5/15	Scarbrough, Saedell	11/5/15	View

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
138	Dorsey, Christine	Pilot Butte Campus	Complete	11/30/15	11/5/15	Dorsey, Christine	11/5/15	View
139	Vieira, Steven	Boyd Acres	Complete	11/30/15	11/9/15	Vieira, Steven	11/9/15	View
140	Gardner, Greg "Scott"	Boyd Acres	Complete	11/30/15	11/20/15	Gardner, Greg "Scott"	11/20/15	View
141	Truax, Tim	Water Reclamation Facility	Complete	11/30/15	1/22/16	Truax, Tim	1/22/16	View
142	Baker, Galen	Pilot Butte Campus	Not Started	11/30/15				
143	Chamberlain, Eric	Boyd Acres	Complete	5/10/16	5/23/16	Chamberlain, Eric	5/23/16	View
144	Bean, Everett	Pilot Butte Campus	Not Started	4/12/16				

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
1	Lansdowne, Heidi	Wall St Annex	Complete	3/31/16	4/1/16	Lansdowne, Heidi	4/4/16	View
2	Stenkamp, Skippy	Pilot Butte Campus	Complete	3/31/16	2/29/16	Stenkamp, Skippy	2/29/16	View
3	Packebush, Warren	Boyd Acres	Complete	3/31/16	3/3/16	Packebush, Warren	3/3/16	View
4	Hartman, Cindy	Wall St Annex	Complete	3/31/16	3/10/16	Hartman, Cindy	3/10/16	View
5	Gillette, Mike	Boyd Acres	Complete	3/31/16	3/3/16	Gillette, Mike	3/3/16	View
6	Lindsey, James	Pilot Butte Campus	Complete	3/31/16	3/10/16	Lindsey, James	3/10/16	View
7	Mickey, Marc	Water Reclamation Facility	Complete	3/31/16	3/3/16	Mickey, Marc	3/3/16	View
8	Ristoff, Kelly	Boyd Acres	Complete	3/31/16	3/17/16	Ristoff, Kelly	3/17/16	View
9	Cannon, Dennis	Pilot Butte Campus	Not Started	3/31/16				
10	Sanvitale, Spencer	Boyd Acres	Complete	3/31/16	2/29/16	Sanvitale, Spencer	2/29/16	View
11	Edde, Wendy	Boyd Acres	Complete	3/31/16	2/29/16	Edde, Wendy	2/29/16	View
12	Lee, Dave	Boyd Acres	Complete	3/31/16	3/11/16	Lee, Dave	3/11/16	View
13	Woods, Rawlin	Boyd Acres	Complete	3/31/16	3/4/16	Woods, Rawlin	3/4/16	View
14	Moody, Reese	Boyd Acres	Complete	3/31/16	9/22/16	Moody, Reese	9/22/16	View
15	Rader, Barbara	Pilot Butte Campus	Complete	3/31/16	3/3/16	Rader, Barbara	3/3/16	View
16	Qual, Craig	Pilot Butte Campus	Complete	3/31/16	3/7/16	Qual, Craig	3/7/16	View
17	Prazak, Steve	Boyd Acres	Complete	3/31/16	6/23/16	Prazak, Steve	6/23/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
18	Dorsey, Christine	Pilot Butte Campus	Complete	3/31/16	2/29/16	Dorsey, Christine	2/29/16	View
19	Volkman, Richard	Pilot Butte Campus	Complete	3/31/16	5/5/16	Volkman, Richard	5/5/16	View
20	Walsworth, Justin	Boyd Acres	Complete	3/31/16	3/24/16	Walsworth, Justin	3/24/16	View
21	Roshone, Elmer	Water Reclamation Facility	Complete	3/31/16	2/29/16	Roshone, Elmer	2/29/16	View
22	Hanson, Hardy	Pilot Butte Campus	Not Started	3/31/16				
23	Buhmann, Donald	Boyd Acres	Complete	3/31/16	3/22/16	Buhmann, Donald	3/22/16	View
24	Kuss, Richard	Boyd Acres	Complete	3/31/16	3/11/16	Kuss, Richard	3/11/16	View
25	Patterson, Tyler	Boyd Acres	Complete	3/31/16	2/29/16	Patterson, Tyler	2/29/16	View
26	Abbas, David	Pilot Butte Campus	Not Started	3/31/16				
27	Parent, Ethan	Water Reclamation Facility	Complete	3/31/16	4/7/16	Parent, Ethan	4/7/16	View
28	Ostendorff, Shannon	Boyd Acres	Complete	3/31/16	7/14/16	Ostendorff, Shannon	7/14/16	View
29	Forster, Eric	Wall St Annex	Complete	3/31/16	4/21/16	Forster, Eric	4/21/16	View
30	Oliver, Josh	Pilot Butte Campus	Complete	3/31/16	3/3/16	Oliver, Josh	3/3/16	View
31	Moulder, Lon	Water Reclamation Facility	Complete	3/31/16	3/3/16	Moulder, Lon	3/3/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
32	Utley, Aaron	Water Reclamation Facility	Complete	3/31/16	2/29/16	Utley, Aaron	2/29/16	View
33	Winter, Kyle	Boyd Acres	Complete	3/31/16	2/29/16	Winter, Kyle	2/29/16	View
34	Armenta, David	Boyd Acres	Complete	3/31/16	2/29/16	Armenta, David	2/29/16	View
35	Armer, Mike	Pilot Butte Campus	Complete	3/31/16	2/29/16	Armer, Mike	2/29/16	View
36	Beck, Troy	Boyd Acres	Complete	3/31/16	9/30/16	Beck, Troy	9/30/16	View
37	Stensland, David	Boyd Acres	Complete	3/31/16	4/14/16	Stensland, David	4/14/16	View
38	Robertson, Joshua	Wall St Annex	Not Started	3/31/16				
39	Truax, Tim	Water Reclamation Facility	Not Started	3/31/16				
40	Bean, Everett	Pilot Butte Campus	Not Started	4/12/16				
41	Newton, Joe	Pilot Butte Campus	Complete	3/31/16	3/1/16	Newton, Joe	3/1/16	View
42	Vaughan, Ken	Boyd Acres	Complete	3/31/16	2/29/16	Vaughan, Ken	2/29/16	View
43	Meistrell, Brenda	Pilot Butte Campus	Complete	3/31/16	2/29/16	Meistrell, Brenda	2/29/16	View
44	Follose, Brandon	Boyd Acres	Complete	3/31/16	2/29/16	Follose, Brandon	2/29/16	View
45	Towell, Chad	Pilot Butte Campus	Complete	3/31/16	3/4/16	Towell, Chad	3/4/16	View
46	Alexander, Mark	Pilot Butte Campus	Complete	3/31/16	3/3/16	Alexander, Mark	3/3/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
47	Spencer, Peggy	Wall St Annex	Complete	3/31/16	3/3/16	Spencer, Peggy	3/3/16	View
48	Skaggs, Dan	Boyd Acres	Complete	3/31/16	3/14/16	Skaggs, Dan	3/14/16	View
49	Blake, Christopher	Pilot Butte Campus	Complete	3/31/16	5/4/16	Blake, Christopher	5/4/16	View
50	Schmidt, Daniel	Pilot Butte Campus	Complete	3/31/16	2/29/16	Schmidt, Daniel	2/29/16	View
51	Combs, Ken	Pilot Butte Campus	Complete	3/31/16	2/29/16	Combs, Ken	2/29/16	View
52	Findley, Mike	Boyd Acres	Complete	3/31/16	3/11/16	Findley, Mike	3/15/16	View
53	Burghardt, Joe	Water Reclamation Facility	Complete	3/31/16	2/29/16	Burghardt, Joe	2/29/16	View
54	Cashwell, Spencer	Boyd Acres	Complete	3/31/16	2/29/16	Cashwell, Spencer	2/29/16	View
55	Konop, Patrick	Wall St Annex	Complete	3/31/16	3/3/16	Konop, Patrick	3/3/16	View
56	Buystedt, Jeff	Water Reclamation Facility	Complete	3/31/16	3/10/16	Buystedt, Jeff	3/10/16	View
57	Baker, Galen	Pilot Butte Campus	Not Started	3/31/16				
58	Hickmann, Tom	Wall St Annex	Not Started	3/31/16				
59	Rounds, Stuart	Boyd Acres	Complete	3/31/16	2/29/16	Rounds, Stuart	2/29/16	View
60	Winter, Scott	Boyd Acres	Complete	3/31/16	2/29/16	Winter, Scott	2/29/16	View
61	Combs, Ty	Pilot Butte Campus	Complete	3/31/16	3/10/16	Combs, Ty	3/10/16	View
62	Byrd, Steve	Boyd Acres	Complete	3/31/16	2/29/16	Byrd, Steve	2/29/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
63	McCloskey, Marcus	Boyd Acres	Complete	3/31/16	3/3/16	McCloskey, Marcus	3/3/16	View
64	Malinowski, Adam	Pilot Butte Campus	Complete	3/31/16	3/31/16	Malinowski, Adam	3/31/16	View
65	Elpi-Trainor, Michelle	Water Reclamation Facility	Complete	3/31/16	2/29/16	Elpi-Trainor, Michelle	2/29/16	View
66	Wolter, Mark	Boyd Acres	Complete	3/31/16	3/1/16	Wolter, Mark	3/1/16	View
67	Trask, Kris	Boyd Acres	Complete	3/31/16	4/25/16	Trask, Kris	4/25/16	View
68	Hamilton, Grant	Boyd Acres	Complete	3/31/16	2/29/16	Hamilton, Grant	2/29/16	View
69	Oster, Ryan	Wall St Annex	Complete	3/31/16	3/3/16	Oster, Ryan	3/3/16	View
70	Packebush (pka: Kristiansen), Mary	Boyd Acres	Complete	3/31/16	4/6/16	Packebush (pka: Kristiansen), Mary	4/6/16	View
71	Oak, David	Boyd Acres	Complete	3/31/16	3/2/16	Oak, David	3/2/16	View
72	Munson, AJ	Pilot Butte Campus	Complete	3/31/16	3/1/16	Munson, AJ	3/1/16	View
73	Borrego, David	Boyd Acres	Complete	3/31/16	3/7/16	Borrego, David	3/7/16	View
74	Richardson, Ty	Boyd Acres	Complete	3/31/16	6/14/16	Richardson, Ty	6/14/16	View
75	Hopkins, Robert	Boyd Acres	Complete	3/31/16	2/29/16	Hopkins, Robert	2/29/16	View
76	Jones, Shane	Pilot Butte Campus	Not Started	3/31/16				
77	Goe, Kerry	Pilot Butte Campus	Complete	3/31/16	3/1/16	Goe, Kerry	3/1/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
78	Ristoff (AKA: Briggs), Teresa	Boyd Acres	Complete	3/31/16	2/29/16	Ristoff (AKA: Briggs), Teresa	2/29/16	View
79	Murray, Oliver	Wall St Annex	Complete	3/31/16	3/11/16	Murray, Oliver	3/11/16	View
80	Jackson, Dylan	Pilot Butte Campus	Complete	3/31/16	4/27/16	Jackson, Dylan	4/27/16	View
81	Gardner, Greg "Scott"	Boyd Acres	Complete	3/31/16	8/19/16	Gardner, Greg "Scott"	8/19/16	View
82	England, Jeff	Wall St Annex	Not Started	3/31/16				
83	Leath, David	Boyd Acres	Complete	3/31/16	4/28/16	Leath, David	4/28/16	View
84	Schwartz, James	Pilot Butte Campus	Complete	3/31/16	7/7/16	Schwartz, James	7/7/16	View
85	Alley, Mary Beth	Pilot Butte Campus	Complete	3/31/16	3/5/16	Alley, Mary Beth	3/5/16	View
86	Brick, Paul	Boyd Acres	Complete	3/31/16	8/18/16	Brick, Paul	8/18/16	View
87	Canaday, Diane	Pilot Butte Campus	Complete	3/31/16	3/3/16	Canaday, Diane	3/3/16	View
88	Gardner, Lucas	Pilot Butte Campus	Complete	3/31/16	3/15/16	Gardner, Lucas	3/15/16	View
89	Sabourin, Garrett	Wall St Annex	Not Started	3/31/16				
90	Edwards, Mike	Boyd Acres	Complete	3/31/16	3/10/16	Edwards, Mike	3/10/16	View
91	Waldrop, Will	Pilot Butte Campus	Complete	3/31/16	3/3/16	Waldrop, Will	3/3/16	View
92	Libolt, Orrin	Boyd Acres	Complete	3/31/16	3/3/16	Libolt, Orrin	3/3/16	View
93	Hobbs, Eric	Boyd Acres	Complete	3/31/16	3/3/16	Hobbs, Eric	3/3/16	View
94	Franklet, George	Wall St Annex	Not Started	3/31/16				

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
95	Byrd, Daniel	Pilot Butte Campus	Complete	3/31/16	3/9/16	Byrd, Daniel	3/9/16	View
96	Borgognoni, Sam	Water Reclamation Facility	Complete	3/31/16	5/3/16	Borgognoni, Sam	5/3/16	View
97	Judd, Gary	Bend Municipal Airport	Complete	3/31/16	5/3/16	Judd, Gary	5/3/16	View
98	Judd, Arthur	Boyd Acres	Complete	3/31/16	3/17/16	Judd, Arthur	3/17/16	View
99	Rogers, William "Ed"	Water Reclamation Facility	Complete	3/31/16	6/9/16	Rogers, William "Ed"	6/9/16	View
100	Cota, Tony	Pilot Butte Campus	Complete	3/31/16	2/29/16	Cota, Tony	2/29/16	View
101	Riley, Steve	Boyd Acres	Complete	3/31/16	4/14/16	Riley, Steve	4/14/16	View
102	Milligan, Will	Boyd Acres	Complete	3/31/16	3/28/16	Milligan, Will	3/28/16	View
103	McConnell, George	Water Reclamation Facility	Complete	3/31/16	2/29/16	McConnell, George	2/29/16	View
104	Smith, William	Pilot Butte Campus	Complete	3/31/16	5/5/16	Smith, William	5/5/16	View
105	Somers, Travis	Boyd Acres	Not Started	3/31/16				
106	Thomasson, Shanon (John)	Pilot Butte Campus	Not Started	3/31/16				
107	Pierce, David	Pilot Butte Campus	Not Started	3/31/16				
108	Neiswonger, Paul	Pilot Butte Campus	Complete	3/31/16	3/3/16	Neiswonger, Paul	3/3/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
109	Babich, Tyler	Boyd Acres	Complete	3/31/16	3/7/16	Babich, Tyler	3/7/16	View
110	Carlson, Tim	Water Reclamation Facility	Complete	3/31/16	2/29/16	Carlson, Tim	2/29/16	View
111	Wright, Kim	Boyd Acres	Complete	3/31/16	2/29/16	Wright, Kim	2/29/16	View
112	Graham, Kelly	Boyd Acres	Complete	3/31/16	3/8/16	Graham, Kelly	3/8/16	View
113	Sweet, Connie	Boyd Acres	Complete	3/31/16	3/3/16	Sweet, Connie	3/3/16	View
114	Scarbrough, Saedell	Pilot Butte Campus	Complete	3/31/16	9/8/16	Scarbrough, Saedell	9/8/16	View
115	Mastrud, Corey	Boyd Acres	Complete	3/31/16	3/17/16	Mastrud, Corey	3/17/16	View
116	Gillespie, Rhett	Bend Municipal Airport	Complete	3/31/16	3/8/16	Gillespie, Rhett	3/8/16	View
117	Vencill, Gary	Boyd Acres	Complete	3/31/16	3/3/16	Vencill, Gary	3/3/16	View
118	Barnard, Justin	Pilot Butte Campus	Complete	3/31/16	5/18/16	Barnard, Justin	5/18/16	View
119	Chamberlain, Eric	Boyd Acres	Complete	5/10/16	5/23/16	Chamberlain, Eric	5/23/16	View
120	LaCasse, Gary	Pilot Butte Campus	Complete	5/26/16	8/3/16	LaCasse, Gary	8/3/16	View
121	Prince, Jeannette	Pilot Butte Campus	Complete	3/31/16	3/3/16	Prince, Jeannette	3/3/16	View
122	Clarno, Karen	Boyd Acres	Complete	3/31/16	2/29/16	Clarno, Karen	2/29/16	View
123	Walling, Tom	Water Reclamation Facility	Complete	3/31/16	6/30/16	Walling, Tom	6/30/16	View
124	Somers, Robyn	Boyd Acres	Complete	3/31/16	3/3/16	Somers, Robyn	3/3/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
125	Daniel, Jay	Pilot Butte Campus	Complete	3/31/16	3/11/16	Daniel, Jay	3/11/16	View
126	Dalrymple, Bret	Pilot Butte Campus	Complete	3/31/16	3/3/16	Dalrymple, Bret	3/3/16	View
127	Struck, Christopher	Pilot Butte Campus	Complete	3/31/16	3/4/16	Struck, Christopher	3/4/16	View
128	Wood, Chris	Boyd Acres	Complete	3/31/16	2/29/16	Wood, Chris	2/29/16	View
129	Finney, Lance	Water Reclamation Facility	Complete	3/31/16	3/21/16	Finney, Lance	3/21/16	View
130	Hall, Matt	Boyd Acres	Complete	3/31/16	3/4/16	Hall, Matt	3/4/16	View
131	McQuillen, Christy	Pilot Butte Campus	Not Started	3/31/16				
132	Fore, Erynne	Water Reclamation Facility	Complete	3/31/16	2/29/16	Fore, Erynne	2/29/16	View
133	Newberg, Doug	Pilot Butte Campus	Complete	3/31/16	2/29/16	Newberg, Doug	2/29/16	View
134	Donato, Natalie	Boyd Acres	Complete	3/31/16	2/29/16	Donato, Natalie	2/29/16	View
135	Hansen, Matthew	Water Reclamation Facility	Complete	3/31/16	7/31/16	Hansen, Matthew	7/31/16	View
136	Kadow, Gina	Bend Municipal Airport	Complete	3/31/16	3/8/16	Kadow, Gina	3/8/16	View
137	Larson, Ron	Boyd Acres	Complete	3/31/16	2/29/16	Larson, Ron	2/29/16	View
138	Petitmermet, Sean	Boyd Acres	Complete	3/31/16	3/7/16	Petitmermet, Sean	3/7/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
139	Taylor, Oakley	Boyd Acres	Complete	3/31/16	3/8/16	Taylor, Oakley	3/8/16	View
140	Buchanan, David	Boyd Acres	Complete	3/31/16	2/29/16	Buchanan, David	2/29/16	View
141	Klotz, Ian	Boyd Acres	Complete	3/31/16	7/21/16	Klotz, Ian	7/21/16	View
142	Richmond, Paul "Stu"	Boyd Acres	Complete	3/31/16	2/29/16	Richmond, Paul "Stu"	2/29/16	View
143	Blackwelder, Brice	Boyd Acres	Complete	3/31/16	6/17/16	Blackwelder, Brice	6/17/16	View
144	Mosher, Chris	Boyd Acres	Complete	3/31/16	3/22/16	Mosher, Chris	3/22/16	View
145	Barnes, Drexell	Water Reclamation Facility	Complete	3/31/16	4/26/16	Barnes, Drexell	8/18/16	View
146	Howe, Carl	Pilot Butte Campus	Not Started	3/31/16				
147	Lessar, Joshua	Pilot Butte Campus	Complete	3/31/16	3/2/16	Lessar, Joshua	3/2/16	View
148	Mingus, Rod	Boyd Acres	Complete	3/31/16	3/31/16	Mingus, Rod	3/31/16	View
149	McAteer, Nick	Boyd Acres	Complete	3/31/16	6/23/16	McAteer, Nick	6/23/16	View
150	Thompson, Scott	Water Reclamation Facility	Complete	3/31/16	8/31/16	Thompson, Scott	8/31/16	View
151	Price, Julie	Boyd Acres	Complete	3/31/16	5/2/16	Price, Julie	5/2/16	View
152	Davenport, Christina	Boyd Acres	Complete	3/31/16	4/1/16	Davenport, Christina	4/1/16	View
153	Suhr, Jason	Wall St Annex	Complete	3/31/16	3/31/16	Suhr, Jason	3/31/16	View
154	Webster, Jessica	Wall St Annex	Complete	3/31/16	3/22/16	Webster, Jessica	3/22/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
155	Vieira, Steven	Boyd Acres	Complete	3/31/16	4/1/16	Vieira, Steven	4/1/16	View
156	Lancaster, Quirt	Pilot Butte Campus	Complete	3/31/16	4/14/16	Lancaster, Quirt	4/14/16	View
157	Hall, Harold "Jimmy"	Pilot Butte Campus	Complete	3/31/16	3/4/16	Hall, Harold "Jimmy"	3/4/16	View
158	Morrison, George	Pilot Butte Campus	Not Started	3/31/16				
159	Bradley III, Roy	Water Reclamation Facility	Complete	3/31/16	3/30/16	Bradley III, Roy	3/30/16	View
160	Dennis, Jay	Pilot Butte Campus	Complete	3/31/16	5/19/16	Dennis, Jay	5/19/16	View
161	Denning, Dan	Boyd Acres	Complete	8/8/16	9/8/16	Denning, Dan	9/8/16	View

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	Assigned					Completed		
Row	To	Location	Progress	Due Date	Start	By	On	View
1	Cannon, Dennis	Pilot Butte Campus	Complete	10/31/15	11/13/15	Cannon, Dennis	11/13/15	View
2	Waldrop, Will	Pilot Butte Campus	Complete	10/31/15	11/12/15	Waldrop, Will	11/12/15	View
3	Qual, Craig	Pilot Butte Campus	Complete	10/31/15	10/12/15	Qual, Craig	10/12/15	View
4	Prince, Jeannette	Pilot Butte Campus	Complete	10/31/15	10/13/15	Prince, Jeannette	10/13/15	View
5	Blake, Christopher	Pilot Butte Campus	Complete	10/31/15	10/12/15	Blake, Christopher	10/12/15	View
6	Byrd, Daniel	Pilot Butte Campus	Complete	10/31/15	10/22/15	Byrd, Daniel	10/22/15	View
7	Cota, Tony	Pilot Butte Campus	Complete	10/31/15	10/28/15	Cota, Tony	10/28/15	View
8	Oliver, Josh	Pilot Butte Campus	Complete	10/31/15	10/28/15	Oliver, Josh	10/28/15	View
9	Goe, Kerry	Pilot Butte Campus	Complete	10/31/15	11/18/15	Goe, Kerry	11/18/15	View
10	Volkman, Richard	Pilot Butte Campus	Complete	10/31/15	10/1/15	Volkman, Richard	10/1/15	View
11	Smith, William	Pilot Butte Campus	Complete	10/31/15	12/16/15	Smith, William	12/16/15	View
12	Armer, Mike	Pilot Butte Campus	Complete	10/31/15	10/6/15	Armer, Mike	10/6/15	View
13	Malinowski, Adam	Pilot Butte Campus	Complete	10/31/15	10/1/15	Malinowski, Adam	10/1/15	View
14	Munson, AJ	Pilot Butte Campus	Complete	10/31/15	9/30/15	Munson, AJ	9/30/15	View
15	Scarbrough, Saedell	Pilot Butte Campus	Complete	10/31/15	10/9/15	Scarbrough, Saedell	11/5/15	View

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Row	Assigned To	Assigned Location	Progress	Due Date	Start	Completed By	Completed On	View
16	Daniel, Jay	Pilot Butte Campus	Complete	10/31/15	11/23/15	Daniel, Jay	11/23/15	View
17	Hall, Harold "Jimmy"	Pilot Butte Campus	Complete	10/31/15	10/9/15	Hall, Harold "Jimmy"	10/9/15	View
18	Stenkamp, Skippy	Pilot Butte Campus	Complete	10/31/15	10/1/15	Stenkamp, Skippy	10/1/15	View
19	Combs, Ken	Pilot Butte Campus	Complete	10/31/15	10/14/15	Combs, Ken	10/14/15	View
20	Jackson, Dylan	Pilot Butte Campus	Complete	10/31/15	1/8/16	Jackson, Dylan	1/8/16	View
21	Newton, Joe	Pilot Butte Campus	Complete	10/31/15	10/22/15	Newton, Joe	10/22/15	View
22	Gardner, Lucas	Pilot Butte Campus	Complete	10/31/15	10/15/15	Gardner, Lucas	10/15/15	View
23	Schmidt, Daniel	Pilot Butte Campus	Complete	10/31/15	11/13/15	Schmidt, Daniel	11/13/15	View
24	Jones, Shane	Pilot Butte Campus	Complete	10/31/15	10/28/15	Jones, Shane	10/28/15	View
25	Thomasson, Shanon (John)	Pilot Butte Campus	Complete	10/31/15	11/5/15	Thomasson, Shanon (John)	11/5/15	View
26	Rader, Barbara	Pilot Butte Campus	Complete	10/31/15	10/9/15	Rader, Barbara	10/9/15	View
27	Lindsey, James	Pilot Butte Campus	Complete	10/31/15	10/9/15	Lindsey, James	10/9/15	View
28	Combs, Ty	Pilot Butte Campus	Complete	10/31/15	10/15/15	Combs, Ty	10/15/15	View
29	Lessar, Joshua	Pilot Butte Campus	Complete	10/31/15	10/1/15	Lessar, Joshua	10/1/15	View
30	Neiswonger, Paul	Pilot Butte Campus	Complete	10/31/15	10/15/15	Neiswonger, Paul	10/15/15	View

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Note: Feedback text will show up for both correct and incorrect responses.

Winter Road Care

Question 1:

What are some of the known negative effects high concentrations of chloride can have on the environment?

- o Depletes the oxygen supply needed by aquatic animals and plants in the river.
- o Leaches into the ground and changes soil composition.
- o Contaminates groundwater and surface waters.
- o Deteriorates paved surfaces, buildings and infrastructure.
- o All of the above.

Answer: All of the above.

Feedback: Chloride has several known negative effects on the environment. Whereas some is helpful for winter road care, excessive amounts can be detrimental. Mag chloride is more environmentally friendly then other types of deicer such as sodium chloride. The City has been using deicer less than 20 years and chloride amounts have remained in acceptable ranges in well water samples to date.

Question 2:

You should try to limit and/or avoid using liquid deicer in areas that drain to the Deschutes River and within Drinking Water Protection Areas (DWPAs)?

- o True
- o False

Answer: True

Feedback: Know what areas drain to the river or towards drinking water wells. Limit and/or avoid using liquid deicer in areas that drain to the Deschutes River and within Drinking Water Protection Areas. Use alternative materials such as basalt cinder application as much as possible, especially in the sensitive areas to meet stormwater permit regulations.

Question 3:

What is the proper way to dispose of excess Mag-Chloride?

- o Dump it into the sanitary sewer.
- o Dump it into the nearest catch basins.
- o Collect and reuse as product.
- o Slowly let it soak into the ground.

Answer: Collect and reuse it as product.

Feedback: Collect and reuse excess mag-chloride as product, never dump mag chloride into the storm drain system.

Question 4:

We are require to track the amount of product (chemical deicer & basalt cinders) used per month?

- True
- False

Answer: True

Feedback: We are required to track the monthly usage of chemical deicer & basalt cinders for reporting to DEQ per out storm water permit regulations.

Question 5:

What factors should be considered when determining the amount of chemical deicer to apply?

- Road Width
- Traffic Concentrations
- Proximity to surface water/ sensitive areas
- All of the above.

Answer: All of the above

Feedback: Applying the correct amount of chemical deicer for the conditions will help prevent overuse while being protective from a traffic safety perspective.

Vehicle and Equipment Washing

Question 1:

You should always clean vehicles & equipment in a designated wash area?

- o True.
- o False.

Answer: True

Feedback: Clean vehicles & equipment in a designated wash areas, such as on area that drain to landscape, oil water separator or us a recycle car wash. If you need assistance locating the nearest approved wash area contact your Supervisor or Stormwater Program Staff.

Question 2:

Runoff from washing oversized vehicles and equipment should be directed into _____?

- o The nearest storm drain / catch basin.
- o An oil water separator, connected to the sanitary sewer.
- o All of the above.

Answer: An oil water separator, connected to the sanitary sewer.

Feedback: Runoff from oversized vehicles and equipment washing should be directed into an oil water separator connected to the sanitary sewer.

Question 3:

It's recommended that you wash light-duty and smaller vehicles _____?

- o At a commercial car wash facility that recycles its water.
- o Near an open storm drain.
- o With soap containing phosphate.
- o None of the above.

Answer: At a commercial car wash facility that recycles its water.

Feedback: Wash light-duty and smaller vehicles at a commercial car wash facility that recycles its water.

Question 4:

Vehicle and equipment washing rise water could potentially contain what chemicals?

- o Dirt & Sediment
- o Coper from break pad dust
- o Lead form batteries and tire weights
- o Vehicle fluids such as antifreeze, oils, fuels and greases
- o All of the above

Answer: All of the above

Feedback: Vehicles rinse water contain copper in the break dust, lead from batteries and tire weights, oils and antifreeze, dirt and sediment.

Leaky Equipment and Fueling

Question 1:

You should always top off your fuel tank?

- o True.
- o False.

Answer: False

Feedback: You should **never** top off your fuel tank.

Question 2:

How often should you check your equipment for leaks?

- o Weekly, such as every Monday.
- o Daily, at the start of each shift.
- o Monthly.
- o Annually.

Answer: Daily, at the start of each shift.

Feedback: Check equipment daily for leaks.

Question 3:

What should you do if your vehicle or equipment is actively leaking?

- o Place a drip pan under the leak.
- o Clean up the leaked material using dry cleanup methods.
- o Have the leak repaired.
- o All of the above.

Answer: All of the above.

Feedback: Place a drip pan under leaking vehicle and/or equipment, use dry cleanup methods and get the leak repaired promptly.

Question 4:

When equipment is fueled offsite using a mobile fuel truck or portable fuel containers you should always?

- o Have a spill kit available.
- o Fuel the equipment near a storm drain.
- o Fuel the equipment near an open waterbody.
- o Top off the fuel tank.

Answer: Have a spill kit available.

Feedback: Always have a spill kit available when fueling equipment offsite and choose an area away from storm drain facilities, sanitary sewer systems and water bodies. If you need a spill kit contact your supervisor or Stormwater Program Staff.

Spill Prevention, Control and Cleanup

Question 1:

All storage containers, bins, drums and tanks should be _____?

- Clearly labeled with the products name and hazards.
- Stored in an area to prevent unauthorized entry.
- Inspected regularly for leaks.
- All of the above.

Answer: All of the above.

Feedback: Storage containers should be clearly labeled with product name and hazards. Storage containers should also be inspected for leaks regularly and stored in a secured area.

Question 2:

If a spill occurs that releases more than 42 gallons of oil or fuel you should?

- Report the spill to your supervisor & the Oregon Emergency Response System.
- Follow all applicable safety precautions and wear proper Personal Protection Equipment (PPE).
- If you feel it's safe, contain spilled material using onsite spill kits, drip pans, sand bags or dirt berms.
- If you feel it's safe, clean up the spilled material using dry cleanup methods.
- All of the above.

Answer: All of the above.

Feedback: Spills that releases more than 42 gallons of oil or fuel need to be reported to your Supervisor, Safety Manager and the Oregon Emergency Response System. If you feel it's safe, contain and cleanup the spilled material using an onsite spill kit.

Utility / Road Repair & Maintenance

Question 1:

When performing excavation and road maintenance activities you should?

- o Prevent sediment laden stormwater runoff during construction activities.
- o Minimize disturbed soil exposure time.
- o Stockpile soil, base rock, and other construction materials away from the street and storm drain.
- o Schedule excavation and road maintenance activities for dry weather, if feasible.
- o All of the above.

Answer: All of the above.

Feedback: When performing excavation and road maintenance follow all required practices to prevent sediment laden stormwater runoff during construction. Sediment can clog storm drain facilities and the Deschutes River is listed for sediment and turbidity as a pollutant of concern in Bend.

Question 2:

Clean up saw-cut slurry at the end of each _____?

- o Day
- o Week
- o Month
- o Year

Answer: Day

Feedback: Clean up saw-cut slurry with a shovel or vacuum at the end of each day.

Question 3:

Concrete trucks, pumps and finishing tools should always be cleaned into a _____?

- o Storm drain /catch basin
- o Landscaped area and then buried in mulch.
- o Vacant lot and left for someone else to haul off.
- o Designated washout area or disposable container that is removed at the end of the project.

Answer: Designated washout area or disposable container…

Feedback: Concrete trucks, pumps and finishing tools should always be cleaned into a designated washout area or disposable container such as a kiddy pool.

Question 4:

Should you block, berm or use a filter device to protect catch basins during saw cutting operations?

- True
- False

Answer: True

Feedback: Protecting storm drains is important because concrete cutting slurry contain the chemical chromium VI and can also affect the ph. in surface water.

Question 5:

You should always wash excess concrete from exposed aggregate concrete finishing into the storm drain?

- True
- False

Answer: False

Feedback: You should **never** wash excess concrete slurry from exposed accurate finishing into the storm drain. Avoid stockpiling uncovered materials in the street, sweep up as much material as possible.

Pressure Washing & Surface Cleaning

Question 1:

Routine property maintenance should include?

- Litter control
- Frequent sweeping
- Spill containment and clean-up
- All of the above

Answer: All of the above

Feedback: Routine (monthly) property maintenance should include: litter control, frequent sweeping, spill containment and clean-up

Question 2:

Commercial wash water from steam cleaning or laden with detergents and cleaning chemicals is allowed in the storm drain?

- True
- False

Answer: False

Feedback: Commercial wash water from steam cleaning or laden with detergents and cleaning chemicals are **not allowed** in the storm drain. It should be collect and disposed into an oil water separator connected to the sanitary sewer.

Question 3:

Small amounts of commercial wash water can be directed onto landscaped areas for infiltration?

- True
- False

Answer: True

Feedback: Small amounts (less than 50 gallons) of commercial wash water can be directed onto landscaped areas for infiltration.

Paint Use and Disposal

Question 1:

What year was lead-based paint banned from use in household paint?

- 1968
- 1978
- 1988
- 1998

Answer: 1978

Feedback: Lead-based paint was banned from use in household paints in 1978. Additional care should be taken when working on older homes because lea-based paint may be present.

Question 2:

You should always clean oil based paint brushes in a sink connected to the sewer system?

- True
- False

Answer: False

Feedback: You should **never** clean oil based paint brushes in a sink. Clean oil-based paint brushes and equipment where waste paint and solvents can be collected and disposed as hazardous waste. Water based paint brushes can be cleaned in a sink connect to water reclamation facility but not ones connect to a septic system. Paint brushes should **never** be cleaned into a storm drain.

Question 3:

What is the proper way to dispose of unwanted paint?

- Recycle/reuse; donate to nonprofit organization.
- Let the paint residue dry in the cans; remove lid; dispose in trash.
- Solidify with cat litter, air dry, and then dispose in trash.
- Dispose of as hazardous waste.
- All of the above.

Answer: All of the above.

Feedback: Never wash or clean water based paint near a catch basin.

Illicit Discharge Recognition and Reporting

Question 1:

What signs can you look for to help spot an illicit discharge?

- o Pavement staining around a catch basin / storm drain.
- o Odors, colors or smells coming from inside a catch basin.
- o Dry weather flows draining into a catch basin.
- o Hoses or pipes discharging to a catch basin.
- o All of the above

Answer: All of the above

Feedback: Remember, **Only Rain in the Storm Drain.**

Question 2:

You should report all suspected illicit discharges to stormwater program staff?

- o True
- o False

Answer: True

Feedback: Report all suspected illicit discharges to Stormwater Program Staff so they can follow-up. David Buchanan is in charge of the Illicit Discharge Detection and Elimination (IDDE) program he can be reached at (541) 693-2176.

Question 3:

If someone is actively dumping or spilling a hazardous material you should first call _____?

- o Public Works Front Desk @ 541-317-3000
- o Stormwater Program Staff @ 541-693-2176
- o Non-Emergency Police Line @ 541-322-2960
- o 911

Answer: 911

Feedback: Call 911 if someone is actively dumping or spilling a hazardous material.

Street Sweeping

Question 1:

The City of Bend Sweeping Plan should be followed for conducting street sweeping?

- True
- False

Answer:; True. Contact Christopher Blake for a copy of the Sweeping Plan.

Question 2:

It is important to maximize pollutant removal by:

- Conducting tandem driving in areas of heavy load.
- Check equipment for proper adjustment.
- Operate equipment at the speed specified by the manufacturer.
- Regularly inspect and maintain equipment and replace worn components.
- All of the above

Answer: All of the above. Maximizing pollutant removal helps keep our streets and waterways cleans. It prevents clogging and thereby increases the lifespan of our stormwater facilities.

Question 3:

The following should be reported if noticed during street sweeping.

- Trees interfering with the street sweeper.
- Maintenance warning lights.
- Spills or suspected dumping on the streets.
- All of the above

Answer: All of the above. Report tree interference to your supervisory; maintenance warning lights to the Garage; and spills or suspected dumping/illicit discharges in the streets or storm drains to David Buchanan in the Stormwater Program.

Question 4:

Be sure to track mileage, volume or weight of material for street sweeping

- True
- False

Answer: True. This information is used in our annual reporting to the Department of Environmental Quality.

Question 5:

To properly dispose of excess street sweeper water, use it to flush out the storm drain.

- True
- False

Answer: False. Decant excess water through an oil/water separator that discharges to the sanitary sewer.

Concrete Use and Disposal Training

Question 1:

There is no need to protect storm drains when conducting saw-cutting or concrete installation.

- o True
- o False

Answer: False. Concrete contains stormwater pollutants and some materials can help clog storm drain facilities. Protection of storm drain facilities with a filter devise is critical.

Question 2:

If saw-cutting slurry does enter the storm drain system, you should:

a. Let it go—out of sight, out of mind.
b. Remove the material immediately.
c. Let it dry and then remove it.

Answer: b. Remove the material immediately.

Question 3:

To dispose of concrete, I should recycle and reuse it to the degree possible and then transport the remaining to the landfill as construction or demolition waste.

- o True
- o False

Answer: True.

Question 4:

The following is a suitable place to wash out concrete trucks:

a. Anywhere onsite.
b. Within 50 feet of a storm drain or waterbody
c. In a properly sized temporary pit such as a small kids wading pool

Answer. C. a properly sized temporary pit or bermed area where the concrete can be site and later broken up and properly disposed is appropriate.

Question 5:

Mix more concrete than you expect to use just to be on the safe side.

- True
- False

Answer: False. Avoid ordering and mixing excess amounts of concrete.

Memorandum

To: Utility Managers/Supervisors

From: Wendy Edde, Stormwater Program Manager and
David Buchanan, Stormwater Program Analyst

Subject: Stormwater Illicit Discharge Prevention Tailgate Meeting Trainings

Date: January 6, 2015

INTRODUCTION

Per City stormwater regulations, the City is required to meet certain performance standards as described in the Integrated Stormwater Management Plan 2022. Additionally, requirements in Bend Code Title 16 prohibit illicit discharges and refers to the City's Illicit Discharge Manual, available at: www.bendoregon.gov/stormwaterbmp.

OVERVIEW

To facilitate staff training, compliance with the water quality regulations, and protection of our City's river and drinking water quality, Stormwater utility staff have developed a series of training fact sheets designed to easily be used as appropriate for the topic at hand for a brief weekly or tailgate training.

The training materials consist of a training cover sheet for the supervisor or manager use that provides the reasoning for and summary of the specific training topic. This top sheet also includes a training attendee sign in sheet which should be completed and returned to Stormwater Program staff for proper credit and to meet regulatory requirements. If another sign in sheet is used for the standing meeting, a copy of that sign in sheet attached to the cover sheet with the topic covered will be accepted. Stormwater staff are available to come provide the brief training(s) upon request.

The following topics are covered:

Topic	Suitable for Applicable Staff:	Recommended Time Interval	Time Needed for Training
Vehicle and Equipment Washing	Garage, Utility, Streets; EIPD	Yearly to Biannually	5-10 minutes
Leaky Equipment and Fueling	Garage; Utility, Streets	Yearly	5-10 minutes

Topic	Suitable for Applicable Staff:	Recommended Time Interval	Time Needed for Training
Training			
Spill Prevention, Control and Cleanup Training	Garage; Utility, Streets, EIPD field	Yearly	5-10 minutes
Utility/Road Repair & Maintenance Training	Streets, Utilities, EIPD field	Yearly	10-15 minutes
Paint Use and Disposal Training	Streets, Utilities	Yearly	5-10 minutes
Landscape Maintenance Training	Streets, Utilities (Stormwater)	Yearly	5-10 minutes
Illicit Discharge Follow-up Stormwater Training	Stormwater Program Staff only	Biennially	10-15 minutes
Illicit Discharge Recognition and Reporting	All City Staff	Yearly	5-10 minutes
Surface Cleaning	Streets, Utilities, Garage, Facilities	Yearly	5-10 minutes
Winter Road Care (drafted)	Streets	Yearly	5-10 minutes
Street Sweeping (under development)	Streets	Yearly	5-10 minutes

RECOGNITION PROGRAM

Staff completing all applicable topic trainings within a one year period will received recognition of their achievement.

CONTINUAL IMPROVEMENT

Please contact David Buchanan or Wendy Edde for suggestions for improving the fact sheets or training series.

Concrete Use and Disposal Training

Department/Group:_____ Date: _____
Meeting Location:_____

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) to reduce unauthorized discharges into storm drains within the City of Bend.

Meeting Agenda

- Employee Safety
- Performance Standards & Best Management Practices
- Saw-cutting Operations
- Concrete Washout Requirements
- Spill Containment, Cleanup and Reporting
- Concrete (Do`s and Don'ts)
- Addition Resources



Presenter Notes:

Key Talking Points / Meeting Preparation Considerations

- ☐ PPE requirements
- ☐ Follow Performance Standards & Best Management Practices
- ☐ Understand the spill containment, cleanup and reporting requirements
- ☐ Be familiar with applicable Codes and regulations.

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff
Any question? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who
This training is targeted toward people who are involved in the construction or repair of utility and roadways. It is intended to be provided by the immediate supervisor or stormwater program staff upon request.

What
Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where
Best management practices targeted towards construction site erosion control and concrete washout.

When
For use in weekly meetings or tailgate meetings.

Why
Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How
Provide copies of the fact sheet and walk through items. Discussed key ways to improve operations, complete sign-in and send to stormwater program staff.

Concrete Use and Disposal Training Fact Sheet

Why Do We Care?

- Uncured concrete can affect the pH in streams. The Deschutes River is listed for pH as a pollutant of concern.
- Concrete contains other pollutants like Hexavalent Chromium (Cr(VI)), known to cause cancer and negatively affect respiratory systems, kidney, liver, skin and eyes.

Employee Safety

- Wear appropriate PPE at all time (e.g., steel toe boots, hearing protection, safety glasses, hard hat, gloves).
- Contact the Safety Manager with any specific question or concerns prior to starting work on a project.

Applicable Performance Standards & Best Management Practices

Saw-cutting Operations

- During saw-cutting operations, block or berm around storm drain inlets using sand bags or an equivalent appropriate filter device, or absorbent materials such as pads, pillows, or socks to contain slurry, or wet/dry vacuum the slurry. If slurry enters the storm drain system, remove the material immediately. *
- Remove saw-cut slurry (e.g., with a shovel or vacuum) before leaving at the end of the day. *

Concrete Removal

- Take measures to protect storm drain inlets prior to asphalt breaking or concrete sawing operations (e.g., place sand bags or filtering barrier around inlets). Clean afterwards by sweeping or removing as much material as possible. Do not wash down to the storm drain. *
- After breaking up old pavement, remove and recycle as much as possible to avoid contact with rainfall and stormwater runoff. *

Concrete Truck Washout

- Perform on-site washout in designated areas only. Do not wash out concrete trucks into storm drains, open ditches, streets or streams.
- Wash out concrete wastes into a properly sized temporary pit or bermed area where the concrete can be set, later broken up and properly disposed (small wading pools can be used as a portable washout area).
- Locate washout area at least 50 feet from storm drains, open ditches or waterbodies.
- Avoid ordering and mixing excess amounts of concrete.

Disposal Requirements

- Recycle/reuse used concrete whenever possible –or-- Transport to landfill as construction and demolition waste. *

Spill Containment, Cleanup

1. If spill occurs, contain, and use dry methods to clean; follow procedures in the Spill Prevention Plan. See also the Spill Prevention, Control, and Cleanup Training Sheet.

Do`s and Don'ts

Do recycle / reuse waste concrete.



Do remove saw-cut slurry with a shovel or vacuum.



Do protect storm drain inlets.



Don't allow sediment laden runoff to enter storm drains.



Don't wash concrete truck waste into catch basins.



Codes and Regulations

- Bend Code Title 16 bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual bendoregon.gov/idmanual

Additional Resource

www.oracwa.org/documents/ACWASWSiteGuide0313w.pdf

Regulatory Drivers

* *ISWMP 2022 Performance Standard Requirement*

** *Bend Code Title 16 - BMP Manual* ***Requirement***

*** *Bend Code Title 16 - BMP Manual* ***Recommendation***

Leaky Equipment and Fueling Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for equipment and vehicle maintenance to reduce unauthorized discharges into storm drains within the City of Bend.

Meeting Agenda

- Employee Safety
- Performance Standards & Best Management Practices
- Disposal Requirements
- Spill Containment, Cleanup and Reporting
- Leaks (Do`s and Don'ts)
- Addition Resources



Presenter Notes:

Key Talking Points / Meeting Peroration Considerations

- ☐ Review Facts sheet and Performance Standards & Best Management Practices
- ☐ Be familiar with applicable Codes and regulations.
- ☐ Have attendees sign below and return to stormwater program staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Training Performed By:

Name:_____

Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in the maintenance or repair of fleet vehicles. It is intended to be provided by the immediate supervisor or stormwater program staff upon request.

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards fleet maintenance and fueling.

When

For use in weekly meetings or tailgate meetings.

Why

Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Leaky Equipment and Fueling Fact Sheet

Applicable Performance Standards & Best Management Practices

Fuel Dispensing Area

- Store spill containment kits nearby.* (see attach map for spill kit locations)
- Avoid mobile fueling. If mobile equipment is fueled with a mobile fuel truck, have spill kits available and choose an area away from storm drain facilities, sanitary sewer systems, and waterbodies for fueling.*
- Do not top off fuel tanks.*
- Do not dump windshield wash water into catch basins, dispose of in sanitary sewer.

Fleet Maintenance/ Parking Areas

- Inspect equipment for leaks on a regular basis. * (Inspect daily at the start of each shift)
- Use drip pans under leaking vehicles. * Repair vehicles with significant leaks. *
- Drain and replace motor oil and other fluids in a covered shop area. If fluids are changed outdoors, designate an area where there are no connections to the storm drains, watercourses, or the sanitary sewer. Select designated areas where spills can be easily cleaned up or drain to a closed pan and return to shop for proper disposal. *
- Periodically dry sweep the area* and avoid washing down the areas to storm drain.**
- Schedule outdoor repair activities for dry weather, if possible. Prevent repair supplies or work material from entering storm drains or watercourses. *
- Clean equipment as it comes in for repairs using proper collection and disposal methods when necessary. Inspect equipment as it comes in for routine maintenance and clean if needed. *
- Inspect process lines for leaks or malfunctions regularly and repair leaks or malfunctions promptly.
- Do not drain leaky lines or containers in to storm drains or sanitary sewers. Collect in secondary container, label the container and dispose of properly.
- Ensure oil filters are drained before recycling or adding to solid waste.**
- Properly dispose of mercury containing equipment (e.g., switches) and other hazardous waste.** Mercury is a highly toxic metal that is often found in pre 2003 vehicle hood or trunk light switches and ABS sensors.***
- Label and store recycling greases, used oil or oil filters, antifreeze, cleaning solutions, auto batteries, hydraulic fluids and transmission fluids separately.**
- Reduce solvent use by using a wire brush or a bake oven to clean parts and equipment.***

Disposal Requirements

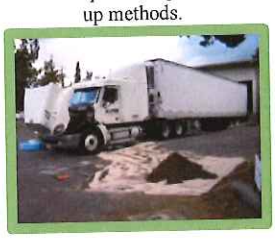
- Used Motor Oil - Send to recycler (Use secondary containment while storing). **
- Anti-Freeze - Send to recycler (Use secondary containment while storing). **
- Other Vehicle Fluids and Solvents (Hazardous Materials) - Dispose of as hazardous waste. **
- Automobile Batteries (Hazardous Materials) - Send to auto battery recycler.**

Do's and Don'ts

Do recycle used motor oil and antifreeze.



Do clean spills using dry clean-up methods.



Don't allow leaks to drip into catch basins.



Don't wash equipment near storm drains.



Don't top off fuel tanks.



Codes and Regulations

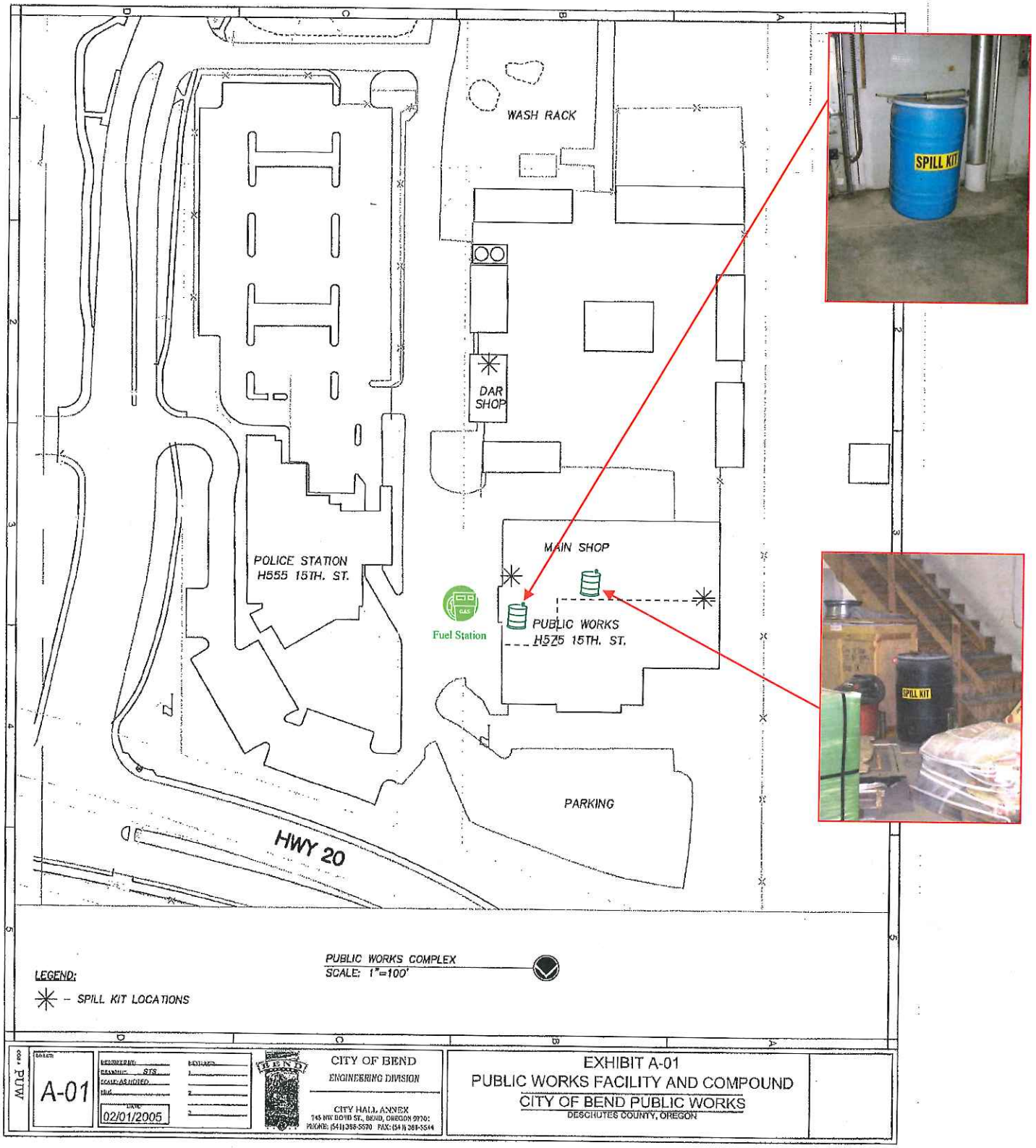
- Bend Code Title 16 bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual bendoregon.gov/idmanual.gov
- Spill Prevention Plan PUW g:\puw\gpw\gar\spill prevention

Additional Resource

www.epa.gov/region09/waste/p2/autofleet/floor.pdf
www.epa.gov/region09/waste/p2/autofleet/antifreeze.pdf
www.deq.state.or.us/aq/factsheets/07aq021_Autobody.pdf

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

15th Street Corporation Yard - Spill Containment Kit Locations



Illicit Discharge Recognition and Reporting Stormwater Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for staff to help them recognize and report potential illicit discharges. In an effort to reduce unauthorized discharges into storm drains within the City of Bend. Illicit discharges have the potential to negatively impact our unground drinking water aquifer and the Deschutes River.

Meeting Agenda

- Define what is an Illicit Discharge
- Cover how to spot an illicit discharge
- Performance Standards & Best Management Practices
- Why is it important to report illicit discharges?
- Spill Containment, Cleanup and Reporting
- Additional Resources
- Ensure sign-in sheet is completed



Presenter Notes:

Key Talking Points/ Meeting Preparation Considerations

- ☐ Review Illicit Discharge Definition
- ☐ Discuss how to identify an illicit discharge
- ☐ Ensure staff understanding of Performance Standards & Best Management Practices
- ☐ Understand the spill containment, cleanup and reporting requirements
- ☐ Be familiar with applicable Codes and regulations.

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
4.			
5.			
6.			
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10.			

Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff, David Buchanan or Wendy Edde (at the Boyd Acres Campus)

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in working in or driving upon City Right-of-Way. It is intended to be provided by the immediate supervisor (or stormwater program staff upon request.)

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards any City employee working in the Right of Way.

When

For use in weekly meetings or tailgate meetings.

Why

The performance standards covered here are required under our state stormwater quality permit(s). Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations. Have attendees sign in and return sheet to stormwater program staff.

Illicit Discharge Reporting Fact Sheet

What is an Illicit Discharge?

An illicit discharge is any discharge to a catch basin, surface water body, dry well or drill hole that is not composed entirely of stormwater. Think "**Only Rain in The Storm Drain.**" (There are conditionally exempt discharges pursuant to a NPDES permit or WPCF permit or rule authorization requirement specific to the inlet, discharges resulting from firefighting activities, or other exempt discharges as outlined in Bend Code Title 16 Chapter 16.20) but stormwater staff will evaluate those on a case by case basis. If you are not sure about a discharge contact Stormwater Program Staff; David Buchanan or Wendy Edde and we will check it out.

How to spot an illicit discharge? Look for:

Staining around the catch basin.



Staining on catch basin grates.



Odd colors or smells inside the basin.



Dry weather flow.



Hoses or pipes discharging to a catch basin.



Applicable Performance Standards & Best Management Practices

Report All Suspected Illicit Discharges to Stormwater Program Staff* (See Page 6-II)

If possible take a photo and note the time, date and location and notify:

- Public Works - (541) 317-3000 -and-
- David Buchanan - (541) 693-2176 Dbuchanan@ bendoregon.gov Cell (541) 647-7544
- Wendy Edde - (541) 317-3018 Wedde@ bendoregon.gov Cell (510) 701-1247

If someone is actively dumping or spilling a hazardous material - Call 911 and Stormwater Program Staff.
If the spilled or dumped material is too large to easily step over - Call 911 and Stormwater Program Staff.

Why is it important to report illicit discharges?

Illicit Discharges have the risk of polluting our drinking water supplies and the Deschutes River. Having your extra eyes in the field will help protect our valuable water quality and habitat.

Spills/Illicit Discharge Containment, Cleanup

1. For large spills/ illicit discharges contact Bend Fire Department at (541-693-6911), if hazardous dial 911.
2. If non-hazardous spill or illicit discharge occurs that is small enough to step across, use dry methods to clean and follow procedures in the Spill Prevention Plan. Always remember, your safety comes first.
3. Contain spilled material using onsite spill kits, drip pans, sand bags or dirt berms.
   - **Spill Kits are located at:** 15th Street - in the shop area. Call David or Wendy to request a small spill kit for your City vehicle.
   - The City also has a spill trailer for use in the field. Contact Travis Somers at (541) 419-1312 for more info.
4. Block off catch basins in the area.
5. Properly remove contaminated soils with spilled materials.*
6. Report all spills/ illicit discharges to your supervisor.

Codes and Regulations

- Bend Code Title 16 bendoregon.gov/swregulations
- Illicit Discharge Manual bendoregon.gov/idmanual
- Spill Prevention Plan q:\puw\gpw\gar\spill prevention

Additional Resources

- http://cfpub1.epa.gov/npdes/stormwater/idde.cfm

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

Spill Prevention, Control and Cleanup Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for all public works employs to reduce spills and unauthorized discharges into storm drains within the City of Bend.

Meeting Agenda

- Employee Safety
- Performance Standards & Best Management Practices
- Spill Containment, Cleanup and Reporting
- Do's and Don'ts
- Additional n Resources



Presenter Notes:

Key Talking Points / Meeting Preparation Considerations

- ☐ Review Performance Standards & Best Management Practices
- ☐ Understand the spill containment, cleanup and reporting requirements
- ☐ Be familiar with applicable Codes and regulations
- ☐ Have attendees sign below and return to stormwater program staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in the construction or repair of utility and roadways. It is intended to be provided by the immediate supervisor (or stormwater program staff upon request).

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards construction site erosion control and concrete washout.

When

For use in weekly meetings or tailgate meetings.

Why

Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Spill Prevention, Control and Cleanup Fact Sheet

Employee Safety

- Wear appropriate PPE at all times
  (e.g., Safety vest, steel toe boots, hearing protection, safety glasses, hard hat & gloves).
- Contact the Safety Manager (541-408-4641) with any specific questions or concerns prior to using a new chemical or cleaning up a spill.

Applicable Performance Standards & Best Management Practices

Spill Prevention, Control and Cleanup BMPs

- Regularly inspect and maintain spill cleanup kits in all activity areas**.
- Prevent and clean up spills immediately using dry cleanup methods.**
- Report all spills to the Oregon Emergency Response System (1-800-452-0311) that release: **
  - Any amount of oil to waters of the state. **
  - Oil on land in excess of 42 gallons. **
  - Hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 and amendments adopted before July 1, 2002. ** (see link below)

Container, Bulk, and Waste Storage:

- Clearly label containers or tanks and place them in a designated storage area with secondary containment. **
- Take steps to prevent unauthorized entry into the storage area.**
- Inspect tanks, drums, containers, and equipment regularly for leaks or spills.**
- Store and maintain spill cleanup materials near the storage areas.**

Loading and Unloading:

- Load and unload toxic materials indoors. If this is not possible, then it is recommended to cover the outside loading and unloading docks to reduce exposing materials to rain or snow.***
- Use drip pans and/or absorbent materials to catch leaks or spills under hoses and pipe connections, when transferring liquids, or if material is removed directly from tanks and containers. ***

Spill Containment, Cleanup and Reporting

1. If a spill occurs, use dry methods to clean and follow procedures in the Spill Prevention Plan.
2. Contain spilled material using onsite spill kits, drip pans, sand bags or dirt berms.
3. Block off catch basins in the area using booms, pipe plugs or rubber mats. (Located in the spill kits/trailer).
4. Properly remove contaminated soils with spilled materials.*
5. For large spills contact Bend Fire Department at (541-693-6911), if hazardous dial 911 and clear the area.
6. Report all spills to your supervisor & safety manger.

Do's and Don'ts

Do regularly inspect and maintain spill cleanup kits.



Do use drip pans and absorbent materials to catch leaks



Do clean up spills immediately using dry cleanup methods.



Don't rinse down spills into catch basins.



Don't load and unload or store toxic materials outdoors.



Codes and Regulations

- Bend Code Title 16 Bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual Bendoregon.gov/idmanual

Additional Resource

Hazardous Materials Reporting Limit. - www.epa.gov/oust/fedlaws/cfr.htm
Hazardous Spill Response Procedures - Q:\PUW\GPW\GAR\FUEL\alarms & spills
Spill Prevention And Cleanup BMP`s - Q:\PUW\GPW\GAR\Spill Prevention

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

Paint Use and Disposal Training

Quick Tips

Who
This training is targeted toward people who are involved in the storage, use or disposal of paint or paint products. It is intended to be provided by the immediate supervisor or stormwater program staff upon request.

What
Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where
Best management practices targeted towards field work including paint use and disposal.

When
For use in weekly meetings or tailgate meetings.

Why
Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How
Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Training Summary
The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) to reduce unauthorized paint discharges into storm drains within the City of Bend.

Meeting Agenda
- ❖ Performance Standards & Best Management Practices
- ❖ Disposal Requirements
- ❖ Spill Containment, Cleanup and Reporting
- ❖ Paint (Do`s and Don'ts)
- ❖ Addition Resources



Presenter Notes:
Key Talking Points / Meeting Peroration Considerations
- ☐ Follow Performance Standards & Best Management Practices
- ☐ Understand the spill containment, cleanup and reporting requirements
- ☐ Be familiar with applicable Codes and regulations

Department/Group:_____ Date: _____
Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
4.			
5.			
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Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff.
Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Landscape Maintenance Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for landscape maintenance to reduce unauthorized discharges into storm drains within the City of Bend.

Meeting Agenda

- Performance Standards & Best Management Practices
- Disposal Requirements
- Addition Resources



Presenter Notes:

Key Talking Points / Meeting Peroration Considerations

- ☐ Review fact sheet with staff
- ☐ Cover Performance Standards & Best Management Practices
- ☐ Be familiar with applicable Codes and regulations
- ☐ Have attendees sign in below and return cover sheet to Stormwater programs staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
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Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in the maintenance of landscaped areas or landscaped stormwater features. It is intended to be provided by the immediate supervisor or stormwater program staff upon request.

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards landscape maintenance staff.

When

For use in weekly meetings or tailgate meetings.

Why

Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Landscape Maintenance Fact Sheet

Applicable Performance Standards & Best Management Practices

Pesticides, herbicides and fertilizers contain chemicals that can affect our drinking water supply and the water quality of the Deschutes Rivers. It's important that we keep these chemicals out of the water supply.

Landscape Maintenance

- Use all reasonable measures to reduce pollutants from entering storm drains (e.g., litter, fertilizers, etc.). **
- Properly dispose of debris daily. ** *Do not leave it where it may enter a storm drain.*
- Inspect and clean the landscaped storm drainage facilities as needed (inspect at least twice a year) to ensure they operate as originally designed. **
- **Avoid blowing trash, yard debris, and dust into streets or gutters.** ***

Landscape Irrigation and Lawn Watering *(City of Bend Water Customers Only)*

- To minimize water waste City of Bend Irrigation hours are from 5:00 PM to 9:00 AM.
- Even address should water on even numbered days and odd address numbers should water on odd numbered days of the month.
- Adjust your watering amounts once vegetation is established or as the weather and temperature change.
- Overspray is not allowed; adjust sprinklers heads and automatic sprinkler cycles to avoid dry weather flows.

Pesticides and Fertilizers

- Store and maintain spill cleanup materials near pesticide, herbicides and fertilizers storage areas. **
- Use pesticides, herbicides and fertilizers according to the manufacturer's recommendations. **
- Use integrated pest management practices where appropriate. ***
- Use up pesticide, rinse containers, use rinse water as product. ***
- Purchase only the amount of pesticides and fertilizer you need for your site. ***
- Avoid using metal-based algaecides (copper sulfate) in fountain water. ***
- Do not apply pesticides, herbicides and fertilizers under windy condition. Sweep up overblown product.

Disposal Requirements

Pesticides, Herbicides & Fertilizers (Hazardous Materials)

- Use rinse water as product and dispose of rinsed containers in trash.**
- Dispose unused material as hazardous waste. **

Garden Clippings

- Compost or take to landfill. **

Tree Trimming

- Chip, if necessary, before composting or sending to landfill. **

Do's and Don'ts

Do compost yard debris.



Do sweep up excess fertilizer that lands on sidewalks and roadways.



Do pull noxious weeds.



Don't blow or dump yard debris in the roadway.



Don't let landscape water runoff into the roadway.



Codes and Regulations

- Bend Code Title 16 www.bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Manual www.bendoregon.gov/idmanual
- Bend Code 13.30.010 (Invasive Noxious Weeds)

Additional Resources

www.deschutes.org/Road/Noxious-Weed-Program
www.bend.watersmartgardening.com

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

Paint Use and Disposal Fact Sheet

Applicable Performance Standards & Best Management Practices

- Minimize use of chemicals, use water based paint and non-toxic cleaners as much as possible. *
- Ensure chemical containers have secure lids and are secured properly to the vehicle during transport.*
- Store paints, solvents, and other maintenance materials in a covered area. ***
- Use of a ground or drop cloth under painting, scraping and during sandblasting activities is encouraged. ***
- Avoid lead-based paint. If you suspect lead-based paint is present contact your supervisor. Lead-based paint was banned in 1978 from household paints; some sources indicate that pain in road marking may still contain it. Lead is the pollutant found most in Bend's stormwater and it can cause nervous system and kidney damage, development delays and reproductive problems.

Disposal Requirements

Oil-based paint

- Recycle/reuse; donate to nonprofit organization or dispose of as hazardous waste.*

Clean-up

- Wipe paint out of brushes.* Clean oil-based paint brushes and equipment where waste paint and solvents can be collected and disposed as hazardous waste.* **
- Donate to nonprofit organization or dispose of as hazardous waste.*
- Filter and reuse thinners or dispose of as hazardous waste.*

Water-based paint

- Recycle/reuse; donate to nonprofit organization.*
- Small quantities: let the paint residue dry in the cans; remove lid; dispose in trash.*
- Large quantities: solidify with cat litter, air dry, and then dispose in trash. **
- Or dispose of as hazardous waste.*

Cleanup

- Wipe paint out of brushes, then: Rinse to sanitary sewer.* Do not rinse to septic systems or storm drains.**
- Empty paint cans (dry): Remove lids, dispose of lids and cans in trash.*

Spill Containment, Cleanup and Reporting

1. Contain spilled material using onsite spill kits, sand bags or dirt berms.
2. Properly remove any contaminated soils with spilled materials.*
3. Block off catch basins in the area.
4. For large spills contact Bend Fire Department at (541-693-6911), if hazardous dial 911.
5. Report all spills to your supervisor.

Do's and Don'ts

Do recycle excess paint at the Knott Landfill.	Do allow excess latex paint to harden and dispose in trash.	Do clean water based paint brushes in a sink connected to the sewer system.	Don't rinse paint or brushes into the catch basins.	Don't place paint cans containing liquids in the trash.
				

Codes and Regulations

- Bend Code Title 16 www.bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Manual www.bendoregon.gov/idmanual
- Spill Prevention Plan PUW q:\puw\gpw\gar\spill prevention

Additional Resources

Contact EPA at 1-800-LEAD-FYI for additional information on lead paint.
www.osha.gov
www.paintcare.org
www.deq.state.or.us/lq/sw/prodstewardship/paint.htm
www.epa.gov/lead

Regulatory Drivers

* *ISWMP 2022 Performance Standard Requirement*
** *Bend Code Title 16 - BMP Manual* ***Requirement***
*** *Bend Code Title 16 - BMP Manual* ***Recommendation***

Paint Use and Disposal Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) to reduce unauthorized paint discharges into storm drains within the City of Bend.

Meeting Agenda

- ❖ Performance Standards & Best Management Practices
- ❖ Disposal Requirements
- ❖ Spill Containment, Cleanup and Reporting
- ❖ Paint (Do`s and Don'ts)
- ❖ Addition Resources



Presenter Notes:

Key Talking Points / Meeting Peroration Considerations

- ☐ Follow Performance Standards & Best Management Practices
- ☐ Understand the spill containment, cleanup and reporting requirements
- ☐ Be familiar with applicable Codes and regulations

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
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Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff.
Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who
This training is targeted toward people who are involved in the storage, use or disposal of paint or paint products. It is intended to be provided by the immediate supervisor or stormwater program staff upon request.

What
Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where
Best management practices targeted towards field work including paint use and disposal.

When
For use in weekly meetings or tailgate meetings.

Why
Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How
Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Paint Use and Disposal Fact Sheet

Applicable Performance Standards & Best Management Practices

- Minimize use of chemicals, use water based paint and non-toxic cleaners as much as possible. *
- Ensure chemical containers have secure lids and are secured properly to the vehicle during transport.*
- Store paints, solvents, and other maintenance materials in a covered area. ***
- Use of a ground or drop cloth under painting, scraping and during sandblasting activities is encouraged. ***
- Avoid lead-based paint. If you suspect lead-based paint is present contact your supervisor. Lead-based paint was banned in 1978 from household paints; some sources indicate that paint in road marking may still contain it. Lead is the pollutant found most in Bend's stormwater and it can cause nervous system and kidney damage, development delays and reproductive problems.

Disposal Requirements

Oil-based paint

- Recycle/reuse; donate to nonprofit organization or dispose of as hazardous waste.*

Clean-up

- Wipe paint out of brushes.* Clean oil-based paint brushes and equipment where waste paint and solvents can be collected and disposed as hazardous waste.* **
- Donate to nonprofit organization or dispose of as hazardous waste.*
- Filter and reuse thinners or dispose of as hazardous waste.*

Water-based paint

- Recycle/reuse; donate to nonprofit organization.*
- Small quantities: let the paint residue dry in the cans; remove lid; dispose in trash.*
- Large quantities: solidify with cat litter, air dry, and then dispose in trash. **
- Or dispose of as hazardous waste.*

Cleanup

- Wipe paint out of brushes, then: Rinse to sanitary sewer.* Do not rinse to septic systems or storm drains.**
- Empty paint cans (dry): Remove lids, dispose of lids and cans in trash.*

Spill Containment, Cleanup and Reporting

1. Contain spilled material using onsite spill kits, sand bags or dirt berms.
2. Properly remove any contaminated soils with spilled materials.*
3. Block off catch basins in the area.
4. For large spills contact Bend Fire Department at (541-693-6911), if hazardous dial 911.
5. Report all spills to your supervisor.

Do's and Don'ts

Do recycle excess paint at the Knott Landfill.	Do allow excess latex paint to harden and dispose in trash.	Do clean water based paint brushes in a sink connected to the sewer system.	Don't rinse paint or brushes into the catch basins.	Don't place paint cans containing liquids in the trash.
				

Codes and Regulations

- Bend Code Title 16 www.bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Manual www.bendoregon.gov/idmanual
- Spill Prevention Plan PUW q:\puw\gpw\gar\spill prevention

Additional Resources

Contact EPA at 1-800-LEAD-FYI for additional information on lead paint.
www.osha.gov
www.paintcare.org
www.deq.state.or.us/lq/sw/prodstewardship/paint.htm
www.epa.gov/lead

Regulatory Drivers

* *ISWMP 2022 Performance Standard Requirement*
** *Bend Code Title 16 - BMP Manual* ***Requirement***
*** *Bend Code Title 16 - BMP Manual* ***Recommendation***

Utility / Road Repair & Maintenance Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for employees involved in utility repair and road construction to reduce unauthorized discharges into storm drains within the City of Bend.

Meeting Agenda

- Performance Standards & Best Management Practices
- Road Repair And Maintenance
- Spill Containment, Cleanup and Reporting
- Road Repair & Maintenance (Do`s and Don'ts)
- Addition Resources



Presenter Notes:

Key Talking Points / Meeting Preparation Considerations

- ☐ Review Fact Sheet and Best Management Practices
- ☐ Cover Performance Standards & Best Management Practices with attendees
- ☐ Be familiar with applicable Codes and regulations
- ☐ Have attendees sign below and return cover sheet to Stormwater program staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
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8.			
9.			
10.			

Training Performed By:

Name:_____

Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in the construction or repair of utility and roadways. It is intended to be provided by the immediate supervisor (or stormwater program staff upon request).

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards construction site erosion control and concrete washout.

When

For use in weekly meetings or tailgate meetings.

Why

Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Utility / Road Repair & Maintenance Fact Sheet

Applicable Performance Standards & Best Management Practices

Asphalt contains hydrocarbons such as benzopyrene a cancer causing chemical. Concrete cutting slurry can affect PH and contains chemicals such as chromium 6. It's important that we keep these chemicals out of the water supply.

Road Repair And Maintenance

- Schedule excavation and road maintenance activities for dry weather, if feasible. *
- Minimize disturbed soil exposure time and stabilize exposed soils by mulching, hydro-mulching, or using geotextiles.***
- Prevent sediment laden stormwater runoff during construction activities.**
- Stockpile soil, base rock, and other construction materials away from the street or storm drain.** Provide a gravel pad on-site for materials and equipment delivery.***
- Monitor subcontractors and employees to ensure they are practicing good housekeeping techniques and are aware of spill prevention, control, and cleanup procedures and proper waste disposal methods.
- Keep and maintain spill cleanup materials on site.** In the event of a spill, containment and clean-up using dry clean-up methods is required.**

Saw-cutting Operations

- Prior to starting and during saw-cutting operations, block or berm around storm drain inlets using sand bags or an equivalent appropriate filter device, or absorbent materials such as pads, pillows, or socks to contain slurry, or wet/dry vacuum the slurry. If slurry enters the storm drain system, remove the material immediately. *
- Remove saw-cut slurry (e.g., with a shovel or vacuum) before leaving at the end of the day. *
-

Asphalt Removal

- Take measures to protect storm drain inlets prior to asphalt breaking. Clean afterwards by sweeping or removing as much material as possible. Do not wash down to the storm drain. *
- After breaking up old pavement, remove and recycle as much as possible to avoid contact with rainfall and stormwater runoff. *

Patching and Resurfacing

- To minimize runoff from patching and resurfacing activities, do not stockpile materials in streets, gutter areas, or near unprotected storm drain inlets or waterbodies.*
- Cover and seal manholes and storm drain inlets before applying seal coat, slurry seal, etc. *
- Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain inlet. Designate an unpaved area for clean-up and proper disposal of excess materials. * (Use tools such as small plastic tubs or small swimming pools to collect rinse water and dispose of properly)
- Use only as much water as necessary for dust control to avoid runoff. *
- Sweep up as much material as possible and dispose of properly. *
- Clean up spills and leaks from other equipment and work site areas using "dry" methods (absorbent materials and/or rags). Properly dispose of absorbent materials and rags. If spills occur on dirt areas, properly remove the contaminated soil immediately, or refer to the spill plan if appropriate.
- After the job is complete, remove stockpiles and other extra materials as soon as possible. *
- If it rains unexpectedly, take appropriate action to prevent pollution of stormwater. *

Equipment Clean Up/Storage

- Clean sprayers, patch and paving equipment at the end of the day. Use approved collection methods and dispose or recycle waste materials at an approved facility. * **Do not clean equipment in areas that drain to a stormwater facility.**
- If stored outdoors, cover sprayers, patch and paving equipment, if they contain pollutants, to prevent rainfall from transporting pollutants to the storm drain system. * Do not clean in an area

Disposal Requirements

- Recycle used asphalt/concrete whenever possible,* or transport to landfill as construction and demolition waste. *

Do`s and Don'ts

Do recycle waste concrete, wood and asphalt.



Do remove saw-cut slurry with a shovel or vacuum.



Do protect storm drain inlets.



Don't allow sediment laden runoff to enter storm drains.



Don't wash concrete truck waste into catch basins.



Don't stock pile material in the roadway.



Codes and Regulations

- Bend Code Title 16 Bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual Bendoregon.gov/idmanual

Additional Resources

www.oracwa.org/documents/ACWASWSiteGuide0313w.pdf
www.epa.gov/npdes/pubs/concretewashout.pdf

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

Spill Prevention, Control and Cleanup Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for all public works employs to reduce spills and unauthorized discharges into storm drains within the City of Bend.

Meeting Agenda

- Employee Safety
- Performance Standards & Best Management Practices
- Spill Containment, Cleanup and Reporting
- Do's and Don'ts
- Additional n Resources



Presenter Notes:

Key Talking Points / Meeting Preparation Considerations

- ☐ Review Performance Standards & Best Management Practices
- ☐ Understand the spill containment, cleanup and reporting requirements
- ☐ Be familiar with applicable Codes and regulations
- ☐ Have attendees sign below and return to stormwater program staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
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9.			
10.			

Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in the construction or repair of utility and roadways. It is intended to be provided by the immediate supervisor (or stormwater program staff upon request).

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards construction site erosion control and concrete washout.

When

For use in weekly meetings or tailgate meetings.

Why

Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Spill Prevention, Control and Cleanup Fact Sheet

Employee Safety

- Wear appropriate PPE at all times (e.g., Safety vest, steel toe boots, hearing protection, safety glasses, hard hat).
- Contact the Safety Manager with any specific questions or concerns prior to using a new chemical or cleaning up a spill.

Applicable Performance Standards & Best Management Practices

Spill Prevention, Control and Cleanup BMPs

- Regularly inspect and maintain spill cleanup kits in all activity areas**.
- Prevent and clean up spills immediately using dry cleanup methods.**
- Report all spills to the Oregon Emergency Response System (1-800-452-0311) that release: **
  - Any amount of oil to waters of the state. **
  - Oil on land in excess of 42 gallons. **
  - Hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 and amendments adopted before July 1, 2002. ** (see link below)

Container, Bulk, and Waste Storage:

- Clearly label containers or tanks and place them in a designated storage area with secondary containment. **
- Take steps to prevent unauthorized entry into the storage area.**
- Inspect tanks, drums, containers, and equipment regularly for leaks or spills.**
- Store and maintain spill cleanup materials near the storage areas.**

Loading and Unloading:

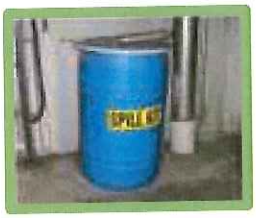
- Load and unload toxic materials indoors. If this is not possible, then it is recommended to cover the outside loading and unloading docks to reduce exposing materials to rain or snow.***
- Use drip pans and/or absorbent materials to catch leaks or spills under hoses and pipe connections, when transferring liquids, or if material is removed directly from tanks and containers. ***

Spill Containment, Cleanup and Reporting

1. If a spill occurs, use dry methods to clean and follow procedures in the Spill Prevention Plan.
2. Contain spilled material using onsite spill kits, drip pans, sand bags or dirt berms.
3. Block off catch basins in the area.
4. Properly remove contaminated soils with spilled materials.*
5. For large spills contact Bend Fire Department at (541-693-6911), if hazardous dial 911.
6. Report all spills to your supervisor.

Do's and Don'ts

Do regularly inspect and maintain spill cleanup kits.



Do use drip pans and absorbent materials to catch leaks



Do clean up spills immediately using dry cleanup methods.



Don't rinse down spills into catch basins.



Don't load and unload or store toxic materials outdoors.



Codes and Regulations

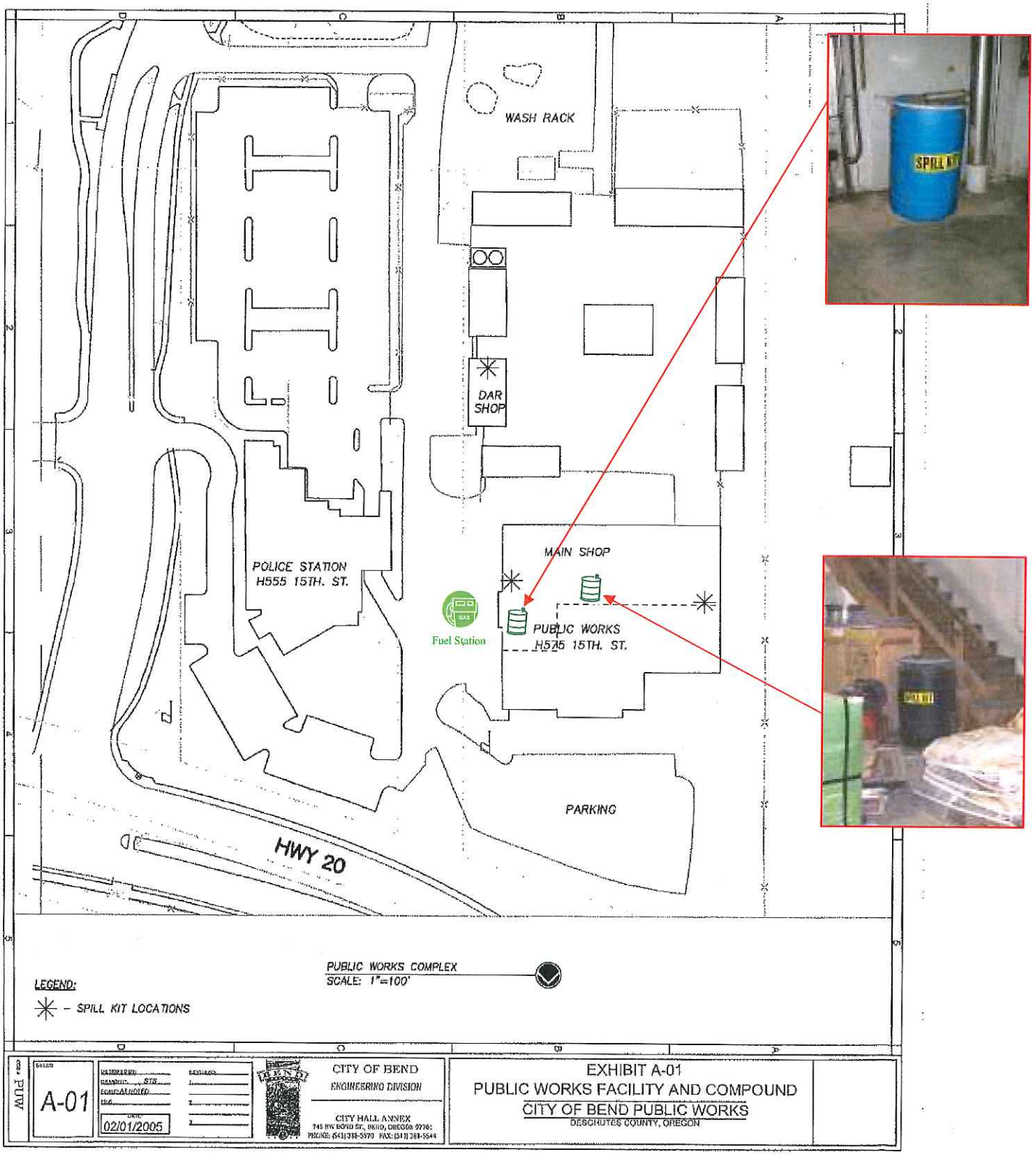
- Bend Code Title 16 Bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual Bendoregon.gov/idmanual

Additional Resource

Hazardous Materials Reporting Limit. - www.epa.gov/oust/fedlaws/cfr.htm
Hazardous Spill Response Procedures - Q:\PUW\GPW\GAR\FUEL\alarms & spills
Spill Prevention And Cleanup BMP`s - Q:\PUW\GPW\GAR\Spill Prevention

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

15th Street Corporation Yard - Spill Containment Kit Locations



Street Sweeping Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for street sweeping to reduce pollutant discharges into storm drains within the City of Bend.

Meeting Agenda

- Performance Standards & Best Management Practices
- Disposal Requirements
- Additional Resources
- Have attendees sign in below and return cover sheet to stormwater program staff



Presenter Notes:

Key Talking Points / Meeting Preparation Considerations

- ☐ Review Fact Sheet
- ☐ Cover Performance Standards & Best Management Practices
- ☐ Be familiar with applicable Codes and regulations.
- ☐ Have attendees sign in below and return cover sheet to stormwater program staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
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10.			

Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in the operation of street sweepers. It is intended to be provided by the immediate supervisor or stormwater program staff upon request.

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards surface cleaning.

When

For use in weekly meetings or tailgate meetings.

Why

Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Street Sweeping Fact Sheet

Applicable Performance Standards & Best Management Practices

Streets, roads and parking lots accumulate significant amounts of pollutants that contribute to stormwater pollution. These pollutants, including sediment, debris, trash, road salt, and trace metals can be minimized by street sweeping. Street sweeping also improve the aesthetics of a roadway, control dust and decrease the accumulation of pollutants in catch basins.

Street Sweeping BMPs

Clean streets according to the City of Bend Sweeping Plan. *

Street sweeping efficiency can be improved by:

- Coordinate with garbage and recycling collection schedules and work with water utility personnel to understand schedules of major water line flushing effort to improve coordination (e.g., to prevent conflicts with sweeping on days when collection barrels are in the road or to sweep pollutants off streets prior to major water line flushing). *
- By July, 1, 2017 take appropriate measures to keep curbed areas clear during street cleaning. *
- Report trees interfering with street cleaning to your manager so they can be properly addressed. *

Maximize pollutant removal by:

- Conducting tandem driving in areas of heavy load to minimize dirt tracks, trails, or debris to degree practicable given weather and winter road safety measures. *
- Check street cleaning equipment for proper adjustment. *
- Operate street cleaning equipment at the speed specified by the manufacturer. *
- Regularly inspect and maintain street cleaning equipment. *
- Replace worn components as required to maximize efficiency. *
- Reporting spills observed on streets immediately per spill reporting standard operating procedure and to Stormwater Utility Staff. *

Record Keeping

- Track miles swept using a broom odometer or by tracking mileage. *
- Track volume or weight of material removed for street cleaning. *
- By July 1, 2017 identify and target areas for: 1) more frequent cleaning throughout the year or just prior to the rainy season; 2) additional efforts to remove vehicles; 3) distribution of public education materials to discourage illegal dumping, etc. *

Disposal Requirements

- Decant excess water through an oil/water separator that discharges to sanitary sewer.
- Screen and reuse road cinders as appropriate. or
- Dispose at Knott landfill. Material testing may be required prior to landfill disposal; coordinate with the Knott Landfill at (541) 317-3163.

Do's and Don'ts

Coordinating with garbage and recycling collection schedules.



Do report spills.



Do track miles swept and volume removed.



Do not exceed the manufacturers recommend speed for sweeping.



Codes and Regulations

- Bend Code Title 16 bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual bendoregon.gov/idmanual.gov

Additional Resources

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

Pressure Washing & Surface Cleaning Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for pressure washing & surface cleaning and to reduce unauthorized discharges into storm drains within the City of Bend.

Meeting Agenda

- Performance Standards & Best Management Practices
- Disposal Requirements
- Additional Resources
- Have attendees sign in below and return cover sheet to stormwater program staff



Presenter Notes:

Key Talking Points / Meeting Preparation Considerations

- ☐ Review Fact Sheet
- ☐ Cover Performance Standards & Best Management Practices
- ☐ Be familiar with applicable Codes and regulations.
- ☐ Have attendees sign in below and return cover sheet to stormwater program staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in the repair and maintenance of City facilities. It is intended to be provided by the immediate supervisor or stormwater program staff upon request.

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards surface cleaning.

When

For use in weekly meetings or tailgate meetings.

Why

Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Pressure Washing & Surface Cleaning Fact Sheet

Applicable Performance Standards & Best Management Practices

Most pressure washing and surface cleaning activities are conducted outside. This often results in the discharge of wastewater to the storm drainage system, unless the equipment operator takes steps to collect and dispose of the wash water legally. **Discharge of pressure washing wastewater into the storm drainage system is prohibited** because it contains pollutants from the cleaning compounds used and/or from the objects or surfaces being cleaned such as dumpster areas, parking lots, and equipment containing oils, grease, chemicals, and other substances. Even cleaners labeled "biodegradable" and "non-toxic" may be harmful to aquatic life and or ground water.

Surface Cleaning BMPs

Routine property maintenance should includes litter control, frequent sweeping, and ongoing spill containment and clean-up. The use of dry clean-up methods is required. Proper spill clean-up also helps reduce the frequency of more thorough pavement cleaning with water. **

- Sweep paved areas to be cleaned just prior to pressure washing or steam cleaning and dispose of soil and debris in trash or landscaping. Do not place in storm drains.**
- Do not discharge commercial wash water from steam cleaning or laden with detergents or cleaning chemicals to storm drains. Wash water with soap, even biodegradable soap, is not allowed into storm drains. **
- Direct small amounts of this type of wash water onto landscaped areas for infiltration or collect and dispose of the wash water into City of Bend sanitary sewer. **
- Once you have prior approval through City of Bend Industrial Pre-Treatment Program (call (541)-322-6348 for more information.) **
- Sweep process areas frequently and avoid washing down the areas into storm drain.

Disposal Requirements

- Direct small amounts of wash water into landscape areas to infiltrate into the ground.**
- No wash water or debris is to be left in the street and no discharges to storm drains are allowed.**
- Dispose of wash water in the sanitary sewer through an approved oil water separator.

Do's and Don'ts

Do block off Catch Basin, collect and properly dispose of wash water.



Do reduce the amount of water used during washing.



Do frequently sweep parking lots and corp. yards.



Do not flush parking lots or corp. yards with a water truck.



Codes and Regulations

- Bend Code Title 16 bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual bendoregon.gov/idmanual.gov
- Spill Prevention Plan g:\puw\gpw\gar\spill prevention

Additional Resources

http://bendoregon.gov/modules/showdocument.aspx?documentid=2695

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

Vehicle and Equipment Washing Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for vehicle and equipment washing to reduce unauthorized discharges into storm drains within the City of Bend.

Meeting Agenda

- Performance Standards & Best Management Practices
- Disposal Requirements
- Leaks (Do's and Don'ts)
- Additional Resources
- Have attendees sign in below and return cover sheet to stormwater program staff



Presenter Notes:

Key Talking Points / Meeting Preparation Considerations

- ☐ Review Fact Sheet
- ☐ Cover Performance Standards & Best Management Practices
- ☐ Be familiar with applicable Codes and regulations.
- ☐ Have attendees sign in below and return cover sheet to stormwater program staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Training Performed By:

Name:_____ Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff

Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who

This training is targeted toward people who are involved in the maintenance or repair of fleet vehicles. It is intended to be provided by the immediate supervisor or stormwater program staff upon request.

What

Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where

Best management practices targeted towards fleet maintenance and fueling.

When

For use in weekly meetings or tailgate meetings.

Why

Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How

Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Vehicle and Equipment Washing Fact Sheet

Applicable Performance Standards & Best Management Practices

Vehicle/Equipment Washing

- Clean all vehicles/equipment at designated wash areas that discharges to the sanitary sewer system.*

Boyd Acres (Vehicles/Equipment Wash Areas)



15th Street (Vehicles/Equipment Wash Areas)



- Ensure wash area is large enough so that all wash water drains to the sanitary sewer or recycling system.
- Monitor the wash area to make sure it is consistently used.*
- Consider taking vehicles and equipment to a commercial washing facility that recycles its wash water or consider filtering and recycling wash water.***
- If washing with detergents, use a phosphate free detergent.***
- Look for ways to reduce the amount of water used when washing vehicles or equipment. ***

Disposal Requirements

- Recycle wash water when possible.**
- Collect and dispose of wash water in sanitary sewer through an approved oil water separator.**

Do's and Don'ts

Do use carwash facilities that recycle rinse water.



Do reduce the amount of water used during washing.



Do clean vehicles and equipment in designated wash areas.



Don't wash vehicles or equipment near open storm drains.



Codes and Regulations

- Bend Code Title 16 bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual bendoregon.gov/idmanual.gov
- Spill Prevention Plan PUW g:\puw\gpw\gar\spill prevention

Additional Resources

www.bend.or.us/modules/showdocument.aspx?documentid=2695

Regulatory Drivers
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

Winter Road Care Training

Training Summary

The purpose of this training is to define minimum requirements and establish Best Management Practices (BMPs) for employees involved in winter road care to reduce unauthorized discharges into storm drains to protect water quality within the City of Bend.

Meeting Agenda

- Best Management Practices
- Material Storage
- Winter Road Care (Do`s and Don'ts)
- Additional Resources



Presenter Notes:

Key Talking Points / Meeting Preparation Considerations

- ☐ Review Fact Sheet and Best Management Practices
- ☐ Cover Performance Standards & Best Management Practices with attendees
- ☐ Be familiar with applicable Codes and regulations
- ☐ Have attendees sign below and return cover sheet to Stormwater program staff

Department/Group:_____ Date: _____

Meeting Location:_____

Training Attendees (Sign in)

	(Print name)	(Signature)	(Position Title)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Training Performed By:

Name:_____

Signature:_____

Please return completed sign-in sheet to: Stormwater Program Staff
Any questions? Contact Wendy Edde, Stormwater Program Manager @ 541-317-3018

Quick Tips

Who
This training is targeted toward people who are involved in plowing and deicing roadways. It is intended to be provided by the immediate supervisor (or stormwater program staff upon request).

What
Training materials suitable for conducting a brief "Tailgate" Meeting training in a manner and on topics necessary for meeting State and Federal water quality regulatory requirements.

Where
Best management practices targeted towards construction site erosion control and concrete washout.

When
For use in weekly meetings or tailgate meetings.

Why
Non-compliance with State and Federal water quality regulations can result in fines up to $25,000 per violation per day.

How
Provide copies of the fact sheet and walk through items. Discuss key ways to improve operations, complete sign-in and send to stormwater program staff.

Winter Road Care - Salts, Mag Chloride a Ice Melt Fact Sheet

Applicable Performance Standards & Best Management Practices

Deicing chemicals help clear roads from snow and ice during the winter, but road runoff may later carry these chemicals to the Deschutes River and towards our drinking water aquifer. Unlike other contaminants, such as heavy metals or hydrocarbons, chloride is not naturally removed from water as it travels through soil and sediments and moves towards the drinking water aquifer.



Even in small quantities chloride can:

- Deplete the oxygen supply needed by aquatic animals and plants;
- Leach into the ground and change soil composition, making it hard for plants to survive;
- Contaminate groundwater and surface waters; and,
- Deteriorate paved surfaces, buildings, infrastructure, and the environment.

Street Sweeping

Street sweeping soon after the snow melts can prevent excess basalt (cinders) and deicing residue from entering surface and ground waters. The basalt rock can be screened and added back to the sand stock piles for future reuse.

Timing of Deicer Application

Timing and application of liquid deicer is an important consideration; it takes time for deicers to become effective, after which a plow can more easily remove the snow and ice. Do not apply liquid deicer when it's raining or when road temperatures are below 10°F or deicer may freeze to the road surface and reduce road traction.

Placement of Material

Avoid using liquid deicer in the following areas:

- Areas that drain to the Deschutes River (see attached map)
- Within Drinking Water Protection Areas (see attached map)
- If use cannot be avoided, minimize and mitigate application (e.g. Prioritize sweeping of sanative areas)

Liquid Deicer Application:

- Minimize the amount of liquid deicer used.* ***(If some is good, more is not necessarily better)***
- Calibrate deicer application rate prior to the start of winter and after repairs are made to the equipment.
- Deicer will be applied in two different rates (supervisor's call) 20 gallons a mile or 30 gallons a mile, depending on weather conditions.
- Track the amount of product used per month (chemical deicer and basalt sanding).*

Plowing

Plowing is a chemical-free option that helps keep our roads clear of snow and ice. With plowing, less deicing material is needed to melt the remaining snow and ice pack. The City will use alternative materials such as basalt application as much as possible and minimize the use of chemical deicer (e.g., Mag Chloride), especially in sensitive areas.*

Material Storage

Any solid deicers (e.g., Rock Salt, Ice Melt) used shall be properly covered to prevent contact with stormwater, and be stored outside of the 100 year floodplain.* Any spilled material should be swept-up immediately and collected for reuse as product.

Mag Chloride spills during loading, unloading and tank refilling should be cleaned as soon as possible, using dry cleanup methods. Care shall be taken to collect the excess material from piping and hoses. Collect material using drip pans, the collected material shall be used as product or properly disposed of.

Disposal Requirements

- ❖ Avoid dumping snow into surface waters
- ❖ Excess material should be used as product
- ❖ Do not dump excess Mag chloride in the sanitary sewer or into catch basins. Product should be collected and reused as product.

Do`s and Don'ts

Do calibrate mag chloride application rates.



Do plow without using deicing chemicals as much as possible.



Do sweep up excess cinders and deicing residue as soon as possible.



Don't allow Mag Chloride to leak onto the ground



Don't apply deicing chemical when the road surface temperatures are below 10°F



Don't apply deicing chemical when it's raining



Codes and Regulations

- Bend Code Title 16 Bendoregon.gov/swregulations
- Illicit Discharge Minimization Best Management Practices Manual Bendoregon.gov/idmanual
- Snow & Ice Removal Plan

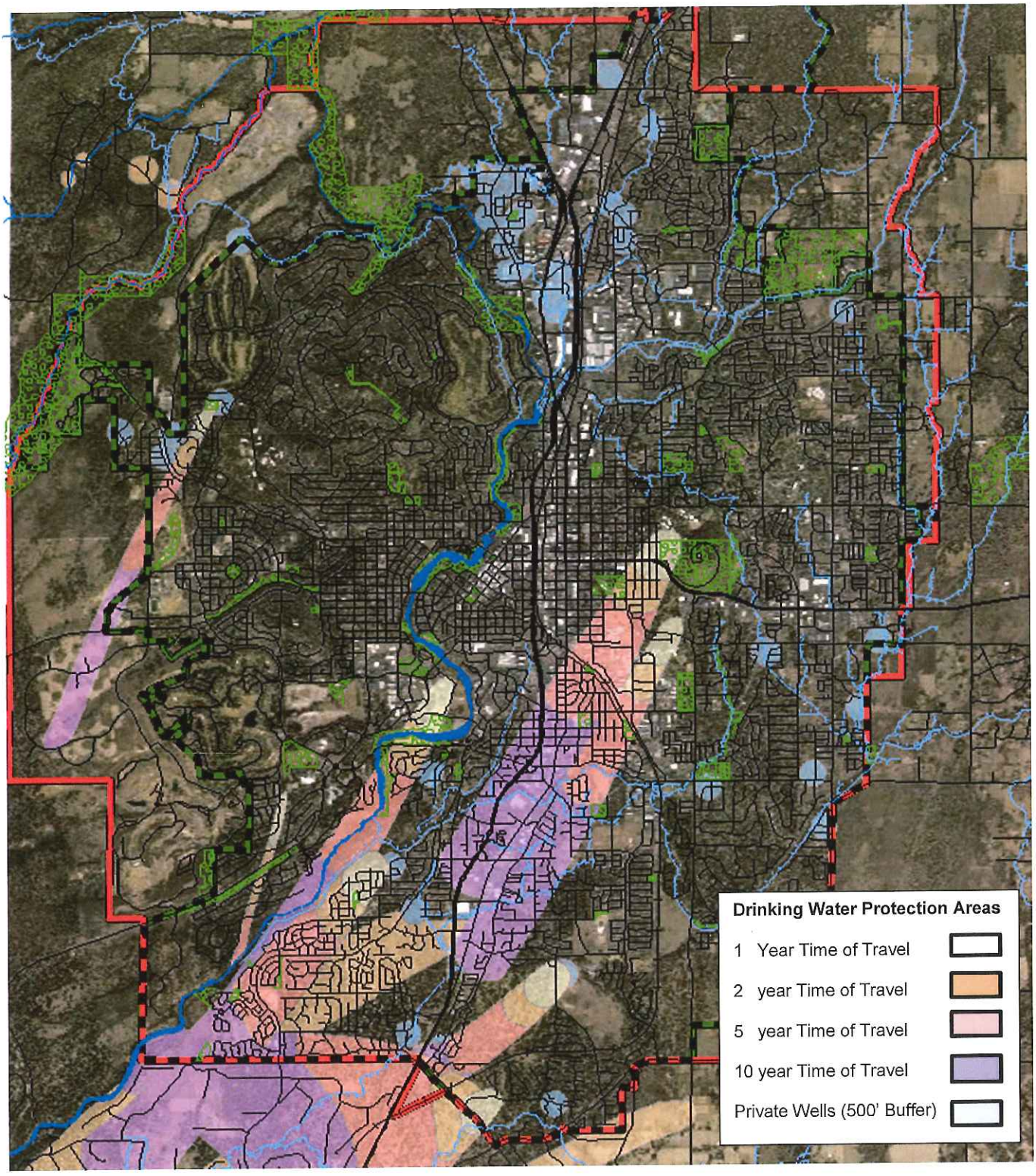
Additional Resources

- http://www.epa.gov/safewater/sourcewater/pubs/fs_swpp_deicinghighway.pdf
- http://www.stormh2o.c`om/SW/Articles/Salt_No_Easy_Answers_8162.aspx

Regulatory Drivers

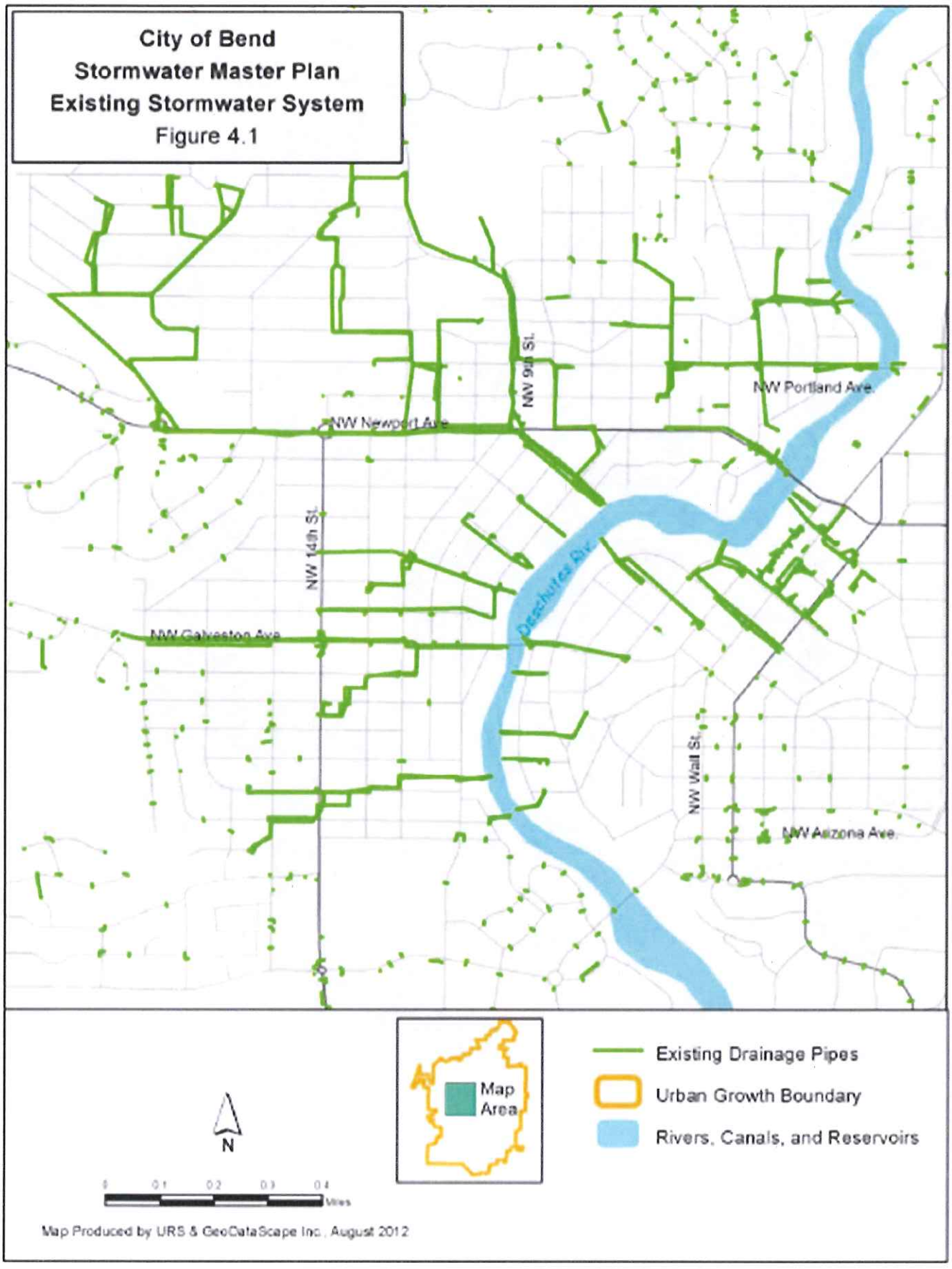
** ISWMP 2022 Performance Standard Requirement*
*** Bend Code Title 16 - BMP Manual Requirement*
**** Bend Code Title 16 - BMP Manual Recommendation*

Drinking Water Protection Areas



Notes:
Time of travel areas (1, 2, 5 & 10 year) is the expected amount of time it takes for a pollutant in groundwater to reach the well head. Private Wells have a 500' protection area and tend to be closer to the surface than City wells.

Areas That Drain To the River



SEDIMENT PREVENTION FOR BUSINESSES

Pollutant of Concern: Sediments

Help Keep Excess Sediment Out of Our Rivers & Stormwater Facilities.

What is sediment?
Sediment is loose soil like sand, clay, small rocks like gravel, or silt that can come as a result of soil erosion, winter traction materials, or plant decomposition.

Soils are Natural, So What's the Problem?
While some sediment is natural in surface water, in urban areas the amount of man-made sediment is high above natural levels. Sediment covers, compacts and clogs.

- Sediment can make water cloudy (turbid) and prevent animals from seeing food. The Deschutes River through Bend is listed for sediment and turbidity as a pollutant of concern.
- Sediment can clog fish gills, cover spawning areas and the habitats where the small organisms that form the basis for the food chain live.
- Nutrients transported by sediment can accelerate algae and plant growth that can ultimately affect oxygen levels in the water. The Deschutes River through Bend are listed for these types of pollutants of concern.
- Sediment deposits in rivers can alter the flow of water and reduce water depth, which makes navigation and recreational use more difficult.

Sediment can clog stormwater facilities and result in flooding problems. If the sediment clogs beyond the drywell cylinder and into the surrounding drainage rock, the entire drywell would need to be replaced, which unnecessarily adds costs. Drill holes clog even more easily

What can you do as a commercial business?

Prevention is key. Use best management practices (BMPs) to keep soils from moving in the first place, and to keep sediments swept up and managed.



All

- Excess sediment is considered an illicit discharge. If you spot excess sediment in the roadway or sediment that could potential reach stormwater facilities (such as picture at right), contact City of Bend at 541-317-3000.

Commercial Business

- Vegetate bare spots in your landscaping.
- Sweep entrances, sidewalks, driveways and parking lots on a regular basis instead of hosing them off. Washing these areas results in sediment and other pollutants running off into streams, rivers and lakes.
- Inspect and clean your onsite stormwater facilities annually.
- Train landscape maintenance staff to blow dirt, dust and grass clippings back into the grass and not onto sidewalks or paved surfaces, or to collect and compost or dispose of properly in a bin.
- Avoid mowing within 10 to 25 feet from the edge of a stream or river. This will create a safe buffer zone that will help minimize erosion and naturally filter stormwater runoff that may contain sediment.

POLLUTANT: SEDIMENT

What Can You Do as a Builder/Contractor?

Builders/Contractors

- Install erosion control BMPs (e.g., catch basin inlet protection, waddles or silt fence) before you begin site clearing/grading.
- Install temporary gravel construction entrance, never use erodible materials (i.e. gavel, dirt or sand) as ramps for protecting existing curbs.
- Never stockpile any material in the roadway. Properly secure stockpiles.
- Sweep up material that gets tracked out onto the roadway daily.



- **Sediment is not allowed to come off any construction site**, whether or not your site is required to have an erosion and sediment control plan or a grading and drainage permit. For additional information, review the Central Oregon Stormwater Manual, Chapter 9 and the "ACWA Construction Site Stormwater Guide" (see Other Resources, below).

Other Resources:

ACWA Construction Guide
www.oracwa.org/documents/ACWASWSiteGuide0313w.pdf

Central Oregon Stormwater Manual, Chapter 9
https://newcoic.files.wordpress.com/2012/09/2010rev-chapter-9-esc.pdf

Bend Code Title 16.10, Clearing Grading, and Erosion Control on Construction Sites
http://www.bend.or.us/Modules/ShowDocument.aspx?documentid=7216
See Sections 16.20 (Illicit Discharge); 16.10.20 (Grading Permits)

Oregon DEQ 1200-C Permits
http://www.deq.state.or.us/wq/stormwater/constappl.htm
For additional information on permitting requirements contact the City of Bend Permit Center at 541-388-5570.

Fines & Penalties
Violating Bend Code Title 16 is a Class-A Civil Infraction, and could result in a maximum civil penalty of $750.00 per day. Each day that a violation remains uncured in effect is a separate violation.

Accomodation Information for People with Disabilities

To obtain this information in an alternate format such as Braille, large print, electronic formats and audio cassette tape please contact Karen Morris at 541-693-2141 or email kmorris@bendoregon.gov.

UTILITY DEPARTMENT

CITY OF BEND

Construction Site Pollution Prevention and Erosion and Sediment Control Fact Sheet

January 17, 2012

ALL SITES ARE REQUIRED TO MEET THE MINIMUM PERFORMANCE STANDARDS:

ESC & Pollution Prevention

- Minimize tracking of sediment and debris onto roadways.
- Protect roadways, properties and stormwater facilities from sediment and debris.
- Properly wash out concrete trucks and equipment.
- Protect water bodies, streams and wetland from sediment and pollutants.
- Remove temporary BMPs after permanent controls have been established.

See Bend Code Title 16 (link on back) for additional minimum performance standards:

16.10.070 Clearing & Grading
16.10.090 Blasting
16.10.100 Tree Preservation
16.15.040 Post Construction

Why is Erosion & Sediment Control Needed?

The installation of erosion and sediment control (ESC) measures are used to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff and vehicle tracking. If erosion and sediment controls on a construction site are not correctly installed and maintained properly, sediment laden runoff can reach storm drain facilities causing impacts to drywells, drill holes or the Deschutes River.

When is a Clearing, Grading Erosion Control Permit Required?

A permit is required for clearing and grading activities related to construction, demolition, and site development for improvements related to all land divisions, multi-family developments, and commercial, industrial, and institutional sites. Single-family and duplex site developments are exempt from the permit requirement (but not from the Performance Standards) unless one of the following activities is proposed:

- Excavation or fill exceeding two feet other than foundation areas of single-family or duplexes.
- Alteration to or creation of a slope exceeding 20 percent.
- An excavation or fill within two feet of the property line.
- Tree removal of trees more than eight inches DBH on properties greater than one acre.
- Any clearing and grading activity located entirely or partially on sensitive areas or within a designated Area of Special Interest or Waterway Overlay Zone as described in Bend Development Code Section 2.7.
- Any other site determined by the City to have conditions necessitating additional control measures on a site specific basis for the protection of health, safety, property, or water quality protection.

How to Apply for a Permit:

- Completed a permit application paper work.
- Pay fee in the amount set by Council Resolution.
- Submit a site plan and grading plan.
- Submit an erosion and sediment control plan prepared in accordance with the Central Oregon Stormwater Manual (see link on back).
- A soils and geological reconnaissance report may be required if the City determines that special circumstances warrant such information.

Pollution Prevention/Erosion Control Permit Considerations:

Before You Begin,	During Construction,	After the Job is Done,
Identify sensitive areas to protect. Determine the drainage paths, slope steepness and direction of runoff. Develop an Erosion & Sediment Control Plan & Schedule (ESCP). Obtain all City, State and Federal Permits as needed. Locate temporary access point. Identify concrete washout areas if applicable. Hold a Preconstruction meeting with subcontractors to review ESCP.	Implement the ESCP. Inspect and maintain the site regularly, request formal inspection by City as needed. Coordinate ESCP updates with City. Make repairs to BMPs promptly. Cover or protect stored material including stockpiles, paints, and chemicals from rain. Sweep up spills or tracked sediment using dry cleaning methods promptly. Do not stock pile material in the Right of Way (ROW) including streets & sidewalks.	Stabilize all disturbed soils. Replant or install new vegetation as described in the plan. Continue to monitor the site until all new vegetation has established. Remove and properly dispose of Temporary Erosion Controls after permanent controls have been established. Request Final Inspection by City.

Commonly Used Erosion and Sediment Pollution Preventions Measures

❒ Construction Access



Purpose: A temporary construction entrance is a gravel pad located where vehicles leave a construction site. This rock pad is designed in such a way to allow vehicle tires to slightly sink into the rock. This helps to remove mud and debris from vehicle tires.

City Standard Drawing: R-27

Tips

- Locate Construction Entrance away from existing catch basins
- Limit the number of Access points
- Cover Trucks before they leave the site

❒ Sediment Control



Purpose: Sediments from construction activity can find their way into the stormwater system through storm sewers, storm grates and storm inlets. This sediment can plug inlets, pipes, dry wells, drill holes, and may cause flooding or impact water quality in the Deschutes River. Sediment fences, waddles and compost filter berms can help capture and remove sediment from construction site runoff.

City Standard Drawing: E-1

Tips

- Install silt fence along lower edges of the project site
- Inspect and maintain sediment controls regularly
- Remove once permanent controls are established

❒ Soil Stabilization



Purpose: Wind rain and snow combined with the removal of ground cover accelerates the process of erosion. Using hydro-seeding, applying a layer of straw, planting native grasses or installing jute matting can help stabilize soils and prevent sediment from being washed or blown off site.

City Standard Drawing: E-5 & E-6

Tips

- Phase construction operations to limit the amount of un-stabilized soil
- Stabilize disturbed soil as soon as possible after work is completed

❒ Inlet Protection



Purpose: Storm drain inlet protection measures prevent soil and debris from entering storm drain inlets. These measures are temporary and should be implemented before a site is disturbed. Inlet protection is the last line of defense in protecting the stormwater system from sediment.

City Standard Drawing: E-2

Tips

- Routinely inspect and remove excess sediment regularly
- Place bulk material stockpiles away from catch basins and paved surfaces

❒ Good Housekeeping



Purpose: Proper storage, maintenance, clean-up and disposal of materials and machinery can prevent pollutants from entering storm drainage facilities.

Tips

- Properly store paints and chemicals; clean up accidental spills safely and promptly.
- Sweep up sediment or debris tracked onto roadways; put litter in appropriate receptacles.
- Keep machinery properly maintained; use an oil pan when needed; repair leaks promptly.

CITY OF BEND
COMMUNITY DEVELOPMENT DEPARTMENT
710 NW WALL ST
BEND, OREGON, 97701
541-388-5580

Additional Links

City of Bend Code Title 16
http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=6732

City of Bend Design Standards
www.ci.bend.or.us/modules/showdocument.aspx?documentid=2104

Central Oregon Stormwater Manual
www.coic.org/cd/stormwater/index.htm

Business and Home Best Management Practices
www.bendoregon.gov/index.aspx?page=298

Oregon Department of Environmental Quality
www.deq.state.or.us/wq/stormwater/escmanual.htm

Appendix E

Construction Site Stormwater Activities

July 6, 2015

RE: Clean Water Works Partnership Opportunity

Dear Construction Company Owner:

The City of Bend Stormwater Utility would like to partner with you to help keep our waters clean. If you appreciate clean water *and* business enhancement, please consider this voluntary opportunity. The City of Bend is undertaking an exciting new incentive-based watershed campaign entitled Clean Water Works. Please see our website at: bendoregon.gov/cleanwaterworks. Here you can see that we have both educational and partnership aspects to the campaign.

UTILITY DEPARTMENT

62975 BOYD ACRES RD
PO BOX 118
BEND, OR 97701
[541] 317-3000 TEL
[541] 317-3046 FAX
WWW.BENDOREGON.GOV

JIM CLINTON
Mayor

SALLY RUSSELL
Mayor Pro Tem

VICTOR CHUDOWSKY
City Councilor

DOUG KNIGHT
City Councilor

NATHAN BODDIE
City Councilor

CASEY ROATS
City Councilor

BARB CAMPBELL
City Councilor

ERIC KING
City Manager

PAUL RHEAULT
Utility Department Director

We are seeking to support businesses that are working to keep our waters clean. We have selected Construction Industry businesses within the City of Bend as potential Clean Water Works Partners. Should you choose to participate, the City would like to reward you by providing the following promotional materials:

➢**Promotion** on our "Discounts and Partners" page on our website (bendoregon.gov/cleanwaterworkspartners) and by other electronic media means (e.g., mention on Facebook, Twitter, or radio advertisements). We will actively encourage people to visit this page beginning in August through October, 2015 and likely beyond. The campaign will include: TV, radio, print, events and social media.

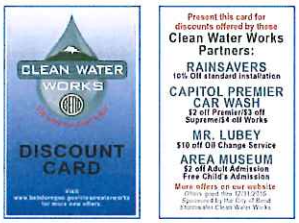
➢**Decal**—The City will provide you a Clean Water Works window decal (see image at right) to help advertise your business as one that cares about Clean Water!



➢**Discount Card**—The City will list your business and the discount of your choosing (e.g., 5% off supplies, free estimate, free hat) on our website "Discount and Partner" page, and if you respond by July 20, 2015 we will on a first come/first served basis list your business and discount on the back of our discount cards that we will print and distribute at outreach events during the fall 2015 campaign and mention your business in a Clean Water Works partner radio advertisement. The discount card will also be available on line for your customers to print. (See back for an example discount card layout.)

➢**Water Bottle**—The City will provide you at least two stainless steel Clean Water Works Partner logo-ed water bottles for your use and enjoyment.

- **Display Holder Promotion** for your customer waiting area with a Clean Water Works Partner outreach sheet promoting your participation as a company that cares about clean water to your customers.



The partnership works like this—if you meet the following basic steps for your business category, just fill out the attached certification form and you can take part. The criteria for your business category is as follows:

- ✓ You have registered for a Bend Business license (and if you are receiving this letter, then you already have!),
- ☐ You agree to follow best management practices for keeping construction related pollutants including sediments out of the streets and storm drains (see the attached Sediment Prevention For Businesses fact sheet and "Other Resources" materials therein for guidance);
- ☐ You agree to share the best management practices information under the "What Can You Do as a Building/Contractor?" section in the attached Sediment Prevention fact sheet with your staff and subcontractors;
- ☐ You agree to honor the discount that you specify through at least Dec. 31, 2015.

Just review the enclosed "Sediment Prevention for Businesses" fact sheet, complete the short partnership form and email it to me at wedde@bendoregon.gov or fax it to 541-317-3046. You may also mail it to my attention at: 62975 Boyd Acres Road, Bend, OR 97701. Please contact me directly at 541-317-3018 should you have any questions. And remember, if you contact me by July 20th, we will do our best to include your business name on the back of the Discount card, and a mention of your business on our fall radio commercial on a first come first served basis.

Remember, this is a voluntary program and a means to appreciate your interest and efforts in keeping our river and drinking waters clean. Should you have any questions or if you wish additional fact sheets or illustrated best management practices guides to distribute to your staff/subcontractors, please do not hesitate to contact me at the phone number or email above.

We look forward to working with you.

Sincerely,

Wendy Edde, CSM
Stormwater Program Manager
City of Bend Utility Department

Att: Sediment Prevention for Businesses, Clean Water Works Partnership form

SEDIMENT PREVENTION FOR BUSINESSES

Pollutant of Concern: Sediments

Help Keep Excess Sediment Out of Our Rivers & Stormwater Facilities.

What is sediment?
Sediment is loose soil like sand, clay, small rocks like gravel, or silt that can come as a result of soil erosion, winter traction materials, or plant decomposition.

Soils are Natural, So What's the Problem?
While some sediment is natural in surface water, in urban areas the amount of man-made sediment is high above natural levels. Sediment covers, compacts and clogs.

- Sediment can make water cloudy (turbid) and prevent animals from seeing food. The Deschutes River through Bend is listed for sediment and turbidity as a pollutant of concern.
- Sediment can clog fish gills, cover spawning areas and the habitats where the small organisms that form the basis for the food chain live.
- Nutrients transported by sediment can accelerate algae and plant growth that can ultimately affect oxygen levels in the water. The Deschutes River through Bend are listed for these types of pollutants of concern.
- Sediment deposits in rivers can alter the flow of water and reduce water depth, which makes navigation and recreational use more difficult.

Sediment can clog stormwater facilities and result in flooding problems. If the sediment clogs beyond the drywell cylinder and into the surrounding drainage rock, the entire drywell would need to be replaced, which unnecessarily adds costs. Drill holes clog even more easily

What can you do as a commercial business?

Prevention is key. Use best management practices (BMPs) to keep soils from moving in the first place, and to keep sediments swept up and managed.



All

- Excess sediment is considered an illicit discharge. If you spot excess sediment in the roadway or sediment that could potential reach stormwater facilities (such as picture at right), contact City of Bend at 541-317-3000.

Commercial Business

- Vegetate bare spots in your landscaping.
- Sweep entrances, sidewalks, driveways and parking lots on a regular basis instead of hosing them off. Washing these areas results in sediment and other pollutants running off into streams, rivers and lakes.
- Inspect and clean your onsite stormwater facilities annually.
- Train landscape maintenance staff to blow dirt, dust and grass clippings back into the grass and not onto sidewalks or paved surfaces, or to collect and compost or dispose of properly in a bin.
- Avoid mowing within 10 to 25 feet from the edge of a stream or river. This will create a safe buffer zone that will help minimize erosion and naturally filter stormwater runoff that may contain sediment.

POLLUTANT: SEDIMENT

What Can You Do as a Builder/Contractor?

Builders/Contractors

- Install erosion control BMPs (e.g., catch basin inlet protection, waddles or silt fence) before you begin site clearing/grading.
- Install temporary gravel construction entrance, never use erodible materials (i.e., gravel, dirt or sand) as ramps for protecting existing curbs.
- Never stockpile any material in the roadway. Properly secure stockpiles.
- Sweep up material that gets tracked out onto the roadway daily.



- **Sediment is not allowed to come off any construction site**, whether or not your site is required to have an erosion and sediment control plan or a grading and drainage permit. For additional information, review the Central Oregon Stormwater Manual, Chapter 9 and the "ACWA Construction Site Stormwater Guide" (see Other Resources, below).

Other Resources:

ACWA Construction Guide
www.oracwa.org/documents/ACWASWSiteGuide0313w.pdf

Central Oregon Stormwater Manual, Chapter 9
https://newcoic.files.wordpress.com/2012/09/2010rev-chapter-9-esc.pdf

Bend Code Title 16.10, Clearing Grading, and Erosion Control on Construction Sites
http://www.bend.or.us/Modules/ShowDocument.aspx?documentid=7216
See Sections 16.20 (Illicit Discharge); 16.10.20 (Grading Permits)

Oregon DEQ 1200-C Permits
http://www.deq.state.or.us/wq/stormwater/constappl.htm
For additional information on permitting requirements contact the City of Bend Permit Center at 541-388-5570.

Fines & Penalties
Violating Bend Code Title 16 is a Class-A Civil Infraction, and could result in a maximum civil penalty of $750.00 per day. Each day that a violation remains uncured in effect is a separate violation.

Accomodation Information for People with Disabilities

To obtain this information in an alternate format such as Braille, large print, electronic formats and audio cassette tape please contact Karen Morris at 541-693-2141 or email kmorris@bendoregon.gov.

UTILITY DEPARTMENT

Clean Water Works
Partnership Participation

Yes! I would like my business to be recognized as a Clean Water Works Partner! I certify that I/my business will meet the overall criteria of the Clean Water Works Partnership program to participate.

Name (Please Print) _____ Signature _____

Business Name _____ Business Category _____

Discount I Will Offer and Honor _____ Discount End Date (if any) _____

So that we may contact you to coordinate on the promotional materials, please provide the following information:

Email Address _____ Phone _____ Business Website _____

Please scan and email to Wendy Edde, Stormwater Program Manager, City of Bend at wedde@bendoregon.gov, fax 541-317-3046, or mail to 62975 Boyd Acres Road, Bend, OR 97701. Any questions, please contact Wendy at 541-317-3018.

Accomodation Information for People with Disabilities
To obtain this information in an alternate format such as Braille, large print, electronic fomats and audio cassette tape please contact Karin Morris at (541) 693-2141, or email Kmorris@bendoregon.gov.

UTILITY DEPARTMENT









UTILITY DEPARTMENT

FREE WORKSHOP

Contractors, developers, engineers, municipal inspection and construction staff...

If you are not completely familiar with the new state 1200C requirements (December 2015), you do not want to miss this! This is your opportunity to get certified ahead of the deadline! The City of Bend Stormwater Utility is hosting an Erosion & Sediment Control Certification Workshop brought to you by Clean Water Technologies, LLC. Become a DOE Certified Erosion & Sediment Control Lead (CESCL) that can assist you on your next project to meet state and local requirements. **A $300 value, free to you this year.** But hurry to register as space is limited! Workshop includes an active field component.

The registration deadline is Monday March 21, 2016 at Noon.

Please register by contacting David Buchanan (City of Bend), at dbuchanan@bendoregon.gov or 541-693-2176 with your name, agency/company and contact information. In order to receive the CESCL certification, attendees must participate in both days of the workshop and pass a written exam.

Accomodation Information for People with Disabilities
To obtain this information in an alternate format such as Braille, large print, electronic fomats and audio cassette tape please contact Karin Morris at (541) 693-2141, or email Kmorris@bendoregon.gov.

CERTIFIED EROSION & SEDIMENT CONTROL LEAD (CESCL) WORKSHOP

Monday and Tuesday, March 28 & 29, 2016

8:00 am to 5:00 pm

Lunch will be provided!

LOCATION: 62975 Boyd Acres Road Bend, Oregon

CLEAN WATER WORKS

We work for clean water

CESCL Certification Day 1

3/28/2016

Wendy	Edde	City of Bend	
David	Buchanan	City of Bend	
Bill	Brackett	Century West Engineering	
Eileen	Obermiller	Dappled Earth	
Krista	Ratliff	Oregon DEQ	
Ian	Klotz	City of Bend	
Doug	Straw	City of Bend	
David	Oak	City of Bend	
Michael	Anderson	City of Bend	
Jennifer	VanCamp	Harper Houf Peterson Righellis	
Patrick	Konop	City of Bend	
Jason	Simpson	City of Bend	
Evan	Malone	City of Bend	
Chani	Haynes	Knife River Corporation Northwest	
Brian	Johnston	Alex Hodges Construction	
Kelly	Meyer	Aspen Landscape Development	
Lisa	Ziegler	High Desert Aggregate and Paving	
Ben	Moore	High Desert Aggregate and Paving	
Kevin	Jenison	ACF West	
Amber	Hudspeth	Farallon Consulting	
Parker	Emahiser	Farallon Consulting	
Noah	Cervantes	Tye Engineering and Surveying, Inc.	
Dirk	Durye	Tye Engineering and Surveying, Inc.	
John	Umbarger	City of Bend	
Greg	Bridge	Storm Water Services	
Dennis	Collins	Storm Water Services	

Stelley Chance Tye Engineering

Jason Simpson City

Doug Straw

Mike Hr

CESCL Certification Day 2

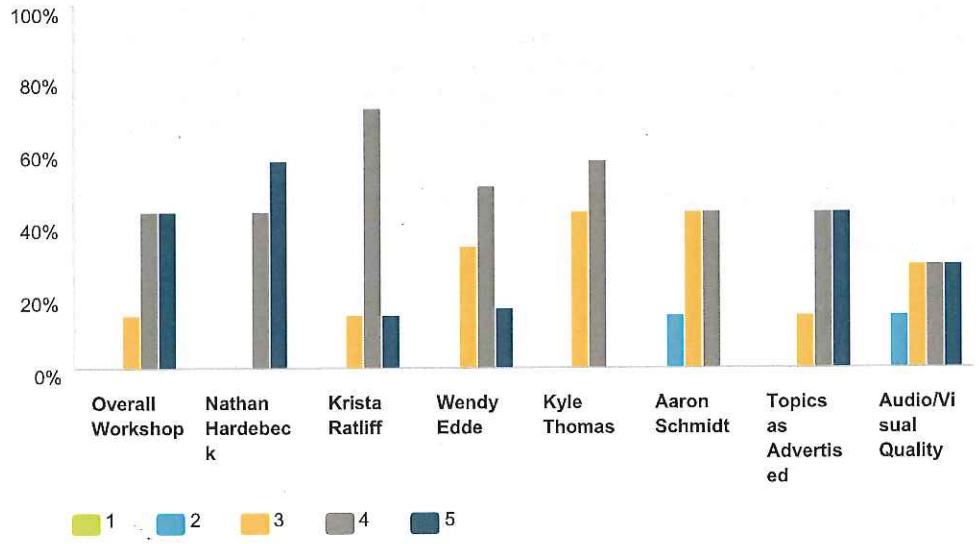
3/29/2016

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John	Umbarger	City of Bend	
Greg	Bridge	Storm Water Services	
Dennis	Collins	Storm Water Services	

Chance Stelfey Tye Engineering

Q1 Please evaluate the presentation (1 being poor, 3 average, 5 excellent)

Answered: 7 Skipped: 0



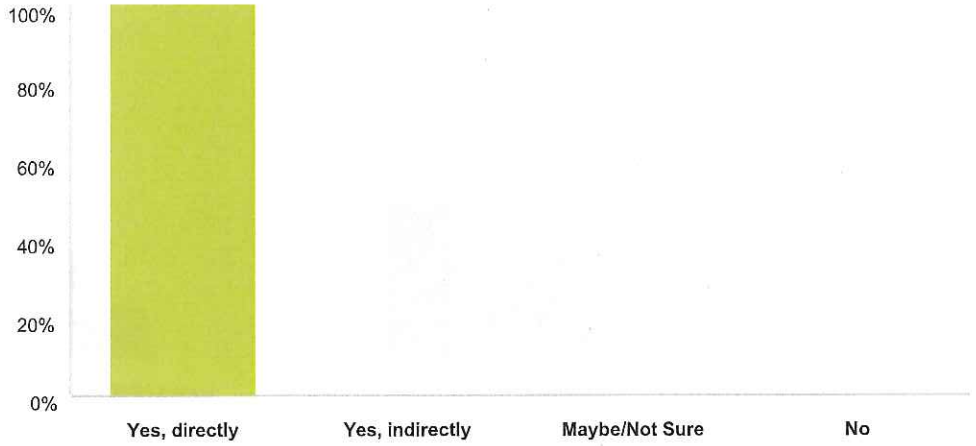
	1	2	3	4	5	Total
Overall Workshop	0.00% 0	0.00% 0	14.29% 1	42.86% 3	42.86% 3	7
Nathan Hardebeck	0.00% 0	0.00% 0	0.00% 0	42.86% 3	57.14% 4	7
Krista Ratliff	0.00% 0	0.00% 0	14.29% 1	71.43% 5	14.29% 1	7
Wendy Edde	0.00% 0	0.00% 0	33.33% 2	50.00% 3	16.67% 1	6
Kyle Thomas	0.00% 0	0.00% 0	42.86% 3	57.14% 4	0.00% 0	7
Aaron Schmidt	0.00% 0	14.29% 1	42.86% 3	42.86% 3	0.00% 0	7
Topics as Advertised	0.00% 0	0.00% 0	14.29% 1	42.86% 3	42.86% 3	7
Audio/Visual Quality	0.00% 0	14.29% 1	28.57% 2	28.57% 2	28.57% 2	7

#	Please provide any comments/suggestions for improvement (please specify)	Date
1	I think a demonstration located at a construction site with many of the attributes discussed in class would be an improvement.	4/1/2016 1:54 PM

2	As this was a water quality at construction sites workshop, I would have liked to see more on proper housekeeping (debris disposal, excess paint disposal, material control, etc.) rather than a section on post-construction controls if you are going to add on beyond ESC. It appears the spill control section was skipped and I would have chosen to have that included together with general housekeeping over the sales pitch for underground post construction controls/permeable pavement as it is more applicable to the topic at hand. If you are going to provide information on post construction controls then you should examine life-cycle costs across the board. The benefits of surface infiltration is that you can easily monitor when they need maintenance and do not need confined entry to access. I felt the brief presentation of those was severely biased and perhaps as a result that the speaker would stand to benefit economically by the purchase of the structural post-construction controls presented in a more positive light. I am not sure if the entire audience recognized the potential conflict of interest there, but this did not sit well with me. To the degree possible, use presenters who are not potentially biased in the future. More on technical specs and drawings, and record keeping would be useful--are there electronic means of recordkeeping that can incorporate photos and send to multiple contacts easily?	3/30/2016 11:16 AM
3	Colors on the slides don't show up on the screen very well...might be a projector problem?	3/30/2016 10:28 AM
4	It was a very well organized course.	3/30/2016 10:08 AM

Q2 Have you/will you be able to use the information that you gained from the workshop in your work?

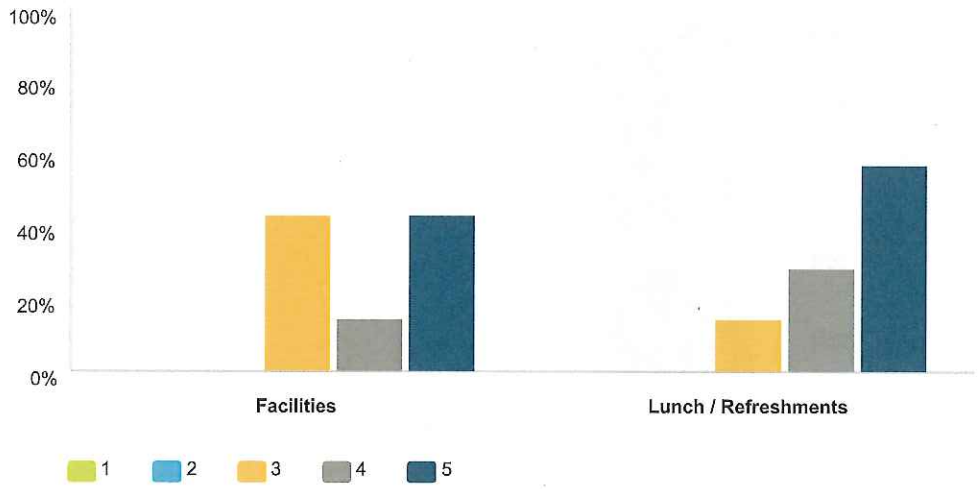
Answered: 7 Skipped: 0



Answer Choices	Responses	
Yes, directly	100.00%	7
Yes, indirectly	0.00%	0
Maybe/Not Sure	0.00%	0
No	0.00%	0
Total		7

Q3 Please rank the facility and refreshments (1 being poor, 3 being average, 5 being excellent).

Answered: 7 Skipped: 0



	1	2	3	4	5	Total
Facilities	0.00% 0	0.00% 0	42.86% 3	14.29% 1	42.86% 3	7
Lunch / Refreshments	0.00% 0	0.00% 0	14.29% 1	28.57% 2	57.14% 4	7

#	Comments/Suggestions for Improvements (please specify)	Date
1	Just one presentation screen is better vs 2 even if you have to go bigger.	4/1/2016 1:54 PM
2	If windy, apply dust control at field site ahead of time. Field site location was excellent in relation to the workshop location. Some additional site cleanup would be nice prior to any future workshops using it. It would have been more informative to demonstrate the storm drain inlet protection devices in the parking lot of the workshop rather than in the dirt area of the field location.	3/30/2016 11:16 AM
3	Lunch was great.	3/30/2016 10:28 AM
4	Everything was great.	3/30/2016 10:08 AM

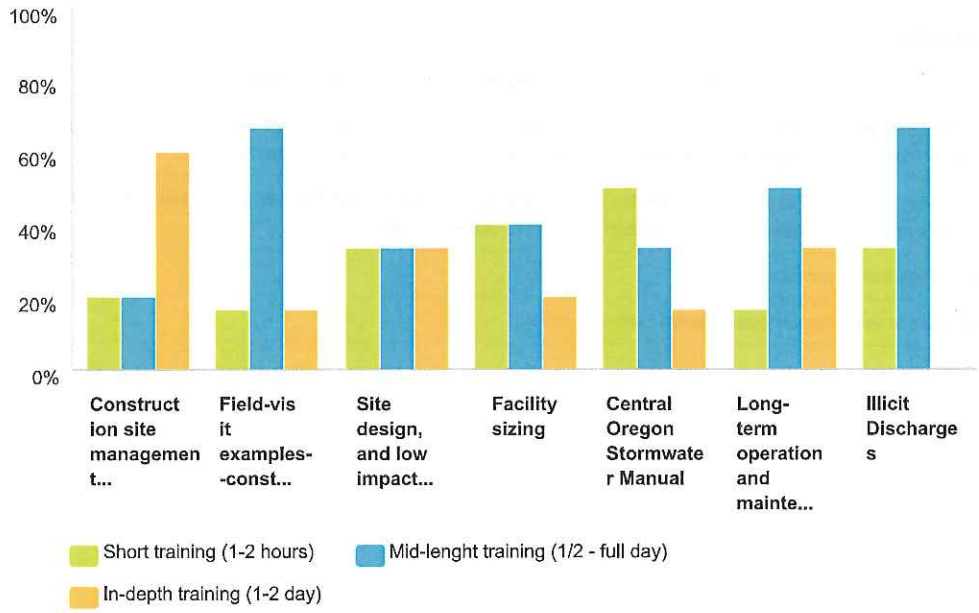
Q4 Please list one or more new things that you learned as part of the presentation(s).

Answered: 5 Skipped: 2

#	Responses	Date
1	Crushed Concrete is toxic and can alter the ph in stormwater runoff and have ill effects on the local ecosystem.	4/1/2016 1:54 PM
2	I learned that permits must be obtained and erosion control measures must be installed and maintained throughout the duration of the project to prevent sediment from entering storm systems and other properties.	4/1/2016 6:48 AM
3	That losing the top 1/8" of soil on The graphic illustrating how sediment impacts fish was very useful. The case studies and back and forth on how to approach a problem at a site was super useful.	3/30/2016 11:16 AM
4	applicable erosion control measures	3/30/2016 10:28 AM
5	I was able to see different types erosion control in action.	3/30/2016 10:08 AM

Q5 What additional stormwater training(s) would you feel would be useful (mark all that apply)?

Answered: 6 Skipped: 1



	Short training (1-2 hours)	Mid-lenght training (1/2 - full day)	In-depth training (1-2 day)	Total Respondents
Construction site management (erosion control and pollution prevention)	20.00% 1	20.00% 1	60.00% 3	5
Field-visit examples--construction site management	16.67% 1	66.67% 4	16.67% 1	6
Site design, and low impact development	33.33% 2	33.33% 2	33.33% 2	6
Facility sizing	40.00% 2	40.00% 2	20.00% 1	5
Central Oregon Stormwater Manual	50.00% 3	33.33% 2	16.67% 1	6
Long-term operation and maintenance	16.67% 1	50.00% 3	33.33% 2	6
Illicit Discharges	33.33% 2	66.67% 4	0.00% 0	6

#	Other (please specify)	Date
1	I think more training for city staff on the COSM and other city standards would be helpful for the workers in the field,	4/1/2016 6:48 AM

Q6 Please provide any additional comments/suggestions for improvement.

Answered: 4 Skipped: 3

#	Responses	Date
1	Creation of chapter in ccb study guide/exam as a part of education for contractors license to operate a business in Oregon.	4/1/2016 1:54 PM
2	Some how we need to get the contractors educated on the importance of erosion and sediment control. Contractors are ignoring these issues on their job sites with no consequences.	4/1/2016 6:48 AM
3	It was nice having the cards available at the end; and good length of time each day. Very helpful information. Thank you.	3/30/2016 11:16 AM
4	Great job!	3/30/2016 10:28 AM

STORMWATER QUALITY WEBINAR SERIES

FALL 2015

The City of Bend Stormwater Utility is sponsoring the following upcoming webinar training opportunities. Attendance is free, PDHs/ CEUs are available for the CWP webinar.

US EPA Webinar - Winter O&M for Green Infrastructure			
Date:	November 3, 2015 (Tues.)	**Time:**	10:00 am to 11:30 am
Location:	City of Bend Utilities, 62975 Boyd Acres Rd.		
Session 1	Green Infrastructure Maintenance: Facts, Fiction, Cold Weather, and Costs		
Session 2	Clean Water & Safe Roads: Finding the Balance		
From the U.S. Environmental Protection Agency Website: Operations and maintenance (O&M) is critical to the long-term effectiveness and success of green infrastructure practices in any community. However, wet weather in colder climate communities often presents unique challenges to green infrastructure maintenance - from snow, sediment, and salt to storage and drainage. This webcast will showcase two presentations that illustrate some of the realities and best practices of winter O&M and will build off of the information shared in EPA's 2014 O&M webinar.			

CWP Webinar - Checking in on Post-Construction Stormwater Management			
Date:	November 18, 2015 (Wed.)	**Time:**	10:00 am to 11:30 am
Location:	City of Bend Utilities, 62975 Boyd Acres Rd.		
From Center for Watershed Protection Website: For many MS4s, the post-construction minimum measure is the most complicated, and the one that requires the highest level of local program development. Post-construction stormwater management involves development of stormwater standards, plan review, inspections, and verification of long-term maintenance. This program is also becoming more prominent as state MS4 permits are revised and reauthorized. This webcast will explore innovations and trends in post-construction stormwater management, with MS4 case studies featuring program components and budgets.			

Also, check out the ASCE On-Demand Webinar Series that kicks off November 17, 2015. Attendance is free and each section is worth 1 PDH.

TO REGISTER

For the webinars, please register by emailing or calling David Buchanan, City of Bend, dbuchanan@bendoregon.gov or (541) 693-2176 with your name, agency/company, and contact information, and which series and/or sections you would like to attend.

Register today—seating is limited

UTILITY DEPARTMENT

ASCE On-Demand Stormwater Management Webinar Series

Early Winter 2015

The City of Bend Stormwater Utility is sponsoring the following upcoming American Society of Civil Engineers (ASCE) On Demand Webinar Training opportunities. Attendance is free, each session is a 1-hour webinar worth 1 PDH.

Webinar Training (Series 1) – Construction Site Management			
Date:	November 17, 2015 (Tues.)	**Time:**	1:00 pm to 3:15 pm
Location:	City of Bend Utilities, 62975 Boyd Acres Rd.		
Session 1:	Design of Erosion Control Measures for Small Channels		
Session 2:	Construction Stormwater BMPs		

Webinar Training (Series 2) – Stormwater Facility Considerations			
Date:	December 1, 2015 (Tues.)	**Time:**	1:00 pm to 3:15 pm
Location:	City of Bend Utilities, 62975 Boyd Acres Rd.		
Session 1:	Hydrologic Trespass and Nuisance Considerations in Stormwater Design		
Session 2:	Storm Water Management Alternatives for Small Commercial Sites		

Webinar Training (Series 3) - Permeable Pavement: Design			
Date:	December 15, 2015 (Tues.)	**Time:**	1:00 pm to 2:00 pm
Location:	City of Bend Utilities, 62975 Boyd Acres Rd.		
Session 1:	Permeable Pavement: Design Considerations and Tips for Avoiding Failures		

TO REGISTER

For the webinars, please register by emailing or calling Wendy Edde, City of Bend, wedde@bendoregon.gov or (541) 317-3018 with your name, agency/company, and contact information, and which series and/or sections you would like to attend.

Register today—seating is limited

UTILITY DEPARTMENT

ASCE On-Demand Stormwater Management

Series 1

The City of Bend Stormwater Utility is sponsoring the following upcoming webinar training opportunities. Attendance is free, each session is a 1-hour webinar worth 1 PDH.

Date: November 17, 2015 **Time**: 1:00 pm to 3:15 pm

Location: City of Bend Utilities, 62975 Boyd Acres Rd.

SESSION 1 - Design of Erosion Control Measures for Small Channels

Purpose and Background from ASCE Website:

Activities affecting drainage around project sites have come under more intensive scrutiny from regulatory agencies in recent years. Properly designed channel linings can ensure that drainage ditches and channels provide effective drainage without causing erosion in the channel, and at the same time satisfy regulatory requirements. Traditional methods have consisted of lining erodible channels with rigid liners such as riprap or concrete, but effective non-traditional methods can also be employed under the right circumstances. For instance, flexible linings, such as vegetative linings, erosion control mats, and turf reinforcement mats can be appropriate methods that can provide effective solutions as well. The selection of a proper channel lining for erosion control depends on site conditions, such as soil type, drainage area, estimated channel flows, and channel slope, and this webinar will explore the variety of options and help you determine the best method for your circumstances.

Instructor: Jerry Michel, P.E.

BREAK (15 Minutes)

SESSION 2 - Construction Stormwater BMPs

Purpose and Background from ASCE Website:

Many construction projects include excavation and fill. These soil disturbing activities create the potential for erosion and necessitate the use of Best Management Practices (BMPs). A wide variety of BMPs have been developed, but some designers and contractors use only a few of them. Sometimes this is due to unfamiliarity with other options and sometimes it is due to the mistaken impression that one BMP can be used for all situations.

BMPs for slopes include silt fence, slope roughening and erosion control blankets. BMPs for small drainages include sedimentation basins, sediment traps, check dams, fiber rolls and straw bales. BMPs for inlets include silt fence, straw bales, fiber rolls and inlet covers.

Instructor: Mark Peterson, P.E., M.ASCE

INTENDED AUDIENCE

Civil engineers, contractors and inspectors involved in designing, installing or inspecting storm water BMPs for construction projects will benefit from this webinar.

TO REGISTER

For the webinars, please register by emailing or calling Wendy Edde, City of Bend, wedde@bendoregon.gov or (541) 317-3018 with your name, agency/company, and contact information, and which series and/or sections you would like to attend. **Register today—seating is limited**

THANK YOU FOR ATTENDING!

American Society of Civil Engineers

Construction Site Management - Webinar Series 1

Date: *November 17, 2015* ***Time:*** *1:00 am to 3:15 am*

UTILITY DEPARTMENT

PLEASE SIGN IN

	Name	Affiliation	Session 1 (Initial Sessions Attended)	Session 2 (Initial Sessions Attended)
1	Adam Erlandson	Harper Houf Peterson Righellis Inc.	AE	AE
2	Corey Charon	The Green Consultant	CC	CC
3	David Buchanan	City of Bend	DB	DB
4	Garrett Sabourin	City of Bend		
5	Nicolae Oltean	City of Bend		
6	Chris Chambers	DeTech Engineering	CDC	CDC
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				

None Responded
0/3

CITY OF BEND

Webinar Effectiveness Evaluation Form

Workshop Title:
American Society of Civil Engineers
Session 1: Design of Erosion Control Measures for Small Channels
Session 2: Construction Stormwater BMPs

Date: November 3, 2015

1. **Please Rate the First Session Design of Erosion Control Measures for Small Channels Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 3 4 5

   Comments:

2. **Please Rate the Second Session, Construction Stormwater BMPs Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 3 4 5

   Comments:

3. **Please Rate the facility and refreshments (1 being poor, 3 average, 5 excellent)**

Facilities NA 1 2 3 4 5

Refreshments NA 1 2 3 4 5

Comments:

Thank you for your time and input to help us improve our offerings!

4. **Please list one or more things that you learned in the first session.**

5. **Please list one or more things that you learned in the second session.**

6. **Please provide any additional comments/ suggestions for improvements, or for other training that you would find useful.**

Thank you for your time and input to help us improve our offerings!

ASCE On-Demand Stormwater Management Webinar

Series 2

The City of Bend Stormwater Utility is sponsoring the following upcoming ASCE webinar training opportunities. Attendance is free, each session is a 1-hour webinar worth 1 PDH.

Date: ~~December 1, 2015~~ **RESCHEDULED Tues., Dec. 29, 2015** **Time**: 1:00-3:15 pm

Location: City of Bend Utilities, 62975 Boyd Acres Rd.

SESSION 1 - Hydrologic Trespass and Nuisance Considerations in Stormwater Design

Purpose and Background from ASCE Website:

With the advent of numerous stormwater regulations, the use of stormwater BMPs to manage and treat runoff has become a critical component of any site development project. This use of stormwater management measures, while intended to protect the environment and control the quantity and quality of runoff, can still alter hydrology in ways that may give rise to legal issues and litigation from downstream landowners. Claims of "hydrologic trespass," nuisance, and other actions deriving from the broad area of water law can sometimes arise even when the designer has properly followed the local regulations. This one-hour webinar will discuss the basic principles of water law, drainage law claims of nuisance and trespass, and other legal actions as they relate to stormwater management design.

Instructor: Ian Jewell

BREAK (10 Minutes)

SESSION 2 - Storm Water Management Alternatives for Small Commercial Sites

Purpose and Background from ASCE Website:

Many projects involve development of a small commercial facility on a site that currently has limited or no impervious area. In many jurisdictions, it is necessary to reduce the peak flow to predevelopment levels. However, typical solutions to peak flow reduction, such as large detention ponds, are not practical on a small site. There are alternative approaches to storm water management on small commercial sites that can reduce costs, improve aesthetics, meet the storm water regulations and possibly provide LEED credits for the project.

Storm water detention ponds can still be used, but they must be much smaller, which limits the types of outlet devices that can be used. They must also be molded into the landscape to improve the aesthetics. Retention ponds and rain gardens become viable options on small sites, but must still be designed to perform storm water functions.

Instructor: Mark Peterson, P.E., M.ASCE

INTENDED AUDIENCE

Civil engineers, contractors and inspectors involved in designing, installing or inspecting stormwater BMPs for construction projects will benefit from this webinar.

TO REGISTER

For this webinar, please register by emailing or calling David Buchanan, City of Bend, dbuchanan@bendoregon.gov or (541) 693-2176 with your name, agency/company, and contact information and which series and/or sections you would like to attend.

Register today—seating is limited

THANK YOU FOR ATTENDING!

American Society of Civil Engineers

Stormwater Facility Considerations - Webinar Series 2

Date: *December 29, 2015* ***Time:*** *1:00 pm to 3:15 pm*

UTILITY DEPARTMENT

PLEASE SIGN IN

	Name	Affiliation	Session 1 (Initial Sessions Attended)	Session 2 (Initial Sessions Attended)
1	Terry Angle	Angle Consulting Engineering	TA	
2	David Buchanan	City of Bend	DB	DB
3	Chris Chambers	Devtech Engineering Inc.	CDC	CDC
4	Corey Charon	The Green Consultant		
5	Jennifer VanCamp	HHPR	JV	JV
6	Wendy Edde	City of Bend	WE	WE
7	Mark Ellington	Bend Park and Recreation	ME	✓
8	Larry Morse	City of Redmond	MWE	MWE
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Hydrologic Trespass + Nuisance Considerations

SW Mgmt + AHs for Small Commercial

CITY OF BEND

Webinar Effectiveness Evaluation Form

Workshop Title:

American Society of Civil Engineers - Stormwater Facility Considerations
Session 1: Hydrologic Trespass and Nuisance Considerations in Stormwater Design
Session 2: Storm Water Management Alternatives for Small Commercial Sites

Date: December 29, 2015

1. **Please Rate the First Session Hydrologic Trespass and Nuisance Considerations in Stormwater Design Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 3 (4) 5

   Comments:

2. **Please Rate the Second Session Storm Water Management Alternatives for Small Commercial Sites Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 (3) 4 5

   Comments:

3. **Please Rate the facility and refreshments (1 being poor, 3 average, 5 excellent)**

   Facilities NA 1 2 3 (4) 5

   Refreshments NA 1 2 3 (4) 5

   Comments:

Thank you for your time and input to help us improve our offerings!

4. **Please list one or more things that you learned in the first session.**

5. **Please list one or more things that you learned in the second session.**

6. **Please provide any additional comments/ suggestions for improvements, or for other training that you would find useful.**

Thank you for your time and input to help us improve our offerings!

CITY OF BEND

Webinar Effectiveness Evaluation Form

Workshop Title:

American Society of Civil Engineers - Stormwater Facility Considerations
Session 1: Hydrologic Trespass and Nuisance Considerations in Stormwater Design
Session 2: Storm Water Management Alternatives for Small Commercial Sites

Date: December 29, 2015

1. **Please Rate the First Session Hydrologic Trespass and Nuisance Considerations in Stormwater Design Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 3 4 5

   Comments:

2. **Please Rate the Second Session Storm Water Management Alternatives for Small Commercial Sites Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 3 4 5

   Comments:

3. **Please Rate the facility and refreshments (1 being poor, 3 average, 5 excellent)**

   Facilities NA 1 2 3 4 5

   Refreshments NA 1 2 3 4 5

   Comments:

Thank you for your time and input to help us improve our offerings!

4. **Please list one or more things that you learned in the first session.**

5. **Please list one or more things that you learned in the second session.**

6. **Please provide any additional comments/ suggestions for improvements, or for other training that you would find useful.**

Thank you for your time and input to help us improve our offerings!

CITY OF BEND

Webinar Effectiveness Evaluation Form

Workshop Title:

American Society of Civil Engineers - Stormwater Facility Considerations
Session 1: Hydrologic Trespass and Nuisance Considerations in Stormwater Design
Session 2: Storm Water Management Alternatives for Small Commercial Sites

Date: December 29, 2015

1. **Please Rate the First Session Hydrologic Trespass and Nuisance Considerations in Stormwater Design Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 3 (4) 5

   Comments: interesting to look at legal side.

2. **Please Rate the Second Session Storm Water Management Alternatives for Small Commercial Sites Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 (3) 4 5

   Comments: good review, not really alternatives

3. **Please Rate the facility and refreshments (1 being poor, 3 average, 5 excellent)**

   Facilities NA 1 2 3 (4) 5

   Refreshments NA 1 2 3 (4) 5

   Comments: thanks Wendy!

Thank you for your time and input to help us improve our offerings!

4. **Please list one or more things that you learned in the first session.**
   - reasonable care for engineers
   - consistent records - taking notes
   - more research - history, video, downstream check online.
5. **Please list one or more things that you learned in the second session.**
   - outlets: pipe, grate, orifice, weir
   - french drain - catch basin w/perforations - permeable soils, filter fabric
   - LEED credit 6.1 & 6.2 Quantity & Quality
6. **Please provide any additional comments/ suggestions for improvements, or for other training that you would find useful.**

Thank you for your time and input to help us improve our offerings!

CITY OF BEND

Webinar Effectiveness Evaluation Form

Workshop Title:

American Society of Civil Engineers - Stormwater Facility Considerations
Session 1: Hydrologic Trespass and Nuisance Considerations in Stormwater Design
Session 2: Storm Water Management Alternatives for Small Commercial Sites

Date: December 29, 2015

1. **Please Rate the First Session Hydrologic Trespass and Nuisance Considerations in Stormwater Design Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 2 3 (4) 5

   Comments: Interesting subject.

2. **Please Rate the Second Session Storm Water Management Alternatives for Small Commercial Sites Presentation (1 being poor, 3 averages, 5 excellent)**

   NA 1 (2) 3 4 5

   Comments: Pretty basic content.

3. **Please Rate the facility and refreshments (1 being poor, 3 average, 5 excellent)**

   Facilities NA 1 2 3 4 (5)

   Refreshments NA 1 2 3 4 (5)

   Comments:

Thank you for your time and input to help us improve our offerings!

4. **Please list one or more things that you learned in the first session.**

Various Water Doctrines.

5. **Please list one or more things that you learned in the second session.**

6. **Please provide any additional comments/ suggestions for improvements, or for other training that you would find useful.**

Thank you for your time and input to help us improve our offerings!

ASCE On-Demand Stormwater Management

Series 3

The City of Bend Stormwater Utility is sponsoring the following upcoming webinar training opportunities. Attendance is free, this is a 1-hour webinar worth 1 PDH.

Date: December 15, 2015 **Time**: 1:00 pm to 2:00 pm

Location: City of Bend Utilities, 62975 Boyd Acres Rd.

Permeable Pavement - Design Considerations and Tips for Avoiding Failures

This webinar discusses various permeable pavement types, site considerations common to all permeable pavements their benefits, and tips for avoiding clogging failures.

In spite of the environmental advantages of permeable pavements, in North America, they have typically remained outside the ordinary conventions of urban design and construction. Very few state and local agencies have standards or guidelines that can be used by practicing engineers for the design of these systems. In response to these issues, the ASCE-EWRI UWRRC LID Task Committee on Permeable Pavement developed a Committee Report entitled Permeable Pavements. This webinar highlights specific content from the manual which contains individual design chapters on porous asphalt, pervious concrete, permeable interlocking concrete pavement, and other types of permeable pavement. Design considerations that are common to all permeable pavement systems are emphasized. In addition, common myths surrounding the practice are addressed, including perceptions about practice strength, durability, clogging, cold climate usage, use in clay soils, and long-term performance. Attendees gain an introduction to permeable pavement technology and capability and will be directed to the upcoming comprehensive Committee Report for more in-depth information and resources.

Instructor: Bethany Eisenberg LEED AP, A.M.ASCE & Kelly A. Lindow, PE, A.M.ASCE

INTENDED AUDIENCE

Engineers, Regulatory personnel, Plan reviewers, Landscape architects who are involved in stormwater management planning, design, review or implementation

TO REGISTER

For the webinars, please register by emailing or calling Wendy Edde, City of Bend, wedde@bendoregon.gov or (541) 317-3018 with your name, agency/company, and contact information and which series and/or sections you would like to attend

Register today—seating is limited

THANK YOU FOR ATTENDING!

American Society of Civil Engineers

Permeable Pavement Design

Date: *December 15, 2015* ***Time:*** *1:00 pm to 2:00 pm*

UTILITY DEPARTMENT

PLEASE SIGN IN

	Name (Please Initial)	Affiliation	Notes/Comments
1	Chris Chambers	Devtech Engineering Inc.	
2	Corey Charon	The Green Consultant	
3	David Buchanan	City of Bend	
4	Wendy Edde	City of Bend	
5	Krista Ratliff	DEQ	
6	Jennifer VanCamp	HHPR	
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Webinar Evaluation Summary

UTILITY DEPARTMENT

American Society of Civil Engineers
(Series 3) Permeable Pavement Design Considerations

December 15, 2015

The webinar had 6 attendees, 3 of which completed an evaluation form that is summarized below.

1. Please Rate the presentation (1 being poor, 3 average, 5 Excellent)				
1	2	3	4	5
0% (0)	0% (0	0% (0)	75% (2)	25% (1)

Comments:

2a. Please Rate the Facility (1 being poor, 3 average, 5 Excellent)				
1	2	3	4	5
0% (0)	0% (0)	50% (2)	25% (1)	0% (0)

2b. Please Rate the Refreshments (1 being poor, 3 average, 5 Excellent)				
1	2	3	4	5
0% (0)	0% (0)	25% (1)	75% (2)	0% (0)

Comments:

3. Please list one thing you learned:

- ASCE has a new guide as of April 2015 on permeable pavements
- Maintenance costs are similar to standard asphalt roads
- Avoid using permeable ac/concrete in turning areas

4. Please provide any additional comments/ suggestions for improvements, or for other training that you find useful:

- Double check presentation time, this went for 1-1/2 hours.

Appendix F

Post-Construction Stormwater Management in New and Redevelopment

CERTIFICATE OF PARTICIPATION

AWARDED TO

Wendy Edde

FIFTEEN (15) CONTINUING EDUCATION HOURS

FOR ATTENDING

VEGETATED PRIVATE WATER QUALITY MANAGEMENT TRAINING

MAY 23 & 25, 2016



Clean Water Services

Tony Gilbertson

Portland Community College

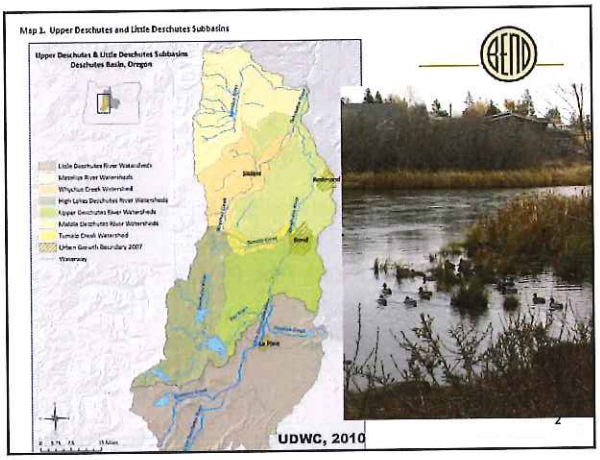
David Sandrock

Post-Construction Stormwater Controls– Behind the Scenes in Bend

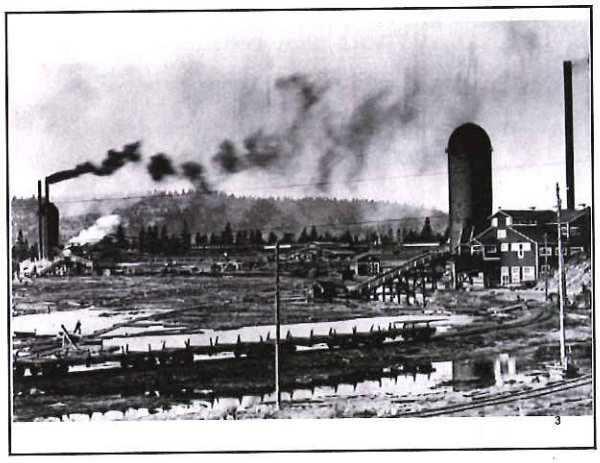
Center for Watershed Protection

Wendy Edde, CSM
Stormwater Program Manager
November 18, 2015

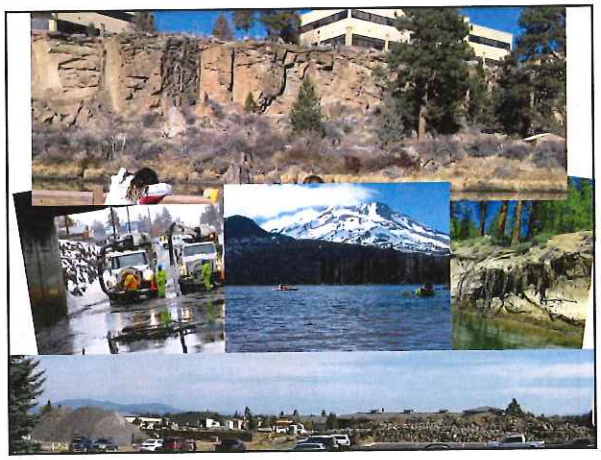
1



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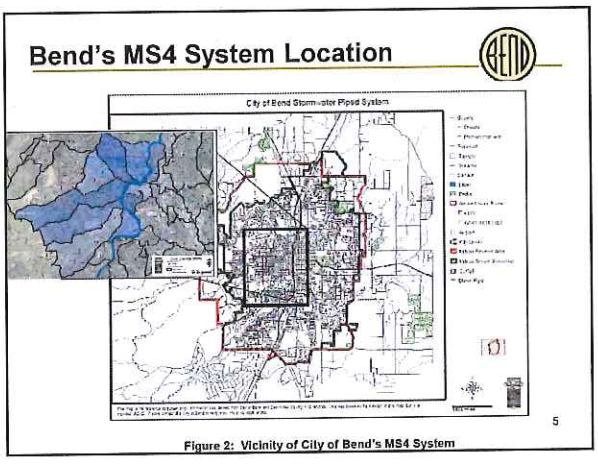


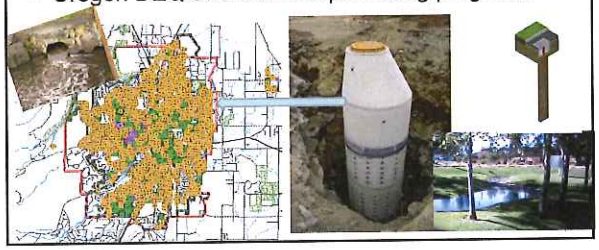
Figure 2: Vicinity of City of Bend's MS4 System

5

Overview – Stormwater in Bend

Surface Water	**Groundwater**
To Deschutes River	Infiltration and/or Underground Injection Controls (UIC)
(currently 28 outfalls)	(5,600 City owned UICs)

- Oregon DEQ oversees the permitting programs

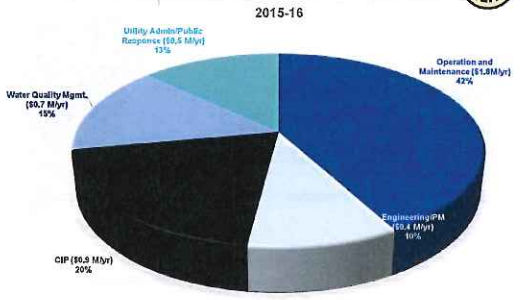


Post-Construction Controls

- NPDES Phase II Permit--individual
- SWMP Requirements
  - Develop Regional Design Manual
  - Establish O&M Program
  - Evaluate & Update Plan Review & Inspection
  - Provide Education
  - Develop Performance Standards

7

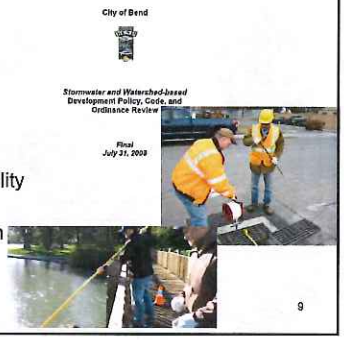
Stormwater Utility—by the numbers



8

Understand What We Have

- Policy, Code, Ordinance Review
- GPS All Facilities
- Our systems:
  - Ambient Water Quality Monitoring
  - Wellhead Protection Area Delineation



9

Collaborate

Development Rule Update Highlights

- Comprehensive Policy, Code & Ordinance Review (2007- 2008)
- Development of Central Oregon Stormwater Manual (2005-2010)
- Update Standards and Specs (2010-2011)
- Development of Draft Ordinance (2008- 2012)
- Interdepartmental / Regional Coordination
- Public Advisory Group Reviews
- Broad public outreach



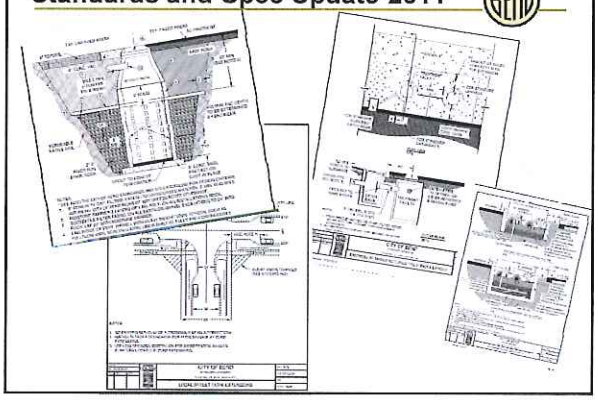
Central Oregon Stormwater Manual

- Includes Design, Source Control, LID, Maintenance
- Design:
  - Quantity: 25 year/24 hour Type I Storm (2.5" storm depth), Safe Passage 100 year (3.1" storm depth)
  - Water Quality: 6 mth/24 hr Storm (1" storm depth)
- Benefits: Regional Consistency, Sound Science for Our Area
- Revisions 2010



11

Standards and Spec Update-2011



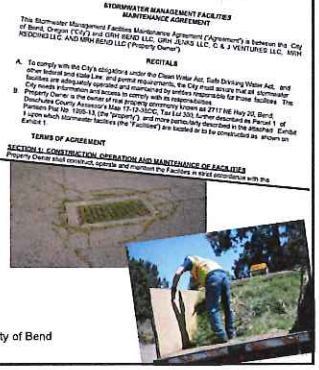
Post-Construction: Section 16.10 & 16.15

Previous		Bend Code Title 16
Minor / Major Grading permit & Drainage Review No Design Guidelines	⇒	• One permit and Drainage Review • Provides Design Guidelines via Central Oregon Stormwater Manual
Unclear enforcement authority		• Clear enforcement authority
Keep all storm water on site	⇒	• 25-year, 24-hour design storm Safe overflow path for 100-year storm event or no increase to pre-development runoff (Oregon Drainage Law)
Encourages Specific Low Impact Development (LID)		• Maintenance Required • Encourages LID

13

Maintenance Considerations

- Maintenance Agreement
- Central Oregon Stormwater Manual Inspection Checklists
- Future: Incentive Program


STORMWATER MANAGEMENT FACILITIES MAINTENANCE AGREEMENT

RECITALS

TERMS OF AGREEMENT

SECTION 1. CONSTRUCTION, OPERATION AND MAINTENANCE OF FACILITIES

City of Bend

Private LID: Disconnected



City of Bend

Keeping Stormwater Onsite

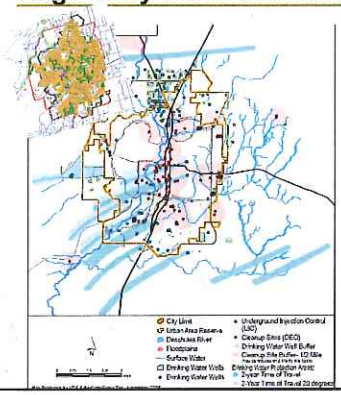


Turf Block/Porous Asphalt



City of Bend

Regulatory Influence: UICs



Circa 2006-2008

→Remove Storm UICs from wellhead protection areas (10 yrs)

→Place Approved Controls on Rest

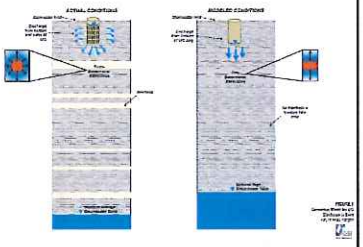
→Register and Rule Authorize/Permit

$150 million public system cost anticipated to meet regulatory water quality requirements

18

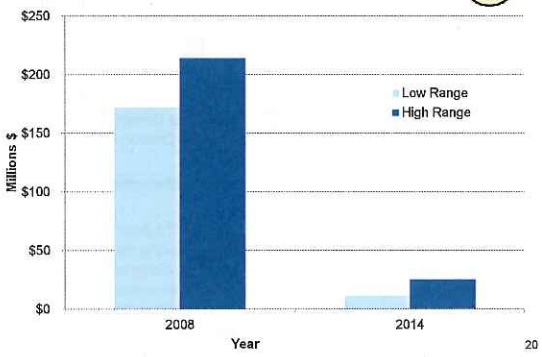
Approach

- Advocate for Science-based Policy
- Coordinate Regionally and Statewide
  - Stormwater Quality Data Review
  - Groundwater Protectiveness



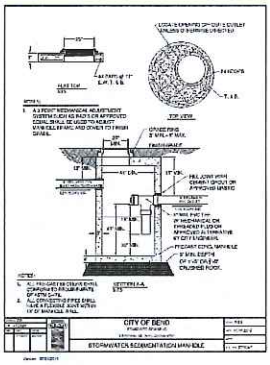
19

Draft Master Plan Costs



20

Addressing UIC Spill Risk





21

Future Improvements



- Tailoring Treatment to Area
- Maintenance Incentive Program
- Refinements with Lesson's Learned
  - Utility Code Enforcement
  - Continue Evaluations
- Improve Private Database
- Addressing Regulatory Changes
  - MS4 NPDES Reissuance
  - TMDLs



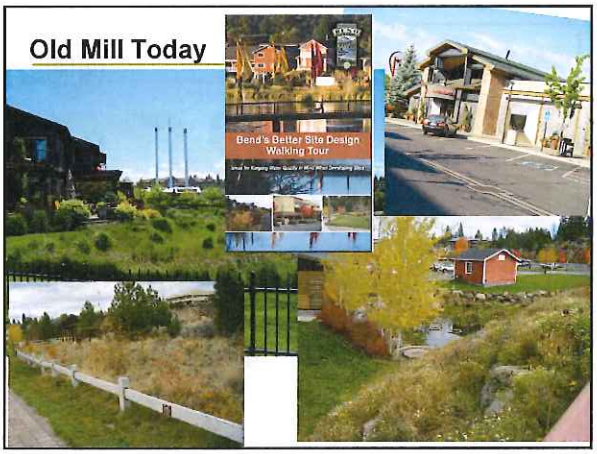
Photo Credit: Chris Hart-Henderson

22

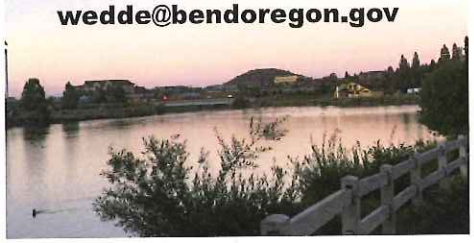
Old Mill Today



Old Mill Today



Wendy Edde, CSM
City of Bend
541-317-3018
wedde@bendoregon.gov



25

Webinar Evaluation Summary

UTILITY DEPARTMENT

Center for Watershed Protection
Checking in on stormwater Management

November 18, 2015

The webinar had 4 attendees, 3 of which completed an evaluation form that is summarized below.

1. Please Rate the presentation (1 being poor, 3 average, 5 Excellent)				
1	2	3	4	5
0% (0)	0% (0	33% (1)	66% (2)	0% (0)

Comments:

2a. Please Rate the Facility (1 being poor, 3 average, 5 Excellent)				
1	2	3	4	5
0% (0)	0% (0	33% (1)	66% (2)	0% (0)

2b. Please Rate the Refreshments (1 being poor, 3 average, 5 Excellent)				
1	2	3	4	5
0% (0)	33% (1)	0% (0)	66% (2)	0% (0)

Comments:

3. Please list one thing you learned:

- Adopt a swale can help offset maintenance costs.

4. Please provide any additional comments/ suggestions for improvements, or for other training that you find useful:

- One too many speakers, lost the group with the last presentation
- Prefer line/ retime training over pre-recorded trainings

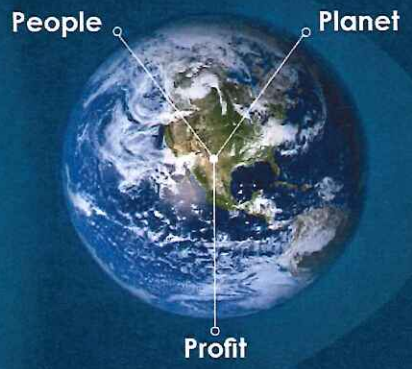
USEPA's

Faster...Cheaper...Greener

Webcast Series

21st Century Innovation and Design for the Triple Bottom Line

"Connecting Natural and Built Systems for Economic Growth & Resiliency"



This certificate is presented to:

Wendy Edde

Participant's Name

for successfully completing

Biophilic Design for Human Health

Course Title

Dominique Lueckenhoff

Deputy Director, Water Protection Division,
EPA Region 3 Water Protection Division

November 5, 2015, 1:00 – 2:30 pm, 1.5 hours

Date of Participation, Duration of Course

THANK YOU FOR ATTENDING!

Environmental Protection Agency
Biophilic Design for Human Health
Date: *November 5, 2015* ***Time:*** *10:00 am to 11:30 am*

UTILITY DEPARTMENT

PLEASE SIGN IN

	Name	Signature	Affiliation
1	Wendy Eddie	Wendy Eddie	
2	Derek Buchan		
3			
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Appendix G

Municipal Operations and Maintenance Activities

Stormwater - Weekly/Monthly Report Data

Start Date: **2015-06-30**
End Date: **2016-07-01**

Yards of Debris Removed	GC Trash Screens - UIC Filter	# of Swales Maintained	# of Sediment Manholes Maintained	# Maintenance Zones cleaned and inspected	# Raised Storm Drains Standard WO	# Stormdrains cleaned and inspected	# Dry Wells cleaned and inspected	# drill holes inspected	Booked Hours JOB	Booked Hours PM	# Customer Service Calls/Call Center	# PM Work Orders Completed
234	244.5	673	221	49	0	8,417	4,273	728	2,656.25	1,485.75	153	22,463

Start Date: **2015-06-30**
End Date: **2016-07-01**

JOB Work Orders Completed
2,465

Dry Weather Visual Observation Form

If possible, complete this form in conjunction with the annual facility inspection.

Date: 9-15-15 Inspector: Buchanan

Time: 8:00 AM Facility ID: 15th Street

Non-Stormwater Discharges *(Check all that apply)*

☐ Wash Water

☐ Vehicle Washing ☐ Equipment Washing ☐ Painting Operation

☐ Container Washing ☐ Parking Area ☐ Other: _____

☐ Spills

☐ Paint ☐ Motor Oil ☐ Hydraulic Oil ☐ Axle Oil ☐ Gasoline

☐ Diesel ☐ Used Motor Oil ☐ Used Engine Fluids ☐ Solvents

☐ Disinfectants ☐ Soap ☐ Pesticides ☐ Other: _____

Evidence of Non-Stormwater Water Discharges *(Check all that apply)*

☐ Stains

Description: _____

_____

_____

☐ Wet Spots

Description: _____

_____

_____

☐ Residual material

Description: _____

_____

_____

Are BMP's Effective? ☑ Yes ☐ No

Follow up: _____

_____

_____

_____

Dry Weather Visual Observation Form

If possible, complete this form in conjunction with the annual facility inspection.

Date: 9-11-15 Inspector: Buchanan

Time: 11:20 Am Facility ID: Boyd

Non-Stormwater Discharges *(Check all that apply)*

☐ Wash Water

☐ Vehicle Washing ☐ Equipment Washing ☐ Painting Operation

☐ Container Washing ☐ Parking Area ☐ Other: _____

☐ Spills

☐ Paint ☐ Motor Oil ☐ Hydraulic Oil ☐ Axle Oil ☐ Gasoline

☐ Diesel ☐ Used Motor Oil ☐ Used Engine Fluids ☐ Solvents

☐ Disinfectants ☐ Soap ☐ Pesticides ☐ Other: _____

Evidence of Non-Stormwater Water Discharges *(Check all that apply)*

☑ Stains

Description: Small oil stain on NW corner of blue building

☐ Wet Spots

Description: _____

☐ Residual material

Description: _____

Are BMP's Effective? ☑ Yes ☐ No

Follow up: 1. Clean up stain

2. Install new "Do Not Dump" catch Basin marker.

Appendix H

Monitoring

Stormwater/UIC Monitoring Data for 7/1/2015 to 6/30/2016

TABLE 1 – Action Levels for Pollutants	
Monitoring Parameter	**Action Level at Injection Point (µg/L)**
Benzo(a)pyrene	2
Pentachlorophenol	10
Di(2-ethylhexyl)phthalate	300
Lead (Total)	500
Zinc (Total)	50,000
Copper (Total)	1,300

Location of Raw Data: ..\2015-16 Data

Sample Location	1. 9/17/2015 B5I1706	2. 12/10/2015 5121111	3. 2/18/16 C6B1802	4. 2/27/16 C6B2903	5. 4/14/16 C6D1405	6. 4/20/16 C6D2002
1. Airport	x			x	x	
2. Century Drive	x		x		x	
3. Boyd Acres	x		x		x	
4. Empire Ave	x		x		x	
5. Brookswood Blvd	x		x		x	
6. Ladera Rd	x		x			
7. Dup			x		x	
8. Field Blank	x		x		x	
9. Yellow Illicit Disharge		x				
10. Armour Rd Catch Basin						x

Date Sampled	Sample Location	UIC Number	COB Sample #	URC Sample #	*Benzo(a)pyrene	*Bis2-(ethylhexyl)phthalate	*Pentachlorophenol	*Copper	*Lead	*Zinc
Units					ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Analytical Method					EPA 8270 C	EPA 8270 C	EPA 8270 C	EPA 200.8	EPA 200.8	EPA 200.8
Reporting Limit (MRL)					1.0	1.0	1.0	0.5	0.1	100
Detection Limit (MDL)					-	0.50	-	-	-	-
Effluent Discharge Action Level at Injection Point (ug/l)					2.0	300	10	1300	500	50,000
1. 9/17/2015	1. Airport	DDW009628	B5I1706-01	5092103-01	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	6.0	1.0	137
Samplers:	2. Century Drive	DDW003323	B5I1706-02	5092103-02	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	40	4.0	298
Jeff Buystedt	3. Boyd Acres	DDW003354	B5I1706-03	5092103-03	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	22	2.0	335
Dave Buchanan	4. Empire Ave	DDW008884	B5I1706-04	5092103-04	Not Detected(ND)	6.0	Not Detected(ND)	56	5.0	384
	5. Brookswood Blvd	DDW003312	B5I1706-05	5092103-05	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	24	2.0	184
	6. Ladera Rd	DDW003252	B5I1706-06	5092103-06	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	14	2.0	188
	7. Duplicate **									
	8. Field Blank	-	B5I1706-08	5092103-07	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	25

* Analysis was performed by Umpqua Reseach Company

** Duplicate samples were not taken due to sampler malfunction

Date Sampled	Sample Location	UIC Number	COB Sample #	URC Sample #	*Benzo(a)pyrene	*Bis2-(ethylhexyl)phthalate	*Pentachlorophenol	*Copper	*Lead	*Zinc
Units					ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Analytical Method					EPA 8270 C	EPA 8270 C	EPA 8270 C	EPA 6020	EPA 6020	EPA 6020
Reporting Limit (MRL)					1.0	1.0	1.0	10	2.0	20
Detection Limit (MDL)					-	-	-	1.0	0.40	6.0
Effluent Discharge Action Level at Injection Point (ug/l)					2.0	300	10	1300	500	50,000
2. 12/10/2015	1. Yellow Illicit Disharg	DDW009628	NA	5121111-01	Not Detected(ND)	22	Not Detected(ND)	60	19	467
Samplers:	Analyte			*Caffiene	*Ethylene Glycol	*Propylene Glycol	*Toluene	*EPA 8260 scan	*Aluminum	*Boron
Jeff Buystedt	Units			ppm	ug/l	ug/l	ppm	ug/l	ug/l	ug/l
Dave Buchanan	Analytical Method			EPA 8260	EPA 8015B	EPA 8015B	EPA 8260	EPA 8260	EPA 6020	EPA 6020
Christina Davenport	Detection Limit (MDL)			-	Not Detected(ND)	Not Detected(ND)	1.0	1.0	40	50
	EDL (ug/l)			-	-	-	-	-	-	-
1. 507 NW Wall St -Yellow Illicit Disharge				3	Not Detected(ND)	Not Detected(ND)	6.0	Not Detected(ND)	1910	188

* Analysis was performed by Umpqua Reseach Company

Date Sampled	Sample Location	UIC Number	COB Sample #	ESC Sample #	*Benzo(a)pyrene	*Bis2-(ethylhexyl)phthalate	*Pentachlorophenol	*Copper	*Lead	*Zinc
Units					ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Analytical Method					EPA 8270 C	EPA 8270 C	EPA 8270 C	EPA 200.7	EPA 200.7	EPA 200.7
Detection Limit (MDL)					1.0	3.0	10	10	5.0	50
Effluent Discharge Action Level at Injection Point (ug/l)					2.0	300	10	1300	500	50,000
3. 2/18/2016	1. Airport **	DDW009628	No	Sample						
Samplers:	2. Century Drive	DDW003323	C6B1802-02	L819127-01	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	12	Not Detected(ND)	136
Jeff Buystedt	3. Boyd Acres	DDW003354	C6B1802-03	L819127-02	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	14	Not Detected(ND)	199
Dave Buchanan	4. Empire Ave	DDW008884	C6B1802-04	L819127-03	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	64	9.6	390
	5. Brookswood Blvd	DDW003312	C6B1802-05	L819127-04	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	89	16	369
	6. Ladera Rd	DDW003252	C6B1802-06	L819127-05	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	10	Not Detected(ND)	97
	7. Duplicate (Boyd)	DDW003354	C6B1802-07	L819127-06	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	19	6.0	235
	8. Field Blank	-	C6B1802-08	L819127-07	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)

* Analysis was performed by ESC Lab Sciences

** There was not enough rain fall at Airport to collect a sample

Date Sampled	Sample Location	UIC Number	COB Sample #	ESC Sample #	*Benzo(a)pyrene	*Bis2-(ethylhexyl)phthalate	*Pentachlorophenol	*Copper	*Lead	*Zinc
Units					ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Analytical Method					EPA 8270 C	EPA 8270 C	EPA 8270 C	EPA 200.7	EPA 200.7	EPA 200.7
Detection Limit (MDL)					1.0	3.0	10	10	5.0	50
Effluent Discharge Action Level at Injection Point (ug/l)					2.0	300	10	1300	500	50,000
4. 2/27/2016	1. Airport	DDW009628	C6B2903-01	L820681-01	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	20	13	3,310
Samplers:	2. Century Drive	DDW003323								
Dave Buchanan	3. Boyd Acres	DDW003354								
Jeff Buystedt	4. Empire Ave	DDW008884								
	5. Brookswood Blvd	DDW003312								
	6. Ladera Rd	DDW003252								
	7. Duplicate	DDW003354								
	8. Field Blank	-								

* Analysis was performed by ESC Lab Sciences

Date Sampled	Sample Location	UIC Number	COB Sample #	ESC Sample #	*Benzo(a)pyrene	*Bis2-(ethylhexyl)phthalate	*Pentachlorophenol	*Copper	*Lead	*Zinc
Units					ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Analytical Method					EPA 8270 C	EPA 8270 C	EPA 8270 C	EPA 200.7	EPA 200.7	EPA 200.7
Detection Limit (MDL)					1.0	3.0	10	10	5.0	50
Effluent Discharge Action Level at Injection Point (ug/l)					2.0	300	10	1300	500	50,000
5. 4/14/2016	1. Airport	DDW009628	C6D1405-01	L830138-01	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	13	ND	3,290
Samplers:	2. Century Drive	DDW003323	C6D1405-02	L830138-02	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	35	ND	271
Jeff Buystedt	3. Boyd Acres	DDW003354	C6D1405-03	L830138-03	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	19	ND	214
Dave Buchanan	4. Empire Ave	DDW008884	C6D1405-04	L830138-04	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	80	ND	545
	5. Brookswood Blvd	DDW003312	C6D1405-05	L830138-05	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	22	ND	124
	6. Ladera Rd**	DDW007912	No	Sample						
	7. Dup Century	DDW003323	C6D1405-07	L830138-06	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	33	ND	235
	8. Field Blank	-	C6D1405-08	L830138-07	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	ND	ND	ND

* Analysis was performed by ESC Lab Sciences

** There was not enough rain fall at Ladera to collect a sample

Date Sampled	Sample Location	UIC Number	COB Sample #	ESC Sample #	*Benzo(a)pyrene	*Bis2-(ethylhexyl)phthalate	*Pentachlorophenol	*Copper	*Lead	*Zinc
Units					ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Analytical Method					EPA 8270 C	EPA 8270 C	EPA 8270 C	EPA 200.7	EPA 200.7	EPA 200.7
Detection Limit (MDL)					1.0	3.0	10	10	5.0	50
Effluent Discharge Action Level at Injection Point (ug/l)					2.0	300	10	1300	500	50,000
6. 4/20/2016	1. Armour Road Catch Basin Run off		C6D2002-01	L830865-01	Not Detected(ND)	Not Detected(ND)	Not Detected(ND)	18	15	168
Samplers:	Analyte	*Gasoline	*Mineral Spirits	*Kerosene	*Diesel(C12-C24)	*#6 Fuel Oil	*Hydraulic Fluid	*Motor Oil(C24-C30)	*Chromium	*Cadmium
Jeff Buystedt	Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Dave Buchanan	Analytical Method	NWTPH-HCID	NWTPH-HCID	NWTPH-HCID	NWTPH-HCID	NWTPH-HCID	NWTPH-HCID	NWTPH-HCID	EPA 200.7	EPA 200.7
	Detection Limit (MDL)	500	500	500	500	500	500	2500	10	2.0
	EDL (ug/l)	-	-	-	-	-	-	-	-	-
1. Armour Road Catch Basin Run off		1590	Not Detected(ND)	Not Detected(ND)	1190	Not Detected(ND)	Not Detected(ND)	5310	Not Detected(ND)	Not Detected(ND)

Appendix I

DRINKING WATER PROTECTION AREA INVESTIGATION, DELIENATION AND MANAGEMENT AND UNDERGROUND INJECTION CONTROLS

Appendix B

Public Education and Outreach on Stormwater Impacts

RESIDENTIAL ILLICIT DISHARGE PREVENTION

Pollutant of Concern: Multiple

Help Keep Illicit Discharges Out of Our Rivers and Stormwater Facilities.

What is an Illicit Discharge?

An illicit discharge is any discharge to a gutter, storm drain, or surface water body that is not composed entirely of stormwater. Think "**Only Rain in The Storm Drain.**" Whereas, there are conditionally exempt discharges pursuant to regulations, City staff are available to evaluate those on a case by case basis. If you are not sure about a discharge contact the City and we will check it out.







Why is it a Problem?

Illicit discharges have the risk of polluting underground drinking water supplies and the Deschutes River. The City of Bend Stormwater utility works to protect underground drinking water quality of *all* Bend residents—whether they are served by the City, Avion, Roats, or private wells. Having your extra eyes in the field will help protect our valuable water quality and habitat.



How to Spot and Illicit Discharge?

Look for:

- Staining around storm drain
- Staining on storm drain grates
- Odd colors or smells inside the storm drain
- Flows during dry weather
- Hoses or pipes discharging to a storm drain.
- Debris swept or blown in streets





POLLUTANT: ILLICIT DISHARGES

What Can You Do?

Avoid Creating an Illicit Discharge

- Remember, only rain in the storm drain! Use all reasonable measures to reduce pollutants from entering storm drains (e.g., litter, detergents, waste, oil, grease, fertilizers).
- Properly store grease, gas, oil, de-icing materials, and hazardous and non-hazardous substance to prevent leaks and spills from entering storm drains.
- Routinely sweep pavement, driveways and sidewalks to prevent the accumulation of pollutants that may enter storm drains. Collect and properly dispose—do not sweep to streets or storm drains.
- When possible, discharge pool or spa water to the sanitary sewer. Or, direct to a landscape area. Discharge may be directed to an adjacent storm drain only after the chlorine residual has been reduced (e.g., wait three days and test to see if chlorine is less than 1.0 parts per million) and after all debris and sediment that would be in the flow path to the storm drain has been swept up and properly disposed.
- See also property cleaning BMPs in Section 1 of Illicit Discharge Manual (link below).

Report All Suspected Illicit Discharges to the City of Bend

- Most people do not realize the connections between their actions and water quality. Reporting allows us to provide some targeted education and aware that additional cleanup may be needed to protect water quality.

If possible take a photo and note the time, date and location and notify:

- City of Bend Utility Department - (541) 317-3000
- If someone is actively dumping or spilling a hazardous material - Call 911 and the Utility Department.

Other Resources:

City of Bend Illicit Discharge Minimization Best Management Practices Manual—Simple Steps to Protect Your Drinking Water and Our Beautiful Deschutes River
Bendoregon.gov/idmanual

Bend Code Title 16.10, Clearing Grading, and Erosion Control on Construction Sites
http://www.bend.or.us/Modules/ShowDocument.aspx?documentid=7216
See Sections 16.20 (Illicit Discharge); 16.10.20 (Grading Permits)

Fines & Penalties
Violating Bend Code Title 16 is a Class-A Civil Infraction, and could result in a maximum civil penalty of $750.00 per day. Each day that a violation remains uncured in effect is a separate violation.

Accomodation Information for People with Disabilities

To obtain this information in an alternate format such as Braille, large print, electronic formats and audio cassette tape please contact Karen Morris at 541-693-2141 or email kmorris@bendoregon.gov.

UTILITY DEPARTMENT

SEDIMENT PREVENTION FOR RESIDENTS

Pollutant of Concern: Sediments

Help Keep Excess Sediment Out of Our Rivers & Stormwater Facilities.

What is sediment?
Sediment is loose soil like sand, clay, small rocks like gravel, or silt that can come as a result of soil erosion, winter traction materials, or plant decomposition.



Soils are Natural, So What's the Problem?
While some sediment is natural in surface water, in urban areas the amount of man-made sediment is high above natural levels. Sediment covers, compacts and clogs.

- Sediment can make water cloudy (turbid) and prevent animals from seeing food. The Deschutes River through Bend is listed for sediment and turbidity as a pollutant of concern.
- Sediment can clog fish gills, cover spawning areas and the habitats where the small organisms that form the basis for the food chain live.
- Nutrients transported by sediment can accelerate algae and plant growth that can ultimately affect oxygen levels in the water. The Deschutes River through Bend are listed for these types of pollutants of concern.
- Sediment deposits in rivers can alter the flow of water and reduce water depth, which makes navigation and recreational use more difficult.
- Sediment can clog stormwater facilities and result in flooding problems. If the sediment clogs beyond the drywell cylinder and into the surrounding drainage rock, the entire drywell would need to be replaced, which unnecessarily adds costs. Drill holes clog even more easily.

What can you do as a Bend resident?

Prevention is key. Use best management practices (BMPs) to keep soils from moving in the first place, and to keep sediments swept up and managed.

- Vegetate bare spots in your landscaping. Sweep sidewalks and driveways instead of hosing them off. Washing these areas results in sediment and other pollutants running off into streams, rivers and lakes.
- Avoid mowing within 10 to 25 feet from the edge of a stream or river. This will create a safe buffer zone that will help minimize erosion and naturally filter stormwater runoff that may contain sediment.
- Wash your car at a commercial car wash or on a surface that absorbs water, such as grass or gravel.
- Stockpile bark dust or other landscaping material on site and away from stormwater facilities.
- Ask before you hire a commercial landscaper or builder/contractor what steps they take to prevent sediments and debris from entering the street and storm drain system.
- If you are building, know that **Sediment is not allowed to come off any construction site**, whether or not your site is required to have an erosion and sediment control plan or a grading and drainage permit. For additional information, review the Central Oregon Stormwater Manual, Chapter 9 and the "ACWA Construction Site Stormwater Guide" (see Other Resources, below).

POLLUTANT: SEDIMENT

What can you do as a Bend resident? (Continued)

- Excess sediment is considered an illicit discharge. If you spot excess sediment in the roadway or sediment that could potential reach stormwater facilities, such as shown in the pictures at right, contact the City of Bend at 541-317-3000.
- Keep landscape bark on site.
- Do not allow sediment access berms (see top picture).
- Do not sweep or blow sediment and debris materials onto the street or in the storm drain.







Other Resources:

ACWA Construction Guide
www.oracwa.org/documents/ACWASWSiteGuide0313w.pdf

Central Oregon Stormwater Manual, Chapter 9
https://newcoic.files.wordpress.com/2012/09/2010rev-chapter-9-esc.pdf

Bend Code Title 16.10, Clearing Grading, and Erosion Control on Construction Sites
http://www.bend.or.us/Modules/ShowDocument.aspx?documentid=7216
See Sections 16.20 (Illicit Discharge); 16.10.20 (Grading Permits)

Oregon DEQ 1200-C Permits
http://www.deq.state.or.us/wq/stormwater/constappl.htm
For additional information on permitting requirements contact the City of Bend Permit Center at 541-388-5570.

Fines & Penalties
Violating Bend Code Title 16 is a Class-A Civil Infraction, and could result in a maximum civil penalty of $750.00 per day. Each day that a violation remains uncured in effect is a separate violation.

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UTILITY DEPARTMENT

HELP GET THE LEAD OUT!

Pollutant of Concern: Lead

What is lead?
Lead (symbol Pb) is a soft, silvery to gray metal and is the heaviest non-radioactive natural chemical element.

What are Common Sources of Lead? Lead is used in building construction, car batteries; ceramic glazes; coating of electrical cords; fishing sinkers; shielding; organ pipes; electrodes; solder for electronics; high voltage power cables; oil-based paints; roofing material, cladding, flashings, gutters; statues; semiconductors; photovoltaic cells; wheel balances, bullets, weights, home plumbing, etc. Gas and paint (pre 1978) used to be leaded, and some of that remains in the environment especially in soils contaminated by particulate accumulation.

What's the Problem?

- When ingested, lead is poisonous as it can damage the nervous system and cause brain problems and blood disorders. It accumulates as a neurotoxin and can cause cognitive deficiencies in children, and also affect adults. Lead poisoning can occur by means of inhalation, swallowing or skin contact.

- The good news is that the results for lead testing in the City's drinking water supplies is either non-detect or typically well below Maximum Contaminant Levels. Also, Bend's water (both surface and ground) is not caustic, which means that it does not corrode the old piping that contains lead (and copper).

- Of 38 analytes tested in Central Oregon as part of stormwater monitoring, lead is the pollutant we find most often at higher levels in stormwater runoff (exceeded Underground Injection Control screening levels 7.7% of time). Therefore it is useful to consider ways to further reduce it.

What can you do as a Bend resident?

Owners of Buildings Constructed Prior to 1978

- If your paint is peeling or you are remodeling, be sure to use a lead-certified contactor, and test your paint for lead.
- According to the state, "Contractors that disturb painted surfaces in homes, child care facilities and schools built before 1978 must hold a special license and follow work practices that prevent lead contamination. Common renovation activities that disturb lead-based paint, such as sanding, cutting, and replacing windows, can create hazardous lead dust and chips." Visit http://www.oregon.gov/CCB/homeowner/Pages/lead-paint.aspx to learn more, and find a list of contractors certified to handle lead.
- Home repairs that create even a small amount of lead dust can be poisonous. Follow EPA's guidance for home renovation do-it-yourselfers: http://www2.epa.gov/lead/renovation-repair-and-painting-program-do-it-yourselfers



POLLUTANT: LEAD

What Can You Do as a Bend Resident? (continued)

All

- Lead can still be in soil as a result of atmospheric deposition of past gasoline use or paint chips/dust from paints applied before 1978. Cleaning sediments up will help keep lead cleaned up. Excess sediment in streets or storm drains is considered an illicit discharge. If you spot excess sediment in the roadway or sediment that could potential reach stormwater facilities, contact City of Bend at 541-317-3000.
- Follow the best management practices in the City's Sediment Fact Sheet to help keep lead out of stormwater.
- Check the common sources of lead, above, and see if you use any of these items. If so, consider alternatives.
- In home plumbing may contain lead. Since each home has different plumbing pipes and materials, test results are likely to be different for each home. Every three years the City collects 30 samples from residences in the City's distribution system that have been determined to have this type of plumbing. The results of this testing (which goes back to 1993) shows that lead is far below the maximum contamination level and the City of Bend does not have to treat our water to control corrosion. However, if you want to test your own water should your home have lead pipes, or your non-plastic plumbing was installed before 1986, then copy and paste this link into your web browser for more details: http://www2.epa.gov/lead/protect-your-family#homeleadsafe.
- Properly dispose of any lead at Knott Landfill's Household Hazardous Waste Events.

Other Resources

USEPA Lead Webpage: http://www2.epa.gov/lead

Oregon Home Builder's Associations Lead Paint Training Courses Information
http://oregonhba.com/lead-based-paint-training-refresher-course-oregon/

Oregon Construction Contractor's Board list of certified lead paint contractors in Deschutes County
http://search.ccb.state.or.us/search/lead_safe_list.asp?code=9

Knott Landfill Household Hazardous Waste Events
http://www.deschutes.org/solidwaste/page/hazardous-waste-collection

City of Bend Annual Water Quality Report (Consumer Confidence Report)
http://www.bend.or.us/index.aspx?page=205

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UTILITY DEPARTMENT

Stormwater Steward Partner:

HOME CARE

Do you love being outside gardening, or enjoying your lawn? Improperly applied pesticides, weed killers, and fertilizers can wash into the storm drain when it rains or during over-watering runoff. Neglected or poorly located septic systems can result in an increase of nutrients and bacterial pollution in waterways. When the pollutants get into a storm drain they drain into the ground or directly into the Deschutes River, typically with no treatment at all. Even in small quantities these products can harm plants and animals in the river. Our underground aquifers are an important drinking water source.

"To protect the Deschutes River and our drinking water quality from pollution caused by home and garden care, I pledge to:



- ☐ Prevent runoff while watering my lawn/garden by checking and repairing leaks, adjusting my sprinkler heads or drip irrigation, or using a SMART controller.
- ☐ Properly aerate my lawn to help get the water to the roots and not running off to the street or storm drain.
- ☐ Have a licensed professional inspect and maintain my septic system regularly.
- ☐ Watch for signs of septic system failure (standing water, foul odors in the drain field; patches of lush growth and backed up toilets/drains) and immediately repair.
- ☐ Keep yard clippings, pet wastes, and trash out of the gutter, away from storm drains. If my pet makes a poop, I will use the scoop!
- ☐ Accept a few weeds, and hand-pull weeds when I can. Re-seed thin areas in my lawn to crowd out weeds.
- ☐ Use environmentally safe substitutes for pesticides where possible. If I must use a pesticide, weed killer, or fertilizer, I will use the least toxic one effective, use it sparingly, and never apply when rain is forecasted.
- ☐ Never pour anything or hose down spills to the storm drain. Use sawdust or kitty litter to soak up spills, and dispose of it in the trash.

Signature: _____ Zip Code: _____

Thank You for Becoming a City of Bend Stormwater Steward!

UTILITY DEPARTMENT

Accomodation Information for People with Disabilities

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Stormwater Steward Partner:

LANDSCAPE DESIGN

The design of our landscape and garden areas can play a big role in water quality. An effective design can save both money and natural resources, by reducing the need for pesticides, fertilizers, and over-water use that could lead to stormwater runoff. When pollutants get into a storm drain, they drain into the ground or directly into the Deschutes River typically without treatment. The river provides important habitat for fish and wildlife, along with numerous recreational opportunities—an irreplaceable resource. Our underground aquifers are an important drinking water source.

"To protect the Deschutes River and our drinking water quality through better landscape design, I pledge to:

- ☐ Understand my landscape and garden area characteristics before designing or making changes to it.
- ☐ Choose pest-resistant plants appropriate for the soil/sun conditions in my yard.



- ☐ Use native plants that have evolved for our natural soils, climates and pests and are therefore more pest resistant and drought tolerant and require fewer fertilizers.
- ☐ Research carefully and avoid or use the least toxic chemicals (e.g., pesticides, herbicides, fertilizers); avoid applying chemicals on windy days or right before or during rain; and be sure to sweep up and properly use or dispose of any oversprayed product.
- ☐ Group plants with similar watering needs together.
- ☐ Use drip irrigation, proper water zones, and SMART controllers to make my watering more efficient.

Signature: _____ Zip Code: _____

Thank You for Becoming a City of Bend Stormwater Steward!

UTILITY DEPARTMENT

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Stormwater Steward Partner:

CARS / TRAVEL

Cars contribute to water pollution in several ways:

- Exhaust particles from incomplete combustion drift onto roadways and into waterways.
- Leaks and drips wash off of streets into storm drains, into the Deschutes River or the ground where groundwater aquifers exist.
- Parts of cars that are designed to wear off with use (such as tires and brake pads) leave toxic residue on the roadway that can get swept up when it rains or snows and becomes stormwater pollution.

When the water and pollutants get into a storm drain they drain into the ground or directly into the Deschutes River, typically with no treatment at all. The river provides important habitat for fish and wildlife, along with numerous recreational opportunities—an irreplaceable resource. Our underground aquifers are an important drinking water source.

"To protect the Deschutes River and our drinking water quality from pollution caused by cars, I pledge to:

- ☐ Drive less by walking, riding a bike, consolidating trips, taking the bus or carpooling.
- ☐ Watch for leaks from my car and repair them quickly. Use plastic tarps and drip pans to capture the leaks in the meantime and while I am working on repairs.
- ☐ Clean up spills using sawdust or kitty litter; sweep up and dispose of in the trash.
- ☐ Never pour auto fluids (oil, antifreeze, radiator fluid, etc.) into the street or storm drain. Recycle where possible.



- ☐ Clean brake dust off of wheels with paper towels and dispose of towels in the trash prior to washing wheels or doing brake work.
- ☐ Use a commercial car wash that recycles water or sends it to the sanitary sewer; or wash my car in an area with a porous surface where the wash water will not run into a street or storm drain.

Signature: _____ Zip Code: _____

Thank You for Becoming a City of Bend Stormwater Steward!

UTILITY DEPARTMENT

Accomodation Information for People with Disabilities

To obtain this information in an alternate format such as Braille, large print, electronic formats and audio cassette tape please contact Karen Morris at 541-693-2141 or email kmorris@bendoregon.gov.

BUSINESS SELF INSPECTION CHECKLIST

DIRECTIONS: Complete the following checklist while surveying your facility. If you answer "no" to any of the questions, initiate appropriate best management practice(s) (BMP) to prevent pollutant discharge into the storm drain system (see back for resources).

Stormwater Pollution Prevention Consideration	Yes	No	N/A
1. Are **storage containers** including drums, waste dumpsters and/or trash compactors:	☐	☐	☐
free from crack/leaks?	☐	☐	☐
have lids or covers that are kept closed?	☐	☐	☐
not exposed to rain water?			
2. Are **storage areas** enclosed or covered from the rain?	☐	☐	☐
3. Are **material processing/handling areas** enclosed or covered from the rain?	☐	☐	☐
4. Are **parking areas or access roads** free of signs of excessive oil and/or motor fluids, leaks, stains, litter, and sediments?	☐	☐	☐
5. Are **vehicle repair and maintenance areas** covered or out of the rain?	☐	☐	☐
6. Are **vehicles and heavy equipment** stored outside, free of leaks and grime?	☐	☐	☐
7. Are **spills** in fuel or vehicle/equipment maintenance areas prevented from entering the storm drain system?	☐	☐	☐
8. Are **dry cleaning methods** (for example, sweeping, damp mopping, absorbents) used to clean:	☐	☐	☐
shop floors?	☐	☐	☐
material processing areas?	☐	☐	☐
material storage areas?	☐	☐	☐
waste disposal areas?	☐	☐	☐
access roads?	☐	☐	☐
parking lots?			
9. Are all **washwater or process wastewater** discharged to the sanitary sewer or recycled instead of discharged to the storm drain system?	☐	☐	☐
10. Are storm drain **inlets and catch basins** inspected and mechanically cleaned on a regular schedule?	☐	☐	☐
11. Are waste products from **rooftop equipment** (for example, oil and grease from exposed motors/pumps or other rooftop equipment) not exposed to stormwater runoff?	☐	☐	☐

N/A: Not Applicable

BUSINESS SELF INSPECTION

Help Keep Illicit Discharges Out of Our Rivers and Stormwater Facilities.

What Can Your Business Do?

If you marked "no" on any of the items, please review and institute best management practices to prevent pollution of our river and drinking waters.

For assistance on best management practices, see the resources below, or contact the City of Bend Stormwater Program at 541-317-3000.

Before hooking to the sanitary sewer, please contact the City of Bend Industrial Pretreatment Program at 541-317

Resources:

City of Bend Illicit Discharge Minimization Best Management Practices Manual—Simple Steps to Protect Your Drinking Water and Our Beautiful Deschutes River
Bendoregon.gov/idmanual

Clean Water Works Business Resources Webpage –
access from the "Business Resources" tab on bendoregon.gov/cleanwaterworks

Commercial Illicit Discharge Prevention Fact Sheet
http://www.bendoregon.gov/modules/showdocument.aspx?documentid=22513

Bend Code Title 16.20 Illicit Discharges
http://www.bend.or.us/Modules/ShowDocument.aspx?documentid=7216

Fines & Penalties
Violating Bend Code Title 16 is a Class-A Civil Infraction, and could result in a maximum civil penalty of $750.00 per day. Each day that a violation remains uncured in effect is a separate violation.

The City of Bend gratefully acknowledges the Alameda Countywide Clean Water Program for the original concept and text of this self-inspection form.

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UTILITY DEPARTMENT

COMMERCIAL ILLICIT DISHARGE PREVENTION

Pollutant of Concern: Multiple

Help Keep Illicit Discharges Out of Our Rivers and Stormwater Facilities.

What is an Illicit Discharge?

An illicit discharge is any discharge to a gutter, storm drain, or surface water body that is not composed entirely of stormwater. Think "**Only Rain in The Storm Drain.**" Whereas, there are conditionally exempt discharges pursuant to regulations, City staff are available to evaluate those on a case by case basis. If you are not sure about a discharge contact the City and we will check it out.







Why is it a Problem?

Illicit discharges have the risk of polluting underground drinking water supplies and the Deschutes River. The City of Bend Stormwater utility works to protect underground drinking water quality of *all* Bend residents—whether they are served by the City, Avion, Roats, or private wells. Having your extra eyes in the field will help protect our valuable water quality and habitat.







How to Spot and Illicit Discharge?

Look for:

- Staining around storm drain
- Staining on storm drain grates
- Odd colors or smells inside the storm drain
- Flows during dry weather
- Hoses or pipes discharging to a storm drain.
- Debris swept or blown in streets

POLLUTANT: ILLICIT DISHARGES

What Can Your Business Do?

Avoid Creating an Illicit Discharge

- Remember, and train your staff to remember, only rain in the storm drain! Use all reasonable measures to reduce pollutants from entering storm drains (e.g., litter, detergents, waste, oil, grease, fertilizers)
- Properly store grease, gas, oil, de-icing materials, and hazardous and non-hazardous substance to prevent leaks and spills from entering storm drains.
- Routinely sweep pavement, driveways and sidewalks to prevent the accumulation of pollutants that may enter storm drains.
- Follow the appropriate best management practices for your business in the Illicit Discharge Manual (bendoregon.gov/idmanual).
- Follow appropriate best management practices for any pressure washing (http://www.bendoregon.gov/modules/showdocument.aspx?documentid=2695), or carpet cleaning (http://www.bendoregon.gov/modules/showdocument.aspx?documentid=13973) activities.
- Ensure your on-site stormwater facilities are properly cleaned and maintained.
- Spills happen. Have a spill control plan and supplies at your business, and train staff to properly clean up spills.

Report All Suspected Illicit Discharges to the City of Bend

Most people do not realize the connections between their actions and water quality. Reporting allows us to provide some targeted education and aware that additional cleanup may be needed to protect water quality.

If possible take a photo and note the time, date and location and notify:

- City of Bend Utility Department - (541) 317-3000
- If someone is actively dumping or spilling a hazardous material - Call 911 and the Utility Department.

Other Resources:

City of Bend Illicit Discharge Minimization Best Management Practices Manual—Simple Steps to Protect Your Drinking Water and Our Beautiful Deschutes River
Bendoregon.gov/idmanual

Business Resources Webpage –access from
bendoregon.gov/cleanwaterworks

Bend Code Title 16.10, Clearing Grading, and Erosion Control on Construction Sites
http://www.bend.or.us/Modules/ShowDocument.aspx?documentid=7216
See Sections 16.20 (Illicit Discharge); 16.10.20 (Grading Permits)

Fines & Penalties

Violating Bend Code Title 16 is a Class-A Civil Infraction, and could result in a maximum civil penalty of $750.00 per day. Each day that a violation remains uncured in effect is a separate violation.

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UTILITY DEPARTMENT

SEDIMENT PREVENTION FOR BUSINESSES

Pollutant of Concern: Sediments

Help Keep Excess Sediment Out of Our Rivers & Stormwater Facilities.

What is sediment?
Sediment is loose soil like sand, clay, small rocks like gravel, or silt that can come as a result of soil erosion, winter traction materials, or plant decomposition.

Soils are Natural, So What's the Problem?
While some sediment is natural in surface water, in urban areas the amount of man-made sediment is high above natural levels. Sediment covers, compacts and clogs.

- Sediment can make water cloudy (turbid) and prevent animals from seeing food. The Deschutes River through Bend is listed for sediment and turbidity as a pollutant of concern.
- Sediment can clog fish gills, cover spawning areas and the habitats where the small organisms that form the basis for the food chain live.
- Nutrients transported by sediment can accelerate algae and plant growth that can ultimately affect oxygen levels in the water. The Deschutes River through Bend are listed for these types of pollutants of concern.
- Sediment deposits in rivers can alter the flow of water and reduce water depth, which makes navigation and recreational use more difficult.

Sediment can clog stormwater facilities and result in flooding problems. If the sediment clogs beyond the drywell cylinder and into the surrounding drainage rock, the entire drywell would need to be replaced, which unnecessarily adds costs. Drill holes clog even more easily

What can you do as a commercial business?

Prevention is key. Use best management practices (BMPs) to keep soils from moving in the first place, and to keep sediments swept up and managed.



All

- Excess sediment is considered an illicit discharge. If you spot excess sediment in the roadway or sediment that could potential reach stormwater facilities (such as picture at right), contact City of Bend at 541-317-3000.

Commercial Business

- Vegetate bare spots in your landscaping.
- Sweep entrances, sidewalks, driveways and parking lots on a regular basis instead of hosing them off. Washing these areas results in sediment and other pollutants running off into streams, rivers and lakes.
- Inspect and clean your onsite stormwater facilities annually.
- Train landscape maintenance staff to blow dirt, dust and grass clippings back into the grass and not onto sidewalks or paved surfaces, or to collect and compost or dispose of properly in a bin.
- Avoid mowing within 10 to 25 feet from the edge of a stream or river. This will create a safe buffer zone that will help minimize erosion and naturally filter stormwater runoff that may contain sediment.

POLLUTANT: SEDIMENT

What Can You Do as a Builder/Contractor?

Builders/Contractors

- Install erosion control BMPs (e.g., catch basin inlet protection, waddles or silt fence) before you begin site clearing/grading.
- Install temporary gravel construction entrance, never use erodible materials (i.e. gavel, dirt or sand) as ramps for protecting existing curbs.
- Never stockpile any material in the roadway. Properly secure stockpiles.
- Sweep up material that gets tracked out onto the roadway daily.



- **Sediment is not allowed to come off any construction site**, whether or not your site is required to have an erosion and sediment control plan or a grading and drainage permit. For additional information, review the Central Oregon Stormwater Manual, Chapter 9 and the "ACWA Construction Site Stormwater Guide" (see Other Resources, below).

Other Resources:

ACWA Construction Guide
www.oracwa.org/documents/ACWASWSiteGuide0313w.pdf

Central Oregon Stormwater Manual, Chapter 9
https://newcoic.files.wordpress.com/2012/09/2010rev-chapter-9-esc.pdf

Bend Code Title 16.10, Clearing Grading, and Erosion Control on Construction Sites
http://www.bend.or.us/Modules/ShowDocument.aspx?documentid=7216
See Sections 16.20 (Illicit Discharge); 16.10.20 (Grading Permits)

Oregon DEQ 1200-C Permits
http://www.deq.state.or.us/wq/stormwater/constappl.htm
For additional information on permitting requirements contact the City of Bend Permit Center at 541-388-5570.

Fines & Penalties
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UTILITY DEPARTMENT

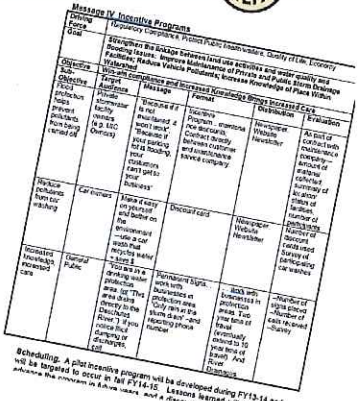
Community-Based Social Marketing: The Clean Water Works Partnership Program

Using Behavior Change Tools to Improve Results

Wendy Edde, CSM, CESCL
Stormwater Program Manager
May 11, 2016

City of Bend Strategic Education Outreach Plan

- Defined driving forces, goals, objectives
- Identified and analyzed target audiences
- Determined messages to create and delivery
- Outlined packaging and distributing the message
- Evaluation



Fostering Community Based Social Marketing

- Identify Barriers to Sustainable Behavior
- Design Strategy Using **Behavior Change Tools**
- Pilot the Strategy
- Evaluate Impact of Program

Identify Barriers

1. Literature Review (e.g. Getting In Step; Bend2030 Vision; Sources of Lead)
2. Focus Groups
   - Stormwater Public Advisory Group
3. Phone Survey
   - Community Survey:
     Children's Health and Water Quality Are Important;
     Bend is Costly

- Removing barriers from perspective of target
  - *Marketing behavior change is different than marketing a product*





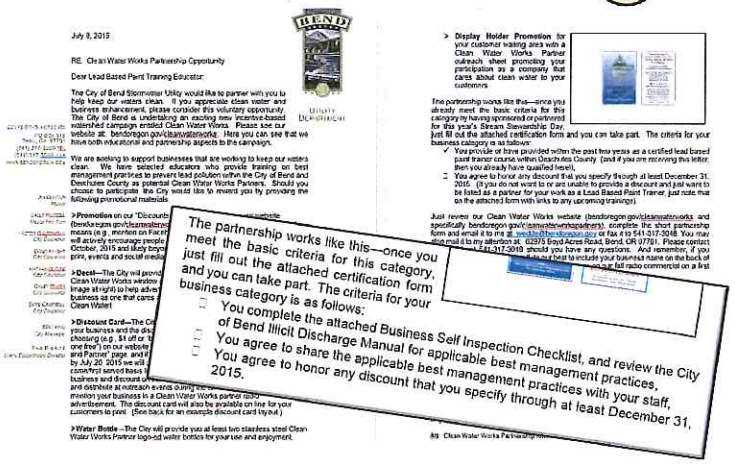
Tools: Enhancing Motivation

- **Incentives** (media promotion)
- Closely pair the incentive & behavior
- **Use Incentive to Reward Positive Behavior** (making a commitment)
- **Make the Incentive Visible** (TV commercial)
- Be Cautious About Removing Incentives
- Prepare for People's Attempts to Avoid Incentive
- Consider the Size of the Incentive
- **Consider Non-Monetary Forms of Incentives**





Invite Letter



Tools: Make it Easy to Act

- Convenient
  - easy to sign up
  - print your own card;
  - businesses could pick own incentive;
  - provided them quick fact sheet BMPs
- We brought materials to businesses and public



Partners Targeted -- Pilot

- Restaurants/Food Service
- Carpet Cleaners
- Construction Contractors
- Commercial Car Wash
- Supporters of Stream Stewardship Day/ Clean Water Volunteers > 3 hrs

Tools: Using Commitment

- Emphasize Written over Verbal Commitments
- Ask for Public Commitments
- Seek Group Commitments
- Actively Involve the Person
- Consider Cost-Effective Ways to Obtain Commitments
- Use Existing Points of Contact to Obtain Commitments
- Help People View Themselves as Environmentally Concerned
- Don't Use Coercion (Commitments must be freely volunteered)
- Combine with Other Behavior Change Techniques



Tools: Prompts/ Remember to Act

- Slogans
- Prompts:
  - Noticeable
  - Self explanatory
  - Close in time/space to targeted behavior
  - Encourage people to engage in positive behaviors.



Tools: Norms/Building Community Support

- Positive Campaign
  - Modeling norms in radio commercial
  - http://www.bendoregon.gov/modules/showdocument.aspx?documentid=22502
- Norms—showing them as a Clean Water Partner…working for clean water
- Reaching into areas not normal (arts)
- Lesson learned: point of purchase display, positive.



Tools: Effective Messages

- **Capture Attention**
- **Vivid Portrayal**
  (http://www.bendoregon.gov/modules/showdocument.aspx?documentid=23147)
  - Know Your Audience
- **Use a Credible Source** (UDWC, BendFilm, Zolo Media)
- **Frame Your Message**
  - Carefully Consider Use of Threatening Messages
  - One or Two Sided Message (present both sides? Depends)
- **Make Your Message Specific**
  - Make Your Message Easy to Remember
  - Provide Personal or Community Goals
  - Emphasize Personal Contact (note cards)
- **Model Sustainable Behavior**
  - Foster Social Diffusion
  - Community Block Leaders
  - Provide Feedback





Costs

- Evaluation Survey (30 questions; 400 by telephone)
  - Pre: $22,000
  - Post: $20,000
- Media Contracts: Total $42,000
  - TV: $15,000 Spring; $18,000 Fall (budgeted) ($14K spent)
  - Radio: $6,600 Spring; $6,500 Fall (budgeted) ($6.1K spent)
- Print Media/Graphic Artist: $3,000 budgeted; ($2.7K spent)
- Film Contest: $750 ($300 = prize money)
- Events: $8,000 Spring/fall (budgeted) (~$2.4K spent)
- Time: Intensive

Key Findings (Statistically Significant)

- Increased amount show concern for pollution in drinking (6%⇧) & surface water (9%⇧)
- Fewer respondents believe all/most of Bend's stormwater is treated at WTP (5%⇩)
- More residents understand what stormwater service charge covers
  - "Unsure" dropped from 71% (April)→ 63% (Nov);
  - "O&M" cited from 8%→14%;
  - "Quality/Protection" cited from 4%→7%

Partner Survey

- Participate again? 100% (14) Yes
- Make you/your employees think about water quality/importance of protecting it? 71% Yes; 29% Maybe; 0% No
- Effort help make a positive difference for water quality? 57% Yes; 29% Potentially

Lessons Learned

- Main messages received tend to be those repeated over time
- Target low hanging fruit first
- Written commitment is beneficial
  - People want to stay consistent

"When possible we should be helping people to see themselves as environmentally concerned."

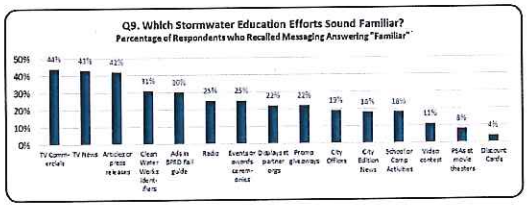
McKenzie-Mohr, Doug. *Fostering Sustainable Behavior—Community-Based Social Marketing*

Lessons Learned

- Prompts:
  - More: shelf talkers, point of purchase
  - Adequate numbers for group
  - Details—sides on decals/stickers
  - Decals versus Magnets/Quality Control
- Expand Partners Beyond Low Hanging Fruit
  - Educational Partners (High Desert Museum; OSU)

Effectiveness: Efforts Recalled

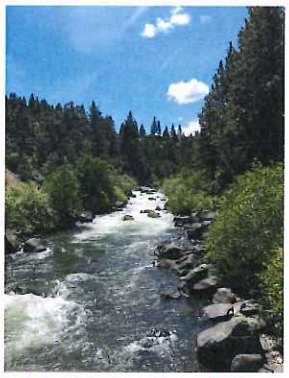
- 42-44%: TV; Press Releases/Articles
- 30-31%: Identifier; Long-term Ads
- 22-25%: Promos/Displays/Events/Radio



Lessons Learned

- Information is Costly
- Overcoming
  - Refining marketing to selling behavior change
  - Resistance among colleagues / politics
- Work to increase our understanding of target audience and their barriers
  - Focus Groups Recommendation: pay community members because volunteers too interested
  - We used Stormwater Quality Public Advisory Group
  - Continue deeper understanding with pilot partners

Questions



www.bendoregon.gov/cleanwaterworks











City Quest at the Fest 2015 Clean Water Pledges Summary

Do Not Litter/ Clean up Litter	General Pollution Prevention/ Clean Water	Development Related Water Quality Measures	Waterwise Prevent Runoff- Reuse	Use Alternative Transportation	Minimize Chemical use/ Dumping
Don't Litter	I will be good	Help people move logs and other things to help stop erosion	Prevent runoff from our home	Walk/bike more/ carpool if can / Keep trash picked up/ Recycle	I will not put motor gas on the dirt
I pick up trash and I don't litter so it won't pollute the water	We have our lawn aerated and have our septic regularly inspected/ We never pour anythin down the drain that could hurt the water	Backflow testing	Save water/ Xeriscape	Drive less by walking /riding a bike consolidating / taking the bus or carpooling /watch for leaks in my car and repair them quickly/ use plastic tarps an drip pans to capture leaks in the meantime while I'm working on reapairs	Bike commute/clan up the dog's poop every time/avoid fertilizers and garden chemicals
Don't Litter in it/ Don't throw trash in the gutters and keep them clean	I don't put yucky or sticky things down the drain	Continue to do wetland delineation and mitigation	Turn water off	I will not drive as much to school	Cleaning things that touch the road like shoes/tires and dirty
Do not litter in the water	Keep water clean	Building a new home and plan to do xeriscaping landscaping/ drip watering	Native plants/ Drip system/ neighborhood is on water rotation between homes etc. etc. etc.		I garden organically with minimal use of pesticides and try to use organics as much as possible
Clean the gutters of garbage	I would probably make sure whats clean water thatn sewage water and how to protect it to make the enviornment better and healthy	I will protect steams and creeks from unregulated development	I am going to not throw /pour extra water or liquids away		We use only natural and biodegradable soaps/ Native landscaping/Drip irrigation/Healthy organic soils/No herbicides and pesticides/ Care much about our environment
Keep garbage out of storm drains and away from rivers and streams	I do not pollute the river		Shorter showers/ Keep things out of the sewer / Sweep the driveway don't spray the driveway off		Hand pull weeds keep yard clippings
Keep yard clippings, petwastes, and trash out of the gutter, away from storm drains. If my pet poops/ scoop	Keep pet waste away from street		Take short showers. Water plants only when needed		Keep gutters clean/Hand pull weeds in street and driveway/Use safe pesticides/I never pour anything questionable down drains outside
Don't let trash get on the ground	Do not use a garbage disposal		Take quick showers		I will use least toxic chemicals
To pick trash out of the river, streams, and ocean	To protect		Clean off dishes no waste in drains		Won't do scientific experiments in the sink with chemicals
Don't dump in the street	To protect Puget Sound		Don't waste water/ limit watering/conserve!		I use non-toxic chemicals /Actually garden organically
Don't put trash in water ways	To give people in Africa who are homeless water filters so they can drink clean water and not dirty water		My family will conserve water an dnot dump FOG into the storm drains		Never throw chemicals down the drain
By picking up trash from sidewalks and reusing recyclables	Make sure you don't pollute		Doon't pour diryt water in rivers/grass/ etc.		Reduce our use/No chemicals
Don't dump things down the street drains/recycle	Don not put plastic in the river		I am going to keep water clean by scraping food off my plate		Never pour cleaner or car stuff in drains
I will clean water by helping get litter /trash out of streams, rivers, etc.	Don't put dirt in the sink		Turn of the sink when your brushing your teeth		Keep trash out of the water/No chemicals in water
I take out trash in the ocean and off the ground/ Only use water for special things			Prevent runoff/ plant native plants/ keep gutters clean		By not using chemicals on our lawn
I won't litter so trash doesn't get in the water			Don't over water lawn/ stop from running down street		Hand pull weeds
Don't litter			I will re-use water within my household/plants and in my greenhouse so none is wasted		Not polluting/Turn off sink/no chemicals
Throw my garbage in the trash can			I don't waste clean water/ I don't flush what shouldn't be		I don't let my oil go in the gutter
I won't throw garbage down the drains			No pollution/turn off water		No trash or chemicals in storm drain
No grabage on the streets or in storm drains/Pick up after self			We will learn about drip irrigation to water our garden		
Dispose of my trash in correct areas			Don't use more water than needed/pick up after ourselves/Teach our children how to keep the water clean		
I will pick up after my dog and pick up trash			I will not use a bunch of water		
I pledge to pick up trash off of the streets, so that they do not end up in storm drains			Take short showers/ reuse water to hydrate plants		
I don't litter			Take rain water to water my plants out of rain barrel/ use gray water/ no oil or pesticides on ground		
By not littering			Downspouts collect water to barrel for garden irrigation		
Don't put trash down the gutter					
Clean up trash					
Put cleaning stuff in it andpick up trash					
I do not litter in the river and not over water					
I don't litter in the road					

THE SOURCE WEEKLY

Bend BREWFEST August 13, 14, 15 & 16 ★ 170+ CRAFT BEERS CIDER & WINE AT THE LES SCHWAB AMPHITHEATER ★

Kid Stuff Search

Sorting by Date

55 total results

Terrific Tall Tales
Wed., Aug. 5, 10:30 a.m.
541-312-1090
La Pine Public Library 16425 First St., La Pine
General Bend Area (map)
Kid Stuff
Ages 6-11. Pit your strength against Paul Bunyan. Give lassoing a whirl. Outshoot Calamity Jane. Free.

Meet a Real Hero
Wed., Aug. 5, 1 p.m.
541-330-3760
East Bend Public Library 62080 Dean Swift Rd., Bend Eastside (map)
Kid Stuff
All ages. Guide dog—meet and learn from Al and his dog, Sable, real heroes who don't wear capes but can teach a lot about courage, safety, and health. Free.

Terrific Tall Tales
Wed., Aug. 5, 1:30 p.m.
541-312-1080
Sunriver Area Public Library 56855 Venture Ln., Sunriver Sunriver (City) (map)
Kid Stuff
Ages 6-11. Pit your strength against Paul Bunyan. Give lassoing a whirl. Outshoot Calamity Jane. Free.

60% Off Sticker Printing
Ends Soon! Quality Printing. Order Custom Stickers & Decals Online.

Westside Church Vacation Bible School: Bible Blast to the Past
Wed., Aug. 5, 9 a.m.-12 p.m. and Thu., Aug. 6, 9 a.m.-12 p.m.
541-382-7504
Westside Church 2051 NW Shevlin Park Rd., Bend
General Bend Area (map)
Kid Stuff
Get ready to travel on a life-changing adventure that leads kids in search of a love that lasts forever! At Bible Blast to the Past, kids will participate in the large group excitement of Blast to the Past Bash, experience God's word, learn ways to serve others, discover ancient arts and facts through science and crafts, and enjoy snacks and games. Kids will walk away knowing that God will always love them—no matter what! Free.

Terrific Tall Tales
Thu., Aug. 6, 10:30 a.m.
541-617-7097
Downtown Bend Public Library 601 NW Wall St., Bend Downtown (map)

Kid Stuff
Ages 6–11. Pit your strength against Paul Bunyan. Give lassoing a whirl. Outshoot Calamity Jane. Free.

Discover Nature Days: Predators & Prey

Thu., Aug. 6, 11 a.m.–12 p.m.
541-383-5592
Boyd Park 20750 NE Comet Ln., Bend North (map)
Kid Stuff, Outdoors
Presented by the Children's Forest of Central Oregon. This week's program by The Environmental Center. Have fun learning about the diverse animals that call Central Oregon home through exciting games and interactive science activities. Ages 5–10 with parent or guardian. Free.

Blue Wave Band
World Class Live Music For Your Party? Inquire Today For A Demo!

Summer STEAM

Thu., Aug. 6, 3–4 p.m.
541-617-7097
Downtown Bend Public Library 601 NW Wall St., Bend Downtown (map)
Kid Stuff
Ages 9–17. Bristlebots and squishy circuits—make a toothbrush robot. Create electrical circuits. Register online. Free.

Let's Go Camping



Fri., Aug. 7, 4 p.m., Sat., Aug. 8, 10 a.m. and Sun., Aug. 9, 8 a.m.–12 p.m.
503-510-9540
Tumalo State Park Campground 62976 O B Riley Rd., Bend General Bend Area (map)
Outdoors, Events, Kid Stuff
Tumalo State Park invites beginning campers on a guided camping excursion. Tents, sleeping bags, and other gear provided. $30 for two nights camping and gear rental for the whole family.

Family First Friday: Painting

Fri., Aug. 7, 4–6 p.m.
541-617-1317
Art Station 313 SW Shevlin Hixon Dr., Bend General Bend Area (map)
Local Arts, Events, Kid Stuff
Kids and adults can get creative with a self-guided art activity with one of our instructors. Enjoy art making plus children and adult refreshments! No registration necessary. $5.

How to Do It Yourself
Search Videos & Articles to Find How to Do it Yourself - Free!

Clean Water Works Film Workshop

Sat., Aug. 8, 9–10 a.m.
541-317-3018
Riverbend Park 799 SW Columbia St., Bend General Bend Area (map)
Kid Stuff, Presentations
Come join BendFilm's Todd Looby to get useful tips for creating a winning entry for the City's Clean Water Works TV commercial film contest, now underway. Cool prizes to contest winners! Open to kids in grades 6–12. See

bendoregon.gov/cleanwaterworks "Kid's" page for more details. RSVP wedde@bendoregon.gov. Free.

Kids' Forest Fun

Sat., Aug. 8, 10 a.m.–12 p.m.
541-330-0017
Metolius Preserve near Camp Sherman, Sisters
General Bend Area (map)

Kid Stuff, Outdoors
We'll explore the Preserve's pine forests and the plants and animals that live around them. Enjoy some hiking, hear some stories, and make a craft under the shade of your favorite pine tree. Perfect for kids ages 6-12 with a grown-up in tow. Registration is required. Free.

Redmond LEGO® Block Party

Sat., Aug. 8, 10:30 a.m.
541-312-1050
Redmond Public Library 827 SW Deschutes Ave., Redmond, Redmond Redmond (City) (map)

Kid Stuff
All ages. Read! Build! Play! Join other builders and a gazillion LEGO® pieces. Free.

Start Download Now
Find Hundreds of On-line Games
Free Become an A Plus Gamer Now!

Sunriver Music Festival—Family Concert

Mon., Aug. 10, 4 p.m.
Sunriver Resort 17600 Center Dr., Sunriver
General Bend Area (map)

Kid Stuff
Classical family concert performed by Sunriver Music Festival's orchestra. Adult $10, youth 18 and under free.

Noisy Clay

Aug. 10–13, 9 a.m.–12 p.m.
541-617-1317
Art Station 313 SW Shevlin Hixon Dr., Bend
General Bend Area (map)

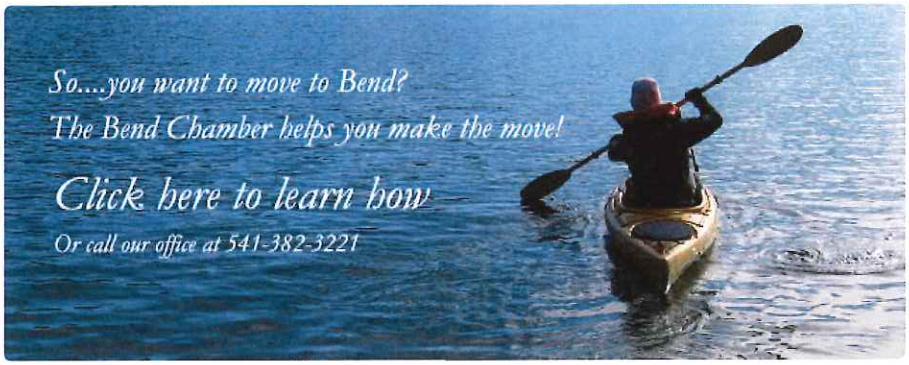
Local Arts, Classes, Kid Stuff
Ceramic art doesn't have to sit on a shelf, it can create music! Using hand-building techniques create whistles and mobiles that are meant to be enjoyed by the eyes and the ears. $90.

Sunriver STEAM Team

Wed., Aug. 12, 1:30 p.m. and Wed., Sept. 9, 1:30 p.m.
541-312-1080
Sunriver Area Public Library 56855 Venture Ln., Sunriver Sunriver (City) (map)

Kid Stuff
Ages 9+. Register online. August 12, BrushBots—create and race tiny, hygienic robots. September 9, Squishy Circuits—create simple electrical circuits. Free.

Showing 1–15 of 55 total results in this search.



Clean Water Works Partners Discount Program

By: Wendy Edde, stormwater program manager for the City of Bend



Edde has served over 10 years helping to develop the stormwater utility for the City of Bend. Prior, she spent eight years as a consultant with EOA, Inc. focusing on providing stormwater technical guidance to several large and small countywide stormwater programs working to meet regulatory requirements. An APWA Certified Stormwater Manager, Wendy earned a B.S. in Environmental Policy Analysis and Planning (Environmental Science focus) from the University of California, Davis.

During this season of giving, the City of Bend has partnered with area businesses and non-profits who are working to protect water quality, and give the public a variety of discounts on goods and services.

Participants in the innovative, incentive-based Clean Water Works Partnership Program are businesses and non-profits who meet basic criteria and commit to protecting our river and drinking water quality. They either train their staff on water quality best management practices, or support clean water through sponsorships of, or volunteering at, river clean up events.

These participants have also offered a discount to the public to enjoy in return for recognition as a Clean Water Works Partner. The City has provided this recognition as part of its public outreach efforts.

Have a craving for a juicy steak, Thai food, spirits, cupcakes or ice cream?

Need to get your car washed or carpets cleaned before company arrives for the holidays?

Want a discount on the latest Indie film special screening?

Need to consult on that dream home improvement/development project you are planning?

Care about our river or drinking water quality?

If you said "yes!" to any of these, then this card may be a gift to you.

"We are excited about partnering with these businesses and non-profits who have pledged to help protect our water quality," said Paul Rheault, City of Bend utility department director. "We were

looking for an incentive-based approach to bring attention to not only the importance of protecting our valuable river and drinking water quality, but also to promote actual actions that can help protect it."

"This program brings a benefit to everyone participating, including those using the discount cards, those participating businesses and non-profits working to make a positive difference in our community, and everyone using or enjoying our local waters. It's a program that is giving in so many positive ways, and really illustrates the caring and wonderful spirit of our local business and non-profit community," said Rheault.

You can download discount cards right from your computer (or pick up cards at City offices). Visit www.bendoregon.gov/cleanwaterworkspartners to view all the partners and opportunities, and click on the round Clean Water Works Partners button to see the discounts and to download your card. Discounts are good at least through the end of the year, with some extended into 2016.

Like 0

Member Focus. Bookmark the permalink.

Comments or Questions?

Your email address will not be published. Required fields are marked *

Name *

Email *

Website

Bend's listening. The stage is all yours.

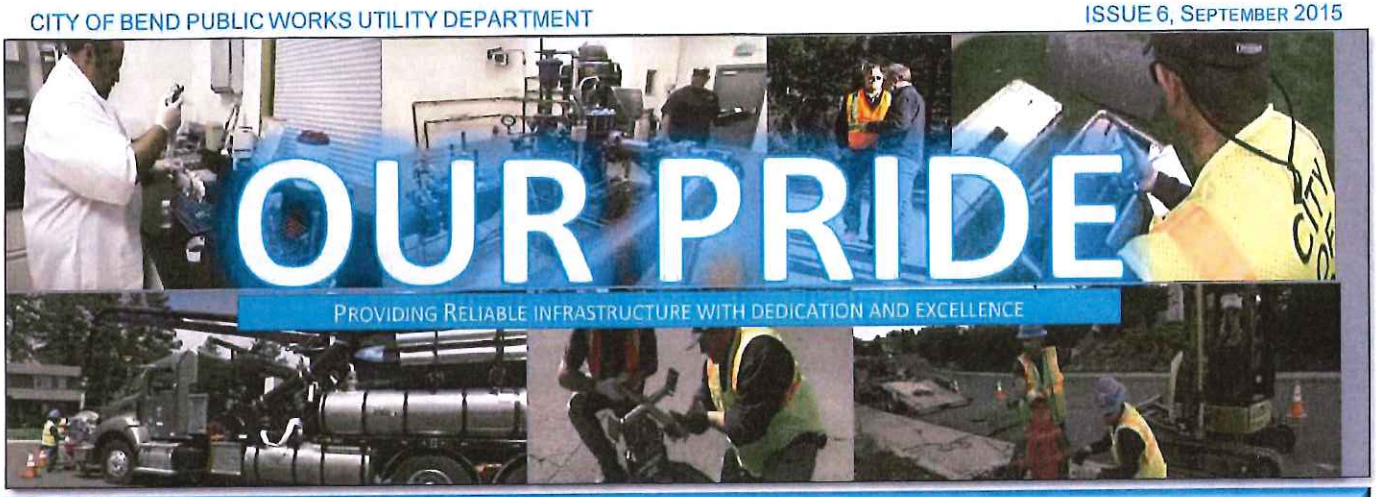
Post Comment



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CITY OF BEND PUBLIC WORKS UTILITY DEPARTMENT

ISSUE 6, SEPTEMBER 2015



STORMWATER PROGRAM

Clean Water Works –

And WE work for Clean Water

by Wendy Edde

Clean Water Works! Everyone in Utilities is working for clean water. In spring 2015 we began an educational and incentive-based Clean Water Works campaign to highlight to the community our efforts to keep our waters clean. We have focused this pilot campaign on keeping our river and underground drinking water clean of stormwater pollutants. We are both educating the community about our activities, along with working to gain them as partners towards keeping our waters clean. To this end, businesses and non-profits can sign up as partners if they have either volunteered for clean water, or they have committed to training their staff on best management practices for keeping our waters clean. In turn, we have recognized them as partners and advertised a Clean Water Works discount card for the public to note their efforts and to enjoy discounts at their establishments. So far the response has been swale, and you too can benefit! Get your discount card today in hardcopy or download it off the discount page at www.bendoregon.gov/cleanwaterworks



Whale, whale, whale, what do we have here?

Perhaps you have noticed that we in the stormwater utility like to work in a pun environment! The first ten people who note all the puns in the above article and get them to Wendy E. along with a short note why working for clean water is important to *you* will win a free Clean Water Works partner water bottle! And if you don't like puns, know that when this article is over; we won't gutter another word....

Meet the Stormwater Utility – They Rain Supreme!

The stormwater utility was officially formed in 2007 with a service charge that provides stable funding for maintenance and operations of the public drainage system; meeting regulatory requirements to protect water quality, and providing for capital improvements.



Stormwater Crew – left-right - Ric Kuss, Doug Straw, JJ Bibler, Antonio Suarez, Travis Somers, Reese Moody, David Oak, Ian Klotz.

Want to know more about the grate work our stormwater personnel do? Click on these radio advertisements:



Click to listen -

Radio Ad #1

Radio Ad #2

Or visit our website at: www.bendoregon.gov/cleanwaterworks

STORMWATER CLEAN WATER WORKS DISCOUNT CARD

The Savings are YOURS with the Discount Card!

Pick up your Discount Card from any of these businesses or contact Wendy Edde. Discounts will be added throughout the year so check the website regularly to see new discounts that are available.



Use your Clean Water Works Discount Card for...

- Year round BendFilm screening discounts: $3.00 off of $10 list price screenings; $2.00 off $12 list price screenings; discount available for box office sales only (not online); not applicable for the BendFilm Festival – Expires: June 30, 2016
- Free appetizer with purchase of two entrees at The Blacksmith Restaurant
- $100 off a full service catering event with Blue Bite Catering
- 10% Discount on residential carpet cleaning from Cleaning Clinic Inc. – Expires. March 31, 2016
- Free Consultation at D.E. Rink Construction
- $2.00 off 1 dozen Kidscakes** (limit $2 off per visit) at Ida's Cupcakes – Expires: January 30, 2016
- $1.00 off your purchase of $10 or more at Ziggy's Ice Cream Trucks
- 10% off any food item at Mazza Bistro
- New Client Special: Clean two rooms and hall, up to 400 sq. ft. for $99 (In Bend) from Naturally Clean Carpet Cleaning
- $1.00 off your purchase at Orchid Thai Restaurant
- 10% off a cleaning service at Prosteam Services Cleaning and Restoration
- $1.00 off any car wash* at either Red Carpet Car Wash locations (*not valid with any other offers)
- 10% off ROW Enterprises Construction
- Get $20 to spend at Stackhouse Coffee – Just text Kash to 97000 for a $20.00 Digital Gift Card (Iphone and Android Only)
- $15.00 off with a min. $150.00 purchase from Stanley Steemer Carpet Cleaners
- $1.00 off all cocktails at Wild Rose Thai Restaurant

(See the website for more discounts at www.bendoregon.gov/cleanwaterworks)



As part of the Stormwater regulatory requirements the Stormwater educational message will be aired on local TV and radio stations during September and October. Look for the commercials on KTVZ- Ch. 21; KFXO – Fox; KBNZ – CBS; KOHD – ABC.

Radio commercials can be heard on KQAK 105.7; KWPK 104.1; KMTK 99.7; KTWNS 98.3.

Let Wendy or David know you heard or saw our commercials!



Stormwater does not drain to the sanitary sewer system? The water entering street gutters drains either to the river, or to a dispersed system of dry wells, drill holes, or retention basins.





The stormwater service charge is based on the amount of impervious surface coverage—or hard surfaces like roofs, driveways, compacted soils—on properties throughout the city? There is a direct link between the amount of impervious surfaces and how much and how fast water runs off, because impervious surfaces will not allow water to sink into the ground as it normally would in a natural condition. That runoff can pick up pollutants and can clog facilities. Protecting against flooding and protecting our water quality are critical goals.

Local Businesses Join City of Bend on Erosion & Sediment Certification

This spring, several local businesses joined City of Bend staff in earning the Certified Erosion and Sediment Control Lead (CESCL) certification, which is valid for three years. This is an intensive two day class including both classroom and field components to become proficient in keeping soil sediments from moving off construction sites.

All construction sites within Bend are required to keep sediments on site to prevent clogging of runoff facilities and for environmental protection. The Deschutes River in Bend is federally listed for sediment/turbidity among other related pollutants of concern.

The following individuals joined nine City inspectors and utility personnel in earning their CESCL certification:

- Kevin Jenison (ACF West)
- Brian Johnston (Alex Hodges Construction)
- Amber Hudspeth and Parker Emahiser (Farallon Consulting)
- Jennifer VanCamp (Harber Houf Perterson Righellis)
- Lisa Ziegler and Ben Moore (High Desert Aggregate and Paving)
- Krista Ratliff (Oregon DEQ)
- Greg Bridge (Stormwater Services)
- Noah Cervantes, Chance Steffey, and Dirk Duryee (Tye Engineering and Surveying, Inc.)

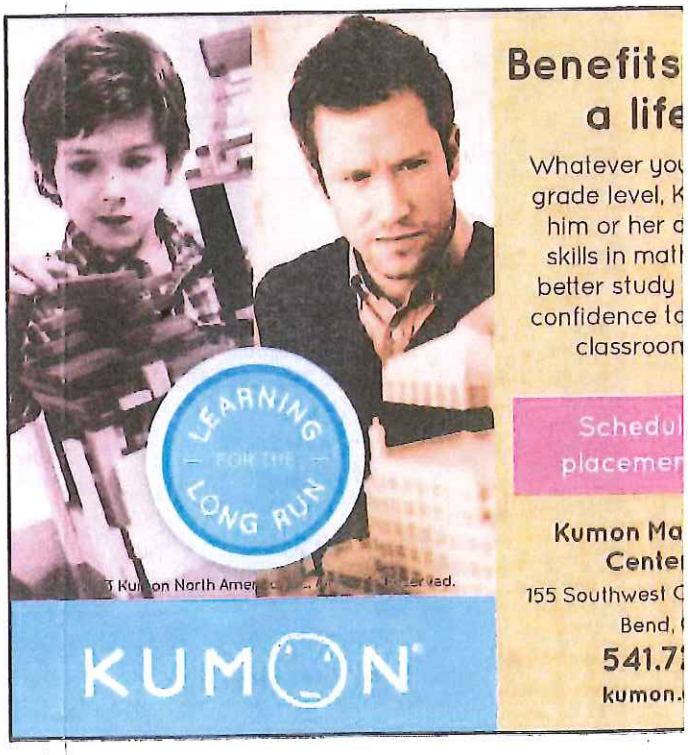
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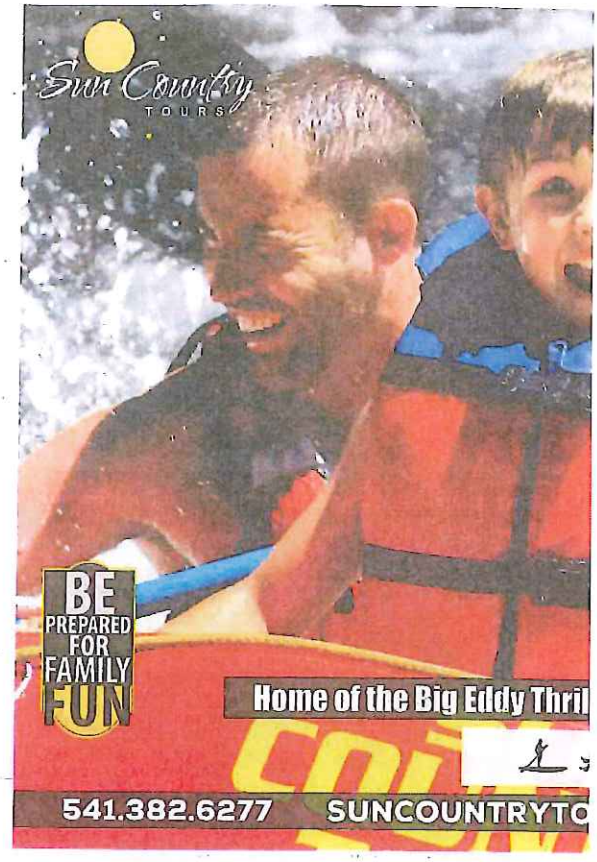




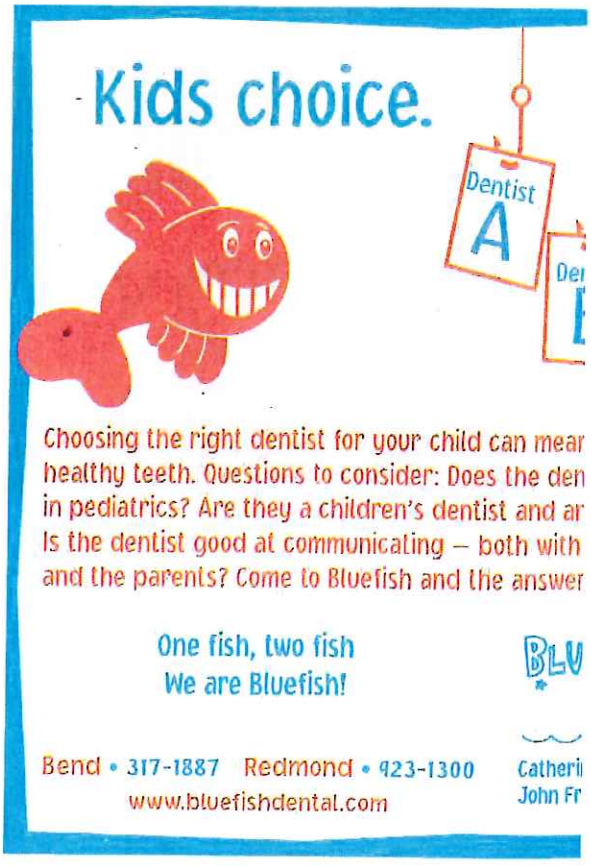


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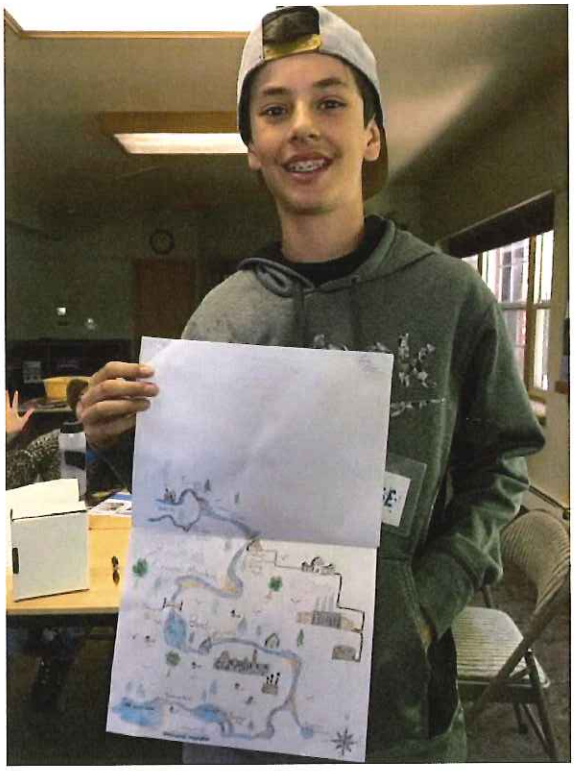




the environmental center

The City of Bend and The Environmental Center
Our Water Program: A Journey Through Bend
Youth Education Partnership

Annual Activity Report
June 16, 2016



Homeschool students drew the Deschutes watershed with City water sources, Outback WFF, storage tanks, pipes to their homes, sewage pipes from their homes and the WRF.

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Overview

Our Water System: A Journey Through Bend is a classroom and field based education program designed to educate middle and high school students about Bend's water sources, distribution, wastewater and stormwater management and water conservation. Each lesson educates students about these topics and how to make choices that reduce their environmental impact at school and at home.

Summary statistics for the 2015-2016 school year:

	Contract goals for 2015-2016 school year	Actual data for 2015-2016 school year
Total contacts	2000	1856
Number of presentations	75	70
Number of classes	15	18

Program Promotion

- The Environmental Center's website: The water education program is listed with our youth education programs https://envirocenter.org/programs/youth-education/school-programs/classroom-lessons/

- School visits: On September 1, 2015 Kirin Stryker visited the science departments at High Desert, Pilot Butte, Pacific Crest and Cascade Middle School to share the water education program. On September 17, 2015 Kirin visited with the upper school teachers at West Side Village Magnet School.

- Teachers Night Out: The water education program was shared with teachers who stopped by The Environmental Center's booth at the High Desert Museum's Teachers Night Out on September 17, 2015.

- EarthSmart E-News: Water program successes for 2014-2015 school year and an invitation to participate for the 2015-2016 school year was shared in May, 2015 issue.

- Discover Nature Festival: The water education program was shared with those who stopped by The Environmental Center's booth at the Children's Forest of Central Oregon's Discover Nature Festival on September 26, 2015.

- Bend Science Teachers Meeting: Kirin presented the program to a gathering of Bend LaPine School District science teachers on January 20, 2016.

- Press Release: Anne Aurand sent out a press release to share the expansion of the program and to recruit media to cover Pilot Butte's WRF tours on February 22, 2016. Kirin also personally invited a Bulletin reporter and photographer who

covered a landfill trip earlier in the year. However, no media attended any of the program delivery.

Program Marketing Materials

The following three documents were used to market the water education program this year. The first two documents were shared with middle and high school teachers at face-to-face events. The third document is a copy of the press release from February, 2016.

The Environmental Center, in partnership with the City of Bend, presents a series about water in Bend; where it comes from and where it goes along the cycle through the city. All lessons are free and correlate to national education standards for middle school. Classroom presentations are FREE and last approximately fifty five minutes.

Our Water System: A Journey through Bend

the environmental center

Classroom presentations

Watersheds and Water Users
Students take a virtual tour of the watershed, learn about Bend's dual source water system, identify ways they connect with water, learn how our community uses water and the impacts of that use on our watershed.

Ins and Outs of Water:
Students tour their school grounds to explore how water gets into and out of our schools. They will look at water and sewer lines on city maps to gain an understanding of the city infrastructure needed to provide and manage water, including customer pretreatment and reclamation systems.

Sewer Studies
Students learn what happens to wastewater once it leaves our schools, homes and businesses and enters the City's sewage system. They learn what can and cannot go down the drains or toilets and how water is treated at the reclamation facility before being released back to the environment.

Be Water Wise
Students generate reasons to conserve water based on what they learned during the series then identify and commit to conservation methods both inside and outside the home.

Field trips

From Mountains to Homes
Take half a day to visit the Bridge Creek Intake and the Outback Treatment site to experience our water sources, the system of pipelines that bring water into the City and learn how the water is treated before reaching our taps.

Wastewaters New Life
Take a second half day to visit the Wastewater Reclamation Facility and adjacent Hatfield Ponds. Students will tour the facility and observe the cleaning process, learn about the organisms that clean water and see where the cleaned water is released back to the natural world.

Stormwater QUEST
Students solve a puzzle as they visit locations along the Deschutes River in Farewell Bend and River Bend Parks to learn about Stormwater and City infrastructure to minimize the impact of Stormwater on the Deschutes River.

For inquiries and scheduling contact:
Kirin Stryker 541.385.6908 x16
kirin@envirocenter.org
www.envirocenter.org

Water education for high school

The Environmental Center, in partnership with the City of Bend, presents a new series focused pre-customer water and waste water treatment. Address Next Generation Science Standards for Earth and Human Activity by engaging your students with their community through the Environmental Center and the City of Bend's water education program. Designed specifically to expose students to real world issues and to share careers in water utilities, the program is free to schools in Bend. Classroom lessons are supported by field trips to our City's public utility locations. Choose from the two lessons below or collaborate with our educators to design a lesson unique to your classes' needs.



the environmental center

Clean City Water: Where does drinking water come from? What happens to that water before it comes out of your tap? This hour long classroom based lesson is well suited to biology, chemistry and environmental science classes. Students will learn about the water quality tests the City conducts on our ground and surface water and how water gets from the Cascade Mountains to your homes, schools and businesses. Expose your students to careers in water utilities and the City's apprenticeship program. Optional but recommended addition: single class field trip to the Outback Water Treatment Facility.

What a Waste! In this hour long lesson designed for high school environmental science and biology classes, learn about the City of Bend's infrastructure to transport and treat sewage to minimize our impact on the environment. Learn how to properly care for your sewage system and what you can do to not overburden the City sewage system. Optional but recommended addition: single class field trip to the Wastewater Reclamation Plant.

Note: Field trips can be combined into a single trip: visit the Outback Water Treatment Facility in the morning followed by an afternoon visit to the Wastewater Reclamation Plant.

For more information or to schedule, contact:

the environmental center

Kirin Stryker
541.385.6908 x16
kirin@envirocenter.org

Embedding sustainability into daily life in Central Oregon.

NEWS RELEASE

CITY OF BEND

For Immediate Release

Date: February 22, 2016

From: Anne Aurand
Community Relations Manager
541-388-5573, aaurand@bendoregon.gov

Contact: Kirin Stryker
Sustainability Educator, The Environmental Center
541-385-6908 ex 16, kirin@envirocenter.org

Contact: Shannon Ostendorff
Utility Operations Manager, City of Bend
541-322-6334, sostendorff@bendoregon.gov

City and Environmental Center expand water system education program

The City of Bend and the Environmental Center are continuing and expanding an education program called Our Water System: A Journey through Bend.

The program began in the 2014-2015 school year with a goal to make 1,500 contacts (a contact is each individual time the instructor works with a student), give 60 presentations and work with 10 classes. For the 2015-16 school year, the program will grow to 2,000 contacts, 75 presentations and 15 classes.

The program was originally piloted at Marshall High School and delivered to sixth grade students at Cascade Middle School. This year, the program is expanding to St. Francis of Assisi Catholic School, Pilot Butte Middle School and the Bend homeschool group.

Also new this year, the program will include field trips to the City of Bend Outback water facility west of Bend, and the Water Reclamation Facility – the City's wastewater treatment facility – east of Bend.

Classroom lessons include an overview of the Deschutes Watershed and how our community uses water, where our drinking water comes from, a school ground tour of how water gets into and out of our schools and homes, where water goes when it leaves our house and how it is treated, what happens to Stormwater after it rains, and a hands-on lesson about water conservation.

The program is free for middle and high school classes at public and private schools in Bend.

Deliverables

List of schools and delivered presentations:

School /teacher	Lesson
Sun and snow women's study group	• Be Water Wise
St. Francis of Assisi Catholic School	• Combination of Watersheds & Water-users and Ins and Outs of water. • Water Reclamation Plant field trip and Hatfield Ponds tour with Audubon Society • StormWater Quest field trip • Post test
Ponderosa Lego League	• Stormwater quest
Cascade:	• Pre-test and pre lesson • Watersheds and water users • Ins and outs of water • Sewer studies or field trip • Be Water Wise • Post test
Pilot Butte	• Pre test & pre-lesson • Watersheds and Water users • Water Reclamation Plant tour & Hatfield Ponds with Audubon Society • Ins and outs • Be Water Wise • Post test
Home School group ages 10 to 14	• Pre test • Watersheds and Water users • Ins and outs of water with a mini stormwater study • Outback Water Filtration Facility tour • Water Reclamation Facility tour and Hatfield Ponds with Audubon Society • Be Water Wise • Post test

Curriculum Summary

Curriculum Google Drive:
The current lesson plans, marketing materials and photos are available via a Google Drive that has been shared with Mary Packbush and the participating teachers. Use this link to access the drive:
https://drive.google.com/drive/u/0/folders/0By3auy3oW9PUV2ZWOXpKSVdaQnM

Water Filtration Facility Tour
Tour the Outback Treatment site to learn how water is treated before reaching our taps.

Wastewaters New Life
Visit the Wastewater Reclamation Facility and adjacent Hatfield Ponds to observe the cleaning process, learn about the organisms that clean water and see where the treated water is released back to the natural world to create a rich wildlife habitat.

Watersheds and Water Users
In this lesson, students take a virtual tour of the watershed, learn about Bend's dual source water system, identify ways they connect with water and learn the various ways that our community uses water and how those uses impact the whole community.

Ins and Outs of Water
Students participate in a tour of the school grounds to learn how water gets into and out of our schools, including customer pre-treatment and sewer systems. They look at water and sewer lines on city maps to gain an understanding of the city infrastructure needed to provide and manage water.

Sewer Studies
Students learn what happens to wastewater once it leaves our schools, homes and businesses and enters the City's sewage system. They learn what can and cannot go down the drains and toilets and how water is treated at the reclamation facility before being released back into the environment.

Stormwater QUEST
Students and parent chaperones solve a puzzle as they visit locations along the Deschutes River in Farewell Bend and River Bend Parks to learn about Stormwater and City infrastructure to minimize the impact of Stormwater on the Deschutes River.

Be Water Wise
Students generate reasons to conserve water based on what they learned during the series and identify and commit to conservation methods both inside and outside the home.

Performance Measures

Students contacted

Total student contacts (this does not count adult chaperones): 1,856

Sun and Snow Ladies Study Group
- 13 students

St. Francis of Assisi Catholic School
- 147 student contacts
- 49 individual students (each had 3 lessons)

Ponderosa Lego League
- 5 students

Cascade Middle School
- 736 student contacts
- 184 individual students (each had 4 lessons)

Pilot Butte Middle School
- 895 student contacts
- 179 individual students (each had 5 lessons)

Homeschool Group
- 60 student contacts
- 15 individual students (each had 5 lessons)

Presentations provided

Total Presentations delivered: 70
- Sun and snow ladies group 1
- St. Francis School 6
- Ponderosa Lego League 1
- Cascade Middle School 32
- Pilot Butte Middle School 25
- Homeschool group 5

Classes reached

- Number of classes reached: 18
- 16 classes for full or abbreviated programs
- 2 classes for single lessons

Materials distributed:

Indoor conservation brochure	391
Outdoor conservation brochure	391
Conservation kits	115
Goody bags (funnels, grease lids, grease scrapers, stickers)	115
Reign of Terror comic book	60
Stormwater Student workbook:	50
Sewer dos and don'ts brochure	427
Water Filtration Facility brochure	15

% of students involved in the program who can trace the water path from source to treatment.

- On the pretest, 56% of survey respondents could identify that Bend has a dual water source. On the post test, the percentage increased to 74%.
- On the pre-test 76% of survey respondents could correctly summarize the process by which city water gets to our taps. This increased to 84% on the post test.
- On the pre-test, 73% of survey respondents accurately identified that a City utility bill includes sewage treatment, Stormwater treatment, pre-customer water treatment and yard irrigation water. This response increased to 82% on the post-test.
- On the pretest, 82% of respondents accurately identified that wastewater goes down a drain or toilet goes to the water reclamation facility via sewer pipes. By the post test, accurate responses increased to 90%.
- On the pretest, 52% of respondents accurately noted that bio-solids are recycled as compost on crops. Correct responses increased to 72% on the post test.

% of students who identify with one or more conservation strategy.

- On the pre-test, 61% of survey respondents could identify that water conservation is important for the City of Bend because it prolongs current water supplies, reduces energy consumption and saves money for customers. This increased to 75% on the post test.
- Student's added classic conservation strategies to an open ended survey question. Strategies were appropriate for middle school students and include: take shorter showers (far and away the most common answer), use a toilet tank water displacer, shower less often, turn off the water when not in use, fix leaks, install low flow shower heads and aerators, water outside plants less, run full loads of laundry and dishwasher, use the public pool vs. home pools.

Evaluation of the program:

Teacher feedback of the water education program:

Teachers who participated were sent an evaluative survey upon completion of the program. Five of eight participating teachers provided feedback via the survey; here is a summary of their feedback:

- All the teachers who completed the survey noted that the presenter's interactions with students, knowledge of content, ability to present the content clearly and ease of scheduling was highly effective.
- Teachers were satisfied with the age appropriateness and enjoyment of the lessons, hands on elements, quality of educational materials, connections to their required curriculum and standards and the overall effectiveness of the program.
- All teachers surveyed said that they would have their students participate in the program again.
- When asked about additional content that they would like to see included, teachers suggested adding the stormwater QUEST and a tour of the reclamation plant. (Not all groups signed up for these options; reclamation tours were limited.)
- Teachers said that as a result of the program, their students can successfully trace the path of water from its source, to use, and finally to treatment. They can also demonstrate or encourage water conservation behaviors. None of the respondents agreed that their students have shown any additional interest in water science or careers related to water.
- As a result of the program, teachers learned how to better share water reclamation and stormwater information with their students, what not to put down their drains, and the possibility of treating reclaimed water to be drinking water in the future.

Successes:

- The program reached more classes than expected. The contract set a goal of 15 classes but we reached 18 classes.

- All 8th grade students at Pilot Butte Middle School participated in the program. The material feels more appropriate for grade 8 than any of the younger grades that were reached this year.

- Pilot Butte Middle School used the PNWCWA grant to pay for subs and busses for their trips to the WRF. The East Cascades Audubon Society supplied volunteers, who were passionate about the wildlife habitat created at Hatfield Ponds and excited to work with middle school students.

- The program was modified for the homeschool group and delivered at The Environmental Center. The participating families were pleased with the program, but would have preferred more field trips like a trip to the intake and the stormwater QUEST.

- The tour of the Outback WFF tour was great! The City has created a really nice brochure and is well prepared to conduct tours in the future. The tour stops and headsets are effective instructional tools. Touring the facility ahead of time with Environmental Center staff was nice, too.

- Having access to the stormwater model for Pilot Butte and the homeschool group was great! Students really get the big picture of stormwater and its connection to groundwater when able to visualize it with the model.

- City Utility staff participation in the SUSTAIN Central Oregon events during April was an unanticipated but positive outcome. Adults are a unique audience!

- Using Survey Monkey allowed us to receive 300 plus responses to the pre and post program assessment and analyze the results quickly. Survey Monkey was also used to gather feedback from participating teachers.

- Same as last year, please keep the following documents available for future lessons:
  - City Edition: History of Surface Rights in Bend. https://www.youtube.com/watch?v=JKJV-QPBCmk
  - Bend's Wastewater history: http://bendoregon.gov/modules/showdocument.aspx?documentid=15999
  - Residential Sewer Pipe awareness brochure: http://www.bend.or.us/modules/showdocument.aspx?documentid=6785
  - Water Reclamation Facility Virtual Tour: http://www.bend.or.us/index.aspx?page=201
  - Introduction to Wastewater treatment http://www.bend.or.us/index.aspx?page=201
  - Water conservation brochures: indoors and outdoors

Challenges:

- Due to new boundaries, the number of students at Cascade Middle School was smaller than expected, which limited our total number of contacts. We expected approximately 30 students per class, but the average class size was 23.

- The Stormwater QUEST for Cascade Middle School had to be cancelled because the Millpoint Bridge was inaccessible due to construction. This also limited the total number of student contacts.

- The class periods at Pilot Butte and Cascade are only 47 minutes. Since the lessons are designed for 55 minute classes, the lessons felt rushed and some content was skimmed over.

- Upper elementary classes are interested in the program, but they are not old enough to visit the WRF.

- High school teachers still don't feel that the program works for their classes. The teachers worry about students missing other classes or sports to attend field trips.
- Knowing ahead of time that the City had developed tour materials for the WFF would have been helpful for planning and prepping students for the tour.
- Students at Pilot Butte did the Living Wise Curriculum in grade 6 and received a box with conservation items. So, many of them chose not to take a water conservation kit via the water education program.

Suggestions for next year, improvements:

- Some schools would prefer a mini-series that could include a pre lesson, field trip and a follow up lesson. This may be more appropriate for schools and would allow the program to reach more schools. Scheduling five lessons is a big commitment for a middle school and near impossible for a high school.
- Interested teachers, including those who have already hosted the program in their classrooms, could be trained to deliver the lessons themselves (with support from TEC staff) to expand our reach and increase student contacts. Trained teachers could deliver the in-class lessons and the contracted educator could support them by coordinating and delivering the field trips to WRF and WFF.
- Teachers may be more open to coaching to delivering field trips or lessons on their own than having a guest teacher. In April, 2016 Kirin coached the 7th grade science teachers from Seven Peaks School to deliver the stormwater QUEST to their students. Student numbers are not included in the report, but two additional classes of students were able to participate in the QUEST and now two more teachers know about the water program.
- In the past, The Environmental Center included a water conservation lesson in the EarthSmart Program for grades 4 and 5. The lesson could be listed in Our Water System: A Journey through Bend as an option for elementary school and could potentially reach about 20 classes or 500 additional students. The lesson would be a neat way to share some background on City water and simple conservation measures with younger students.

Photo Gallery:



East Cascades Audubon Society volunteers were fabulous! Their passion for birds and their willingness to work with the students was a valuable addition to the program.



Pilot Butte students react to bio-solids during a tour of the WRF.





Homeschool families were able to visit the Outback WFF and enjoy a well-planned tour that included headsets and a labeled diagram of the plant.



Pilot Butte students reflect on the connections between human and natural systems at Hatfield Ponds.





WRF staff did a fantastic job with the tours! Visual displays helped clarify the reclamation process and the staff connected well with the students.

Additional photos from this year's program are in a file on the Google Drive.

YEAR-ROUND SCREENINGS & EDUCATION ACCOMPLISHMENTS

We set ambitious goals last year to hire a programmer, host more monthly screenings, and expand our educational programs. Here are the results:

- With help from a Meyer Memorial Trust Grant, we hired experienced Programmer Mimi Brody to program the 2016 Festival. **Mimi and our screening committee put together one of our most high-profile programs yet.** You will definitely hear about these films in the upcoming year as they hit theaters and VOD platforms.

- We hosted several successful events throughout the year in conjunction with other great organizations. Here are some highlights:

WORLDMUSE

With WorldMUSE, we hosted a sold-out screening of "Girl Rising." "Girl Rising" spotlights the unforgettable stories of nine girls living in the developing world, striving beyond circumstance, and overcoming nearly insurmountable odds to achieve their dreams.

SOURCE WEEKLY

Working with the Source, we were honored to host a 30th anniversary screening of **"The Breakfast Club" with the film's legendary cinematographer and Bend resident, Thomas Del Ruth.**



Photo by Todd Looby

To celebrate the 50th anniversary of the Wilderness Act, we hosted a sellout screening of two excellent films that celebrate the wild, "Only the Essential," about walking the PCT, and "The Meaning of Wild," which takes us through the wonders of Alaska's Tongass National Forest.

MOMENTUM

Most recently, we partnered with Cascades Academy and Moementum, Inc. to host a screening of the Sundance Documentary, "The Mask You Live In," which was followed by a great discussion about how the issues in the film affect our community.

CASCADES ACADEMY



Photo by Todd Looby

- **Our educational programs are growing fabulously:**



Photo by Tina Ellis

Longtime BendFilm supporter and Highland teacher, Alicia Vickery, took the helm as Future Filmmakers' (FF) coordinator. Alicia ran one of our best FF editions and will take this program to the next level.

BendFilm recruited filmmaker Brittany Reeber to be an official Caldera Artist in Residence this winter. In addition to working on her next project, Brittany will teach filmmaking to Caldera students on weekends during her residency. (See Sponsor Spotlight for more on Caldera)



Photo by Tina Ellis

BendFilm partnered with Scalehouse to host a 72-hour Filmmaker Scramble.

In June, seven teams of all ages received a crash course in shoestring-budget filmmaking from Todd Looby and local filmmaker, Wes Coughlin, and then set out to make no budget short films in only three days. BendFilm and Scalehouse co-hosted the outdoor screening of these films where both the audience and jury gave top awards to Max Reisfar's "First World Wonders."

SCALE HOUSE CREATIVE CENTER



Photo by Workhouse

BASE CAMP STUDIO

BendFilm teamed up with Base Camp Studio for their 5x5 Challenge where five teams of artists painted pieces all based on the same, five Festival films. The resulting art was displayed at the BendFilm Hub and Venues and sold to benefit Base Camp's programs. BendFilm Future Filmmaker Mackenzie Hice helped shoot the event documentary, which can be seen here.

www.basecampstudio.org/2013/events-2015



Photo by Steven Addington

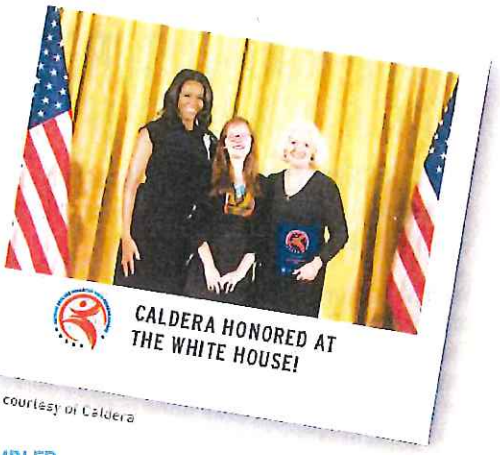
In 2016, we plan on teaching filmmaking in area schools and starting a BendFilm lecture series to deepen our community's appreciation of the art of cinema.

"IT WAS A BLAST AND I HAD SO MANY GREAT INTERACTIONS WITH PEOPLE FROM BEND WHO SAW 'FRAME BY FRAME'. I'M PRETTY SURE I'VE NEVER GOTTEN SO MANY PEOPLE WALKING UP TO ME ON THE STREET TO TALK ABOUT THE FILM. IT WAS WONDERFUL. WAY TO KICK ASS AND BRING PEOPLE TOGETHER AROUND FILM.

– ALEXANDRIA BOMBACH, CO-DIRECTOR OF "FRAME BY FRAME"

SPONSOR SPOTLIGHT

BendFilm wants to congratulate longtime Sponsor and collaborator Caldera Arts for being one of 12 creative youth development organizations to receive a 2015 National Arts and Humanities Youth Program (NAHYP) Award from First Lady Michelle Obama at a White House Award Ceremony on November 17, 2015. Oregon is fortunate to have such a great organization working on behalf of our youth and the arts. We hope to deepen our partnership with Caldera for many more years to come.
Caldera, you inspire us all!



CALDERA HONORED AT THE WHITE HOUSE!

Photo courtesy of Caldera

"...THE THING I'M GLAD I WAS ABLE TO EXPERIENCE WERE THE INCREDIBLE PEOPLE WHO MADE THIS FESTIVAL GREAT. FROM DRIVERS WHO SHUTTLED US AROUND TO THE HOSTS WHO TREATED US LIKE FAMILY IN THEIR HOMES...TO THE INCREDIBLE TEAM WHO ASSEMBLED THEM AND MADE SURE THEY WERE SO WELL TAKEN CARE OF. I'VE NEVER FELT MORE FORTUNATE TO CALL MYSELF PART OF A GROUP. I WILL HENCEFORTH MAKE FILMS WITH THE SOLE INTENTION OF RETURNING TO THE BENDFILM FESTIVAL."

– TOM SVEEN, DIRECTOR OF "SMUT"

THANK YOU 2015 SPONSORS

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KPOV
Let It Ride Bicycles
NW FilmCenter
ShiftBoard
Steven Addington Photography
Tina Ellis Photography
Saginaw Sunset
Sweet Saigon / Pho Viet & Cafe
The Wilds

"YOU GUYS MADE A PERFECT FESTIVAL, ONE THAT MANAGED TO HAVE A REALLY STRONG LINE UP OF FILMS, AN INCREDIBLE SETTING (AND REALLY UNIQUE VENUES), HAVE PLENTY OF PARTIES TO ENTERTAIN FELLOW FILMMAKERS AND KEPT THINGS SMALL AND CONTAINED (AND I DIDN'T SPEAK ABOUT THE WEATHER). BRAVO!"

– DEIGO ONARGO, DIRECTOR OF "BOB AND THE TREES"

"IT WAS A REALLY LOVELY AND REWARDING EXPERIENCE! [WE WERE] WELL TAKEN CARE OF AND WERE HONORED TO BE PART OF SUCH A GREAT GROUP OF FILMS. PLEASE THANK ALL OF THE VOLUNTEERS, BOARD MEMBERS AND SPONSORS FOR US."

– NICOLE BERNARDI-REIS, PRODUCER, "RADICAL GRACE"

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BendFilm also receives support from the Meyer Memorial Trust