CITY OF GRESHAM

1333 N.W. Eastman Parkway | Gresham, OR 97030

October 31, 2016

Mark Riedel-Bash, Municipal Stormwater Permit Coordinator
Environmental Solutions Division
Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, Oregon 97204-1390

RE: Gresham/Fairview NPDES Stormwater Permit #101315
Permit Year 21, 2016 Annual Report

Dear Mr. Riedel-Bash:

I am pleased to submit a copy of the twentieth-first National Pollutant Discharge Elimination System (NPDES) Annual Report for the City of Gresham, and the City of Fairview, under Permit No. 101315, File No. 108013, expiration date December 29, 2015.

As required in Schedule B. 5. A. through B.5. j., the report contains a summary of the environmental monitoring program and raw data that is applicable for Gresham and Fairview, and a section that describes each city's implementation of its respective stormwater management plan. The goals of the annual report are to: 1) document progress on the implementation of best management practices for pollution prevention, reduction and removal; 2) evaluate program results for continuous improvement; and 3) share this information with municipal decision makers and the public.

If you have any questions regarding this report or would like an additional copy, please contact Keri Handaly at (503) 618-2657. For questions specific to the City of Fairview's activities, please contact Allan Berry at (503) 674-6235.

Sincerely,

Keri M. Handaly
NPDES MS4 Permit Coordinator
Department of Environmental Services

cc: Allan Berry, City of Fairview
Steve Fancher, Department of Environmental Services Director
Enclosures: (1) hard copy
(1) cd Rom

National Pollutant Discharge Elimination System
Permit No. 101315
EPA Reference No. ORS108013
Permit Year 21 Annual Report
City of Gresham and City of Fairview

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

Steve Fancher
Director, Department of Environmental Services
City of Gresham

Allan Berry
Director, Public Works
City of Fairview

For additional information regarding this report, please contact:

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Gresham, OR 97030
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Preface

The Cities of Gresham and Fairview submit this report in accordance with requirements of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit # 101315. This report is intended to provide a brief summary of the activities conducted by these agencies to prevent the entry of pollutants into their stormwater, and surface water conveyance systems.

This report has four major sections. Section 1, Overview, provides the historical background, location of required elements within the report, and a description of Gresham and Co-permittee's watersheds. Section 2, Environmental Monitoring Program, is the summary of the City of Gresham's data collection efforts conducted on behalf of the Co-permittees and has an associated Appendices and Sections 3 through 4 consist of the Stormwater Management Plan (SWMP) implementation status reports for the City of Gresham and the City of Fairview, respectively. Additional supporting documentation for Section 3 is provided in Appendices.

Section One--Overview of Required Elements

A. History

In accordance with Clean Water Act (CWA) requirements, the Oregon Department of Environmental Quality (DEQ) issued a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer (MS4) Permit on September 7, 1995 to the City of Gresham and co-permittees: the City of Fairview, Multnomah County, and the Oregon Department of Transportation. This permit (101315) expired on August 31, 2000. The Oregon Department of Transportation (ODOT) sought separation from their multiple joint NPDES MS4 permits and obtained approval from DEQ to implement their own statewide permit.

The Cities of Gresham and Fairview, and Multnomah County submitted a permit renewal package (for the period September 1, 2000 through August 31, 2005) as co-permittees to DEQ in March 2000. Gresham submitted an update to its portion of that package in December 2001. On March 1, 2004, DEQ issued a renewed permit. However, several interest groups requested a petition for reconsideration on the renewed permit. On May 17, 2004, DEQ granted this request and a revised permit was reissued by DEQ on July 28, 2005, subsequently followed by submittal and approval of an updated Stormwater Monitoring Plan and Stormwater Management Plans (SWMP) for Gresham and co-permittees. These documents were approved by DEQ in July 2006 (PY 12).

On August 1, 2008, Gresham and Co-permittees submitted a permit renewal package that included the required elements as stated in Schedule B 2) c) of the permit, including an updated joint Monitoring Plan and individual Stormwater Management Plans.

On December 12, 2010 DEQ issued a renewed permit with the City of Gresham and the City of Fairview as Co-Permittees and issued a separate renewed permit to Multnomah County. DEQ authorized permittees to make minor changes to their SWMPs in order to be consistent with the final permit language by April 1, 2011. This annual report is based upon the City of Gresham and Fairview's respective final SWMPs dated April 1, 2011.

B. Reporting Requirements

This section summarizes the requirements for the annual report as described in Schedule B 5) Reporting Requirements of the permit and provides a reference to the location of each element within this report. As noted in the permit, this Annual report is provided to DEQ by November 1 of each year in electronic and hard copy format and is also posted on Gresham's website and cross-linked from the City of Fairview's website.

SWMP Implementation Status

The status of the SWMP best management practices implementation and measurable goals for Gresham and Fairview is described in **Section 2** Environmental Monitoring Program and in **Sections 3** and **4**, respectively.

Proposed Changes, Adaptive Management & New BMPs

The detailed description of the adaptive management process was submitted with the permit year 16 annual report which is available on the City's website at www.greshamoregon.gov/watershed in the stormwater documents section. For purposes of brevity, the ongoing annual review process consists of data intake from various staff who are responsible for the implementation of a particular best management practice (BMP). Factors examined as part of the data intake process include but are not limited to:

*Was the BMP measurable goal attained? If not, why? How will progress be made towards future attainment?

*For multi-year BMPs, were milestones or timelines met?

*Does the BMP need to be refined or improved?

*Are staffing/financial resources available to support such a BMP improvement or refinement?

Proposed changes, adaptive management or addition of BMPs for Gresham and Fairview, if applicable, are described in **Section 2** Environmental Monitoring Program and in **Sections 3**, and **4**, respectively.

Summary of Fiscal Year Expenditures and Projected Annual Budgets

Previous and projected budgets for Gresham are included in **Table 3-10** and in **Section 4** for Fairview.

Summary of Monitoring Program Results/Data

Gresham and Fairview's monitoring data and summary of assessments or evaluations and any proposed changes to the monitoring plan are reported in **Section 2 Environmental Monitoring Program** and its subsequent **Appendices.**

Summary of Inspections & Enforcement, Public Education Programs, and Dry Weather Screening

These annual reporting program components as described in Gresham and Fairview's approved SWMPs and are reported in **Sections 3, and 4,** respectively.

Overview of Urban Growth Boundary (UGB) Expansion Areas

A summary of activities that apply for the City of Gresham is included in **Appendix B**: UGB Summary. This requirement does not apply to the City of Fairview whose permitted area does not contain any UGB expansion area.

Legal Authority

See **Appendix A**: Adequate Legal Authority for documentation of legal authority for the Cities of Gresham and Fairview.

Permit Boundary and Map of Major Watersheds

On the following page **Figure 1-1** depicts the permit boundary and a map of the major watersheds within the permit area.

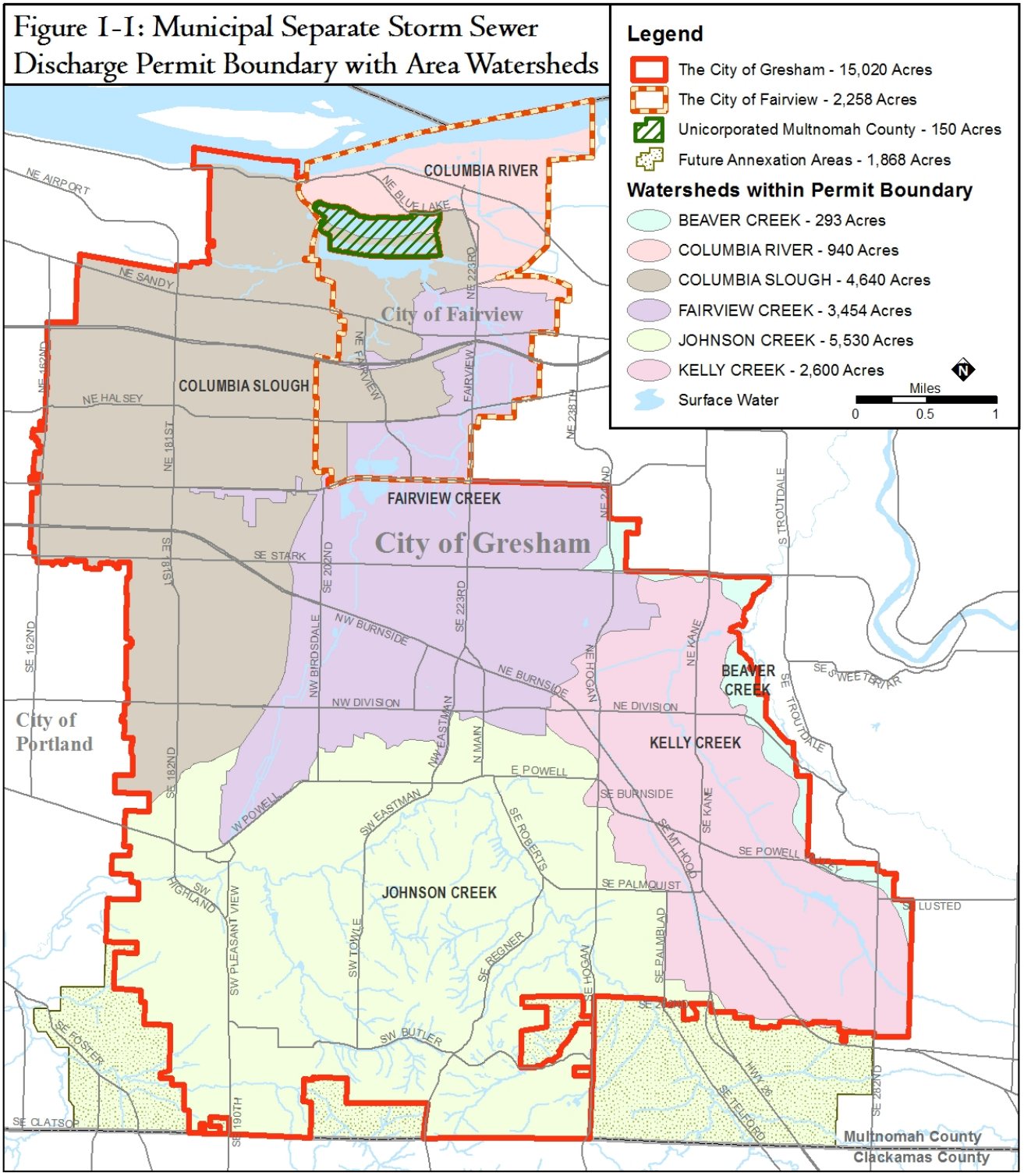


Figure 1-1: Municipal Separate Storm Sewer Discharge Permit Boundary with Area Watersheds
Legend
The City of Gresham - 15,020 Acres
The City of Fairview - 2,258 Acres
Unicorporated Multnomah County - 150 Acres
Future Annexation Areas - 1,868 Acres
Watersheds within Permit Boundary
BEAVER CREEK - 293 Acres
COLUMBIA RIVER - 940 Acres
COLUMBIA SLOUGH - 4,640 Acres
FAIRVIEW CREEK - 3,454 Acres
JOHNSON CREEK - 5,530 Acres
KELLY CREEK - 2,600 Acres
Surface Water
Miles
0
0.5
1
COLUMBIA RIVER
City of Fairview
COLUMBIA SLOUGH
FAIRVIEW CREEK
City of Gresham
BEAVER CREEK
KELLY CREEK
JOHNSON CREEK
City of Portland
Multnomah County
Clackamas County
NE AIRPORT
NE BLUE LAKE
NE SANDY
NE HALSEY
NE 223RD
NE FAIRVIEW
NE 238TH
NE 181ST
SE 181ST
SE 162ND
SE 182ND
SE 202ND
SE 223RD
SE STARK
NW BURNSIDE
NE BURNSIDE
NW BIRDSDALE
NW DIVISION
NE DIVISION
NW EASTMAN
N MAIN
NE HOGAN
NE KANE
S TROUTDALE
SE TROUTDALE
SE SWEETBRIAR
E POWELL
W POWELL
SE BURNSIDE
SE KANE
SE MT HOOD
SE POWELL
SE ROBERTS
SW EASTMAN
SE PALMQUIST
SE LUSTED
SW HIGHLAND
SW PLEASANT VIEW
SW TOWLE
SE REGNER
SE PALMBLAD
SW BUTLER
SE FOSTER
SE CLATSOP
SE 190TH
HWY 26
SE TELFORD
SE 282ND

Section Two:
Cities of Gresham & Fairview Environmental Monitoring Program Annual Report

A. History

Background

The data reported in this PY 21 Annual Report reflects the Cities of Gresham and Fairview's implementation of the Environmental Monitoring Plan that was approved by DEQ and became effective July 1, 2011. The City of Gresham collects data for Multnomah County under an Interjurisdictional Agreement and that data is included in this report.

B. Required Elements

This section of the Annual Compliance Report summarize the Environmental Monitoring Plan implementation and permit requirements contained in Schedule B. As described in the City of Gresham and Fairview's NPDES Permit, Schedule B) 5., the annual report must include:

f. A summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year and/or assessments or evaluations.

g. Any proposed modifications to the monitoring plan that are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments.

The environmental monitoring requirements specified in Table B-1 of the NPDES permit are summarize below in **Table 1**. Elements required by the permit are *italicized* text.

Table 1. Environmental Monitoring Requirements Summary

Monitoring Type	Monitoring Location(s)	Monitoring Frequency	Pollutant Parameter Analyte(s)	Notes
Instream Monitoring	*Three (3) sites in the Columbia Slough basin:* 1. Fairview Lake @ Lake Shore Park (FVL1) 2. Fairview Creek @ mobile estates (FCI0) 3. Fairview Creek @ Stark (FCI1) *Two (2) sites in the Sandy River basin:* 1. Kelly Creek @ Mt. Hood Community College Pond (KCI1) 2. Kelly Creek @ Detention Pond (KCI4) *Four (4) sites in the Johnson Creek subbasin:* 1. Johnson Creek @ Jenne Rd (JCI1) 2. Johnson Creek @ Palmblad (JCI2) 3. Kelley Creek @ Pleasant Valley Grange (KI1) 4. Kelley Creek @ Rodlun Rd (KI2)	*Four (4) events/year*	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS, Chlorophyll-a (May-Oct); nutrients (nitrate, ammonia, Total P, o-Phos); Total recoverable and dissolved metals (copper, lead and zinc); legacy pesticides (JC only)*	The City of Portland collects data on the entire Columbia Slough, but based on their probabilistic sampling design, locations monitored any permit year will be reported to DEQ by Portland.
Continuous Instream Monitoring	*Two (2) continuous monitoring stations:* 1. Johnson Creek @ Regner 2. Fairview Creek @ Glisan*	*Ongoing* 15-minute interval	*Temperature and flow*	Flow data collected by USGS through Joint Funding Agreement #3225. *Fairview gage does not collect temperature. City of Gresham periodically collects summer temperature at Glisan location, as well as other locations throughout city.
Monitoring Type	**Monitoring Location(s)**	**Monitoring Frequency**	**Pollutant Parameter Analyte(s)**	**Notes**

Stormwater Monitoring - Storm Event	*Three (3) sites.* Monitored 30 random and spatially balanced stormwater locations.	*Three (3) events/year* Monitored 1 event at each location	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS; nutrients (nitrate, ammonia, Total P, o-Phos); Total recoverable and dissolved copper, lead and zinc; pesticides*	The permit requirements as described by Schedule B)2)e)ii) would result in 9 data points annually. The City's approved monitoring approach results in 30 data points.
Macro-Invertebrate Monitoring	*One (1) site in the Columbia Slough basin:* 1. Fairview Creek @ mobile estates (FCI0) 2. Fairview Creek @ Stark (FCI1) *One (1) site in the Sandy River basin:* 1. Kelly Creek @ Mt. Hood Community College Pond (KCI1) 2. Kelly Creek @ Detention Pond (KCI4) *Two (2) sites in the Johnson Creek subbasin:* 1. Johnson Creek @ Jenne Rd (JCI1) 2. Johnson Creek @ Palmblad (JCI2) 3. Kelley Creek @ Pleasant Valley Grange (KI1) 4. Kelley Creek @ Rodlun Rd (KI2)	One (1) event/year during summer/low flow conditions	*Macroinvertebrates*	Collected during same week as instream water quality data collection occurred in summer.
Structural BMP Monitoring	*One (1) site - two (2) inlets and one (1) outlet:* 1. Columbia Slough Water Quality Facility (CSWQF-1, CSWQF-2 and CSWQF-3)	*Two (2) events/year*	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS; nutrients (nitrate, ammonia, Total P, o-Phos); Total recoverable and dissolved metals (copper, lead and zinc)*	

C. Summary of Monitoring Program Results

The data collected in PY 21 are provided in Appendix A of the monitoring report. The in-stream data have been compared to the relevant DEQ water quality criteria. Values that do not meet the water quality standards are highlighted. Data from Stormwater (wet weather sampling) and Structural BMP Monitoring have not been compared to water quality standards because of the mixing that occurs in-stream. Sampling locations are shown in Appendix B and C.

Dry weather screening is discussed in Section 3 BMP: ILL 2&3 Illicit Discharge Detection and Elimination: Field Screening and Investigation and the locations and data is listed in Table 3-5.

Instream Monitoring

Instream monitoring results are generally within expected ranges (Site locations Appendix B). Stream pH was slightly below the standard of 6.5 in several streams in the winter and spring, and slightly above the 8.5 standard at one site in the summer. The low pH values were associated with rain events. Rainwater often has a low pH and likely contributed to these values. Stream temperature was above the 18°C salmon rearing standard in most streams in the summer.

Beaver Creek had total mercury levels above the chronic aquatic life criterion during a storm event. Multiple streams exceeded the chronic aquatic life criteria for total mercury, total copper, and total lead. These exceedances were associated with the same large winter storm event that affected the mercury level in Beaver Creek. Two streams exceeded the acute aquatic life criterion for total zinc during storm events. On a couple occasions, the level of DDT exceeded the TMDL at the upstream Johnson Creek location, where it enters the City from the upstream agricultural area. Continuing detections of legacy pesticides such as DDT is one reason that the City focuses on erosion prevention and control to protect streams.

Many sites had periodic exceedances of the 406 colony forming units (CFU/100ml) E. coli standard. Levels tended to be higher during rain events. There was one site (FCI1) where E. coli levels were very high during a dry time. Through field investigation and molecular source tracking, the source was identified as dog feces from properties that abutted the creek. We contacted the source properties highlighting proper disposal techniques and have since seen a reduction in E. coli levels.

Continuous Instream Monitoring

The City of Gresham collected continuous instream temperature data at several sites within the city and collaborated with other jurisdictions to collect data at several sites upstream and downstream of the city. Together with USGS, Multnomah County, and East Multnomah Soil and Water Conservation District, continuous temperature data was collected at 47 stream sites. A summary of the number of days that the maximum daily temperature at each continuous temperature monitoring station exceeded the salmon rearing temperature standard (18°C), as well as the highest temperature reached at each station is included in the Appendix A.

The summer of 2015 was the warmest summer on record, and this was reflected in the stream temperatures. Very few sites had no exceedances (highlighted in blue), while most streams had sites where the 7-day average of the daily maximum (7DADM) was >18°C for 100 days or more (highlighted in red). Paired sites that were upstream and downstream of inline ponds showed temperature increases of 4-9°C during the heat of the summer. The City is aware of the impact in-line ponds can have on temperature. As such, Fujitsu Pond is a highly ranked Natural Resource CIP project, and the City is also studying ways to reduce temperature loading from public and private ponds on Butler and Hogan Creeks.

Stormwater Monitoring

Site locations are shown in Appendix C of the monitoring report. Similar to previous years, stormwater monitoring data revealed that higher traffic sites (>1000 vehicle trips per day) have higher pollutant concentrations for most pollutants (e.g. TSS, total and dissolved metals, nutrients, phthalates, and pesticides) in comparison to residential streets (<1000 trips/day). There was one instance of very high E. coli level (>24,000 MPN). High bacteria counts are commonly associated with low flows because the bailer may accidentally touch the side of the outlet pipe while collecting trickling water, which can dislodge bacteria films. Biofilms in stormwater pipes have been shown to be significant sources of E. coli, but have not been shown to be related to human illness-causing pathogens1. Our hypothesis is that biofilms were scraped off the pipes at this site, leading to a high E. coli measurement.

One site (3149-W-016) in the Fairview basin had very high turbidity (1726 NTU) and some moderately high levels of some other pollutants (see Stormwater data table in Appendix A). This site was in the driveway of a mining company where trucks were actively pulling in and out. An operational agreement was developed for the adjacent gravel quarry, which is being used as the basis for an operational agreement that will be reached with the company impacting that immediate stretch of road. The agreement will be finalized in PY22.

The third sampling event was in April after a period of warm weather. During that event, high levels BOD, nitrogen, and phosophorus were detected. Levels of the herbicide 2,4-D (typically found in lawn weed and feed products) were above the City's WPCF permit groundwater action level. All of these pollutants are likely associated with lawn maintainance activities such as fertilizer and herbicide use that commonly occurs in spring. The 2,4-D action level is below any drinking water or aquatic life benchmarks. At this level, this pesticide has the possibility of reaching ground water at an amount that is still measurable. In this case, the individual UICs where 2,4-D was detected had sufficient vertical separation so that this herbicide would not be detectable in the ground water.

[1]Kolb & Roberts. 2009. Further Understanding of the Bacterial Dynamic, Lessos from Microbial Source Tracking. Presentation from Weston Solutions for the "Think Blue San Diego" Program. San Diego, California. [2]Skinner, Kappeler, Guzman, 2010. Regrowth of enterococci and coliform in biofilm. *Stormwater* , Santa Barbara, California. [3]Urban Water Resources Research Council. 2014. Pathogens in Urban Stormwater Systems Technical Report. Eds. Clary, Pitt, Steets.

Structural BMP Monitoring

Structural BMP monitoring during PY21 included monitoring inlet and outlet locations at the Columbia Slough Water Quality Facility. This was the fifth year monitoring at this facility. Removal efficiency of suspended solids, nutrients, and metals has generally improved over time. However, in PY21 the facility appeared to be functioning at a less effective level. Staff are investigating reasons for the decreased performance. In PY22, we will continue to monitor this site and add additional monitoring points throughout the facility to determine how different portions are functioning. Our designs of new structural BMPs will take into account this information on pollutant removal.

Macroinvertebrate Sampling

Macroinvertebrates were collected at all of the instream monitoring locations, except Fairview Lake (see Macroinvertebrate data table in Appendix A). Results are similar to previous years, with the Kelley Creek location (KI2) showing the least amount of impairment (i.e., the greatest abundance and highest number of sensitive species). This site is predominantly surrounded by an undeveloped forested area. All of the other locations have biological communities that indicate moderate or severe impairment according to the statewide Benthic Index of Biological Integrity (B-IBI). Data trends will be assessed on a five-year basis as described in the Environmental Monitoring Plan.

D. Adaptive Management

No adaptive management changes are proposed. On July 1, 2016 staff began implementing the adaptive management changes to the monitoring plan that were outlined in the PY20 annual report.

Cities of Gresham and Fairview
Environmental Monitoring Program Appendices A, B, & C

Prepared by:
City of Gresham, Department of Environmental Services
Water Resources Division

Appendix A—Gresham and Fairview Program Raw Data

-Monitoring Site Locations & Criteria
-Instream-Longterm Trend Sampling Data
-Temperature Sampling Data
-Stormwater Sampling Data
-BMP Sampling Data
-Macroinvertebrate Sampling Data

Table 1: Water Quality Monitoring Site Locations & Criteria

Instream-Longterm & Macroinvertebrate Site Locations	
FCI0	Fairview Creek @ West of Blue Lake Rd in Trailer Park
FCI1	Fairview Creek @ Conifer Park Subdivision, N of Stark
FVL1	Fairview Lake @ Public Dock on NE 217th
JCI1	Johnson Creek @ 174th Ave (Jenne Rd)
JCI2	Johnson Creek @ 252nd Ave. (Palmblad)
KI1	Kelley Creek @ Foster Rd. (tributary of JC)
KI2	Kelley Creek @ Rodlun Rd (tributary of JC)
KCI1	Kelly Creek @ Mt. Hood Community College Pond Outflow
KCI3	Kelly Creek @ Detention Pond Outflow
KCI4	Kelly Creek @ Detention Pond Inflow
BCI1	Beaver Creek @ Lower Bridge (Monitored on behalf of Multnomah County, not shown on Gresham Map of Instream Sites)
BCI2	Beaver Creek @ Division X Troutdale Rd. (Monitored on behalf of Multnomah County, not shown on Gresham Map of Instream Sites)

Structural BMP Evaluation Monitoring Locations	
CSWQF-1	Columbia Slough Water Quality Facility - Stormdrain Creek
CSWQF-2	Columbia Slough Water Quality Facility - East Inlet
CSWQF-3	Columbia Slough Water Quality Facility - Outlet

Analysis Coding for the Reported Data

Bold = < than detection value or an Estimated value for bacteria

NA = constituents not sampled due to equipment failure or other extenuating circumstance

NM= not measured

ND= not detected

MRL = method reporting limits are included at the top of each data set where they are constant. For parameters were no MRL is included, this means they vary by sample.

Dup = Duplicate Sample

FD = Field Duplicate Sample

Blank = Deionized Water Sample

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)

Acute exceedance of metal (Table 30)

TMDL Constituent	Water Quality Criteria
Fairview Creek & Lake	
Temperature	No designated salmon and steelhead spawning use. Rearing: 18 degrees Celsius
E. coli	406 organisms/100mL (OAR 340-41)
Phosphorus	0.1549 mg/L (Columbia Slough 1998 TMDL)
Mercury	Aquatic life: 2.4 ug/L acute; 0.012 ug/L chronic. MCL: 2 ug/L
Johnson Creek (including Kelley Creek trib)	
Temperature	Spawning: 13 degrees Celsius (55.4 F) - October 15 to May 15. Rearing: 18 degrees Celsius
E. coli	406 organisms/100mL (OAR 340-41)
PCBs	Acute 2.0 ug/L, Chronic 0.014 ug/L (per Table 30)
PAHs	Not included in Table 40 or 41. Table 30 only lists saltwater acute level of 300 ug/L
Dieldrin	Acute 0.24 ug/L, Chronic 0.056 ug/L (per Table 30)
DDT	Acute 1.1 ug/L, Chronic 0.001 ug/L (per Table 30)
Mercury	Acute 2.4 ug/L, Chronic 0.012 ug/L (per Table 30)
Kelly Creek	
Temperature	Spawning: 13 degrees Celsius (55.4 F) - October 15 to May 15. Rearing: 18 degrees Celsius
E. coli	406 organisms/100mL (OAR 340-41)
Columbia Slough	
Temperature	No designated salmon and steelhead spawning use. Rearing: 18 degrees Celsius
E. coli	406 organisms/100mL (OAR 340-41)
pH	between pH 6.5 - 8.5
DO	No spawning
	6.5 mg/L: cool-water aquatic life (avg)

	4.0 mg/L: absolute minimum (Columbia Slough TMDL)
	5.5 mg/L: warm-water aquatic life
Phosphorus	0.1549 mg/L (Columbia Slough 1998 TMDL)
Chlorophyll-*a*	0.015 mg/L
Pb	Based on hardness. Table 30 has formula
PCBs	Acute 2.0 ug/L, Chronic 0.014 ug/L (per Table 30)
Dieldrin	Acute 0.24 ug/L, Chronic 0.056 ug/L (per Table 30)
DDT/DDE	Acute 1.1 ug/L, Chronic 0.001 ug/L (per Table 30)
Dioxins	Fish tissue 0.07 ng/kg (Columbia Slough 1998 TMDL)
Mercury	Acute 2.4 ug/L, Chronic 0.012 ug/L (per Table 30)

Non-TMDL WQ Constituents from OAR 340-41 Table 30	
Metals	Based on hardness, formula in Table 30
pH	Between 6.5-8.5: same for all watersheds in the permit area (OAR 340-41)
DO	Not evaluated, since the criteria are for averages. Cold water aquatic life; spawning: 11 mg/L; nonspawning 8.0 mg/L

Instream-Longterm Trend Sampling

Sample ID	Site ID	Date	Time	24-hr Rainfall inches	Field DO mg/L	Field pH	Field Temp C	Conductivity µS/cm	Turbidity NTUs	BOD5 mg/L SM 5210B	TSS mg/L SM 2540D	NH3-N µg/L EPA 300.0	Chloro-phyll-a mg/M3 SM 10200H	NO3-N µg/L EPA 300.0	O-PO4 mg/L EPA 365.1	TKN µg/L EPA 351.2	Total-P µg/L EPA 365.4	Hardness mg CaCO3/L SM 2340B CAL
										2	2	20	2	100	20	20	30	
W15G172-01	FC!0	7/21/2015	14:59	0.00	4.82	7.92	20.7	138.1	2.55	2	2	29	2	820	119	370	147	86.5
W15G172-02	FC!1	7/21/2015	15:17	0.00	5.46	6.51	16	100.1	1.7	2	2	20	2	2200	82	20	98	67.9
W15G172-03	JC!1	7/21/2015	9:23	0.00	4.37	7.2	21.6	111.7	5.17	2	6	44	14	270	50	710	96	55.5
W15G172-04	JC!2	7/21/2015	11:17	0.00	8.41	7.7	19.4	84.7	6.16	2	6	20	2	800	59	440	79	35.3
W15G172-05	KC!1	7/21/2015	12:57	0.00	5.05	7.61	22.5	164.8	2.65	2	6	26	2	160	34	810	64	83.6
W15G172-06	KC!3	7/21/2015	11:51	0.00	7.72	7.75	19.5	133.1	6.74	3	6	32	7	200	52	1150	80	88.6
W15G172-07	KC!4	7/21/2015	12:11	0.00	3.71	7.35	17.6	66.6	7.08	2	4	153	2	2000	52	790	93	78.4
W15G172-08	KI!1	7/21/2015	10:28	0.00	4.44	6.99	18.7	115.2	5.88	2	2	117	2	1100	220	680	288	72.7
W15G172-09	KI!2	7/21/2015	10:47	0.00	9.65	7.63	15.6	107.1	6.83	2	11	20	2	330	31	310	82	82.7
W15G172-10	BC!1	7/21/2015	13:57	0.00	8.21	8.68	20.9	138.2	1.76	2	2	20	2	1100	80	320	87	88.1
W15G172-11	BC!2	7/21/2015	12:32	0.00	6.86	8.28	21.5	100.2	4.62	2	4	79	4	290	75	990	121	53
W15G172-12	FD-KI!2	7/21/2015	10:47	0.00						2	17	20	2	340	30	220	48	84.3
W15J187-01	FC!0	10/27/2015	14:09	0.00	5.17	8.11	13.5	93.9	2.45	2	2	24	2	500	69	400	79	94.7
W15J187-02	FC!1	10/27/2015	14:28	0.00	7.56	7.4	12.4	94.7	2.47	2	2	20	2	1110	78	210	94	103
W15J187-03	JC!1	10/27/2015	9:22	0.00	9.16	7.27	11.2	39.1	8.2	2	6	23	2	500	58	460	96	34.8
W15J187-04	JC!2	10/27/2015	10:36	0.00	10.53	7.32	9.8	43.7	8.64	2	2	20	2	940	53	470	78	35.4
W15J187-05	KC!1	10/27/2015	12:48	0.00	7.04	6.9	12.7	29.6	9.04	2	4	62	2.4	500	52	610	96	22.5
W15J187-06	KC!3	10/27/2015	11:00	0.00	7.33	7.17	11	40.1	10.1	2	6	49	4	500	38	460	81	38.9
W15J187-07	KC!4	10/27/2015	11:20	0.00	8.88	6.97	10.7	48.7	8.09	2	8	28	2	500	31	420	55	47.41
W15J187-08	KI!1	10/27/2015	9:42	0.00	6.25	6.53	10.5	46.6	8.83	2	4	53	2	500	138	550	195	49.5
W15J187-09	KI!2	10/27/2015	10:06	0.00	11.41	7.45	9.4	66.1	17.3	2	54	20	2	500	37	400	843	86.1
W15J187-10	BC!1	10/27/2015	13:23	0.00	7.19	7.37	11.8	52.7	3.75	2	4	20	2	820	60	410	90	50.6
W15J187-11	BC!2	10/27/2015	11:50	0.00	10.39	7.38	9.6	58.8	5.7	2	4	25	2	1250	88	550	118	49.3
W15J187-12	FD-BC!2	10/27/2015	11:50	0.00						2	2	20	2	1250	87	610	116	50.9
W16A103-01	FC!0	1/28/2016	13:47	0.69	10.88	7.4	9.7	75.4	21.7	2	14	40	NM	990	37	360	93	45
W16A103-02	FC!1	1/28/2016	14:02	0.74	8.55	7.2	10.4	58.6	20.3	2	11	36	NM	780	34	260	70	33.6
W16A103-03	JC!1	1/28/2016	9:04	0.61	12.7	6.6	9.40	37.7	25.7	2	38	47	NM	1500	20	310	80	20.2
W16A103-04	JC!2	1/28/2016	10:38	0.61	12.34	6.47	9.2	38.8	171	2	78	93	NM	1800	28	760	308	21.4
W16A103-05	KC!1	1/28/2016	8:38	0.61	12.5	6.38	9.6	36.4	35.5	2	21	86	NM	660	20	420	100	21
W16A103-06	KC!3	1/28/2016	11:11	0.68	11.89	6.67	9.3	48.3	130	2	50	105	NM	1300	30	580	320	30.7
W16A103-07	KC!4	1/28/2016	11:26	0.68	12.02	6.39	9.6	47.9	105	2	102	89	NM	1100	27	460	274	28.1
W16A103-08	KI!1	1/28/2016	9:29	0.61	11.53	6.15	9.3	42.7	35.1	2	56	80	NM	640	57	590	192	22.3
W16A103-09	KI!2	1/28/2016	10:03	0.61	12.6	6.26	8.8	45.3	15.1	2	8	24	NM	2200	20	320	34	23
W16A103-10	BC!1	1/28/2016	13:03	0.69	11.8	6.97	9.6	46.9	159	2	98	101	NM	1600	32	740	387	29.7
W16A103-11	BC!2	1/28/2016	11:52	0.68	12.65	6.72	9	52.5	370	2	229	87	NM	2800	27	1160	634	36.6
W16A103-12	FD-KI!2	1/28/2016	10:03	0.61						2	6	26	NM	2200	26	300	35	23.3
W16D223-01	FC!0	4/25/2016	13:30	0.26	6.09	7.42	15.3	149.4	3.52	2	6	20	NM	1100	43	420	66	68.7
W16D223-02	FC!1	4/25/2016	13:50	0.26	6.29	6.55	12.2	86.6	2.16	2	2	20	NM	1900	89	340	111	49.7
W16D223-03	JC!1	4/25/2016	9:18	0.28	9.31	6.0	11.1	50.9	9.99	2	6	20	NM	880	26	440	55	28.5
W16D223-04	JC!2	4/25/2016	10:32	0.28	10.02	6.74	10.6	47.7	64.55	2	12	20	NM	1500	27	520	139	25.1
W16D223-05	KC!1	4/25/2016	11:57	0.26	8.75	6.77	12.5	45.4	10.9	2	4	40	NM	440	26	590	63	25.1
W16D223-06	KC!3	4/25/2016	11:00	0.26	2.28	6.67	10.6	42.1	9.45	2	3	20	NM	560	33	410	56	40.1
W16D223-07	KC!4	4/25/2016	11:13	0.26	8.49	6.5	10.6	70.8	6.02	2	2	20	NM	640	25	380	42	43.4
W16D223-08	KI!1	4/25/2016	9:32	0.28	8.42	6.17	10.6	74.3	11.4	2	6	48	NM	400	44	570	103	44.8
W16D223-09	KI!2	4/25/2016	10:04	0.28	10.42	6.42	9.42	53.9	8.12	2	3	20	NM	1100	20	260	30	32.1
W16D223-10	BC!1	4/25/2016	12:33	0.26	9.15	7.47	11.9	64.2	9.53	2	2	20	NM	1200	22	45	56	39.5
W16D223-11	BC!2	4/25/2016	11:34	0.26	9.8	6.95	11.2	56.8	9.24	2	2	20	NM	1800	33	440	71	30.3
W16D223-12	FD-JC!2	4/25/2016	10:32	0.28						2	10	23	NM	1500	32	510	149	25.2

Sample ID	Site ID	Hg-Total µg/L EPA 200.8	Cu-Total µg/L EPA 200.8	Pb-Total µg/L EPA 200.8	Zn-Total µg/L EPA 200.8	Cu-Diss µg/L EPA 200.8	Pb-Diss µg/L EPA 200.8	Zn-Diss µg/L EPA 200.8	E. coli MPN/100ml SM 9223B	4,4'-DDD ng/L EPA 8081	4,4'-DDE ng/L EPA 8081	4,4'-DDT ng/L EPA 8081	Aldrin ng/L EPA 8081	alpha-BHC ng/L EPA 8081	beta-BHC ng/L EPA 8081	gamma-BHC ng/L EPA 8081	delta-BHC ng/L EPA 8081	Dieldrin ng/L EPA 8081	Endosulfan I ng/L EPA 8081	Endosulfan II ng/L EPA 8081	Endosulfan Sulfate ng/L EPA 8081	Endrin ng/L EPA 8081	Endrin Aldehyde ng/L EPA 8081	Endrin Ketone ng/L EPA 8081	Heptachlor ng/L EPA 8081	Methoxychlor ng/L EPA 8081
		0.002	0.2	0.1	0.5	0.2	0.1	0.5	10	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various
W15G172-01	FC!0	0.0010	1.26	0.137	11.5	0.996	0.1	2.56	86																	
W15G172-02	FC!1	0.0010	0.37	0.185	2.5	0.275	0.1	2	>24000																	
W15G172-03	JC!1	0.0020	1.57	0.198	5.1	1.29	0.1	3.58	360	1	1	1	1	1	1	0.4	1	1.7	1	1	1	1	1.6	1	1	1
W15G172-04	JC!2	0.0026	1.10	0.175	1.4	0.864	0.1	0.573	110	1.1	1.1	2.4	1.1	1.1	2.4	1.1	1.1	2.8	2.5	1.1	1.1	1.7	1.1	1.1	9.3	1.1
W15G172-05	KC!1	0.0012	2.75	0.163	13.8	2.18	0.1	4.97	10																	
W15G172-06	KC!3	0.0013	1.54	0.1	5.9	1.19	0.1	2.72	10																	
W15G172-07	KC!4	0.0017	2.11	0.143	9.3	1.73	0.1	6.19	130																	
W15G172-08	KI!1	0.0015	2.03	0.144	3.4	1.68	0.1	1.77	360																	
W15G172-09	KI!2	0.0034	1.21	0.568	15.9	0.342	0.1	0.893	30																	
W15G172-10	BC!1	0.0010	0.92	0.1	2.0	0.759	0.1	0.933	86																	
W15G172-11	BC!2	0.0025	2.09	0.117	1.5	1.79	0.1	0.654	63																	
W15G172-12	FD-KI!2	0.0049	1.75	0.909	26.0	0.322	0.1	0.876	52																	
W15J187-01	FC!0	0.0024	0.921	0.112	4.9	0.808	0.1	3.75	170																	
W15J187-02	FC!1	0.0015	1.01	0.228	7.1	0.746	0.1	5.65	3400																	
W15J187-03	JC!1	0.0058	3.21	0.552	35.7	2.07	0.115	12.7	620	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.2	0.99	0.99	0.99	4	0.99	0.99	0.99
W15J187-04	JC!2	0.0042	1.95	0.206	2.3	1.7	0.1	2.04	910	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	3.2	1.1	1.1	1.1	1.1	2.1	1.1	1.1	1.1
W15J187-05	KC!1	0.0029	2.96	0.313	24.8	2.61	0.13	20.4	1200																	
W15J187-06	KC!3	0.0038	2.05	0.1774	24.6	1.53	0.1	13.9	820																	
W15J187-07	KC!4	0.0025	1.64	0.1	16.0	1.38	0.1	12.8	300																	
W15J187-08	KI!1	0.0032	2.05	0.159	2.4	1.73	0.1	1.49	140																	
W15J187-09	KI!2	0.0055	1.43	0.622	17.5	0.48	0.1	1.74	210																	
W15J187-10	BC!1	0.0021	1.7	0.1	4.6	1.48	0.1	3.41	290																	
W15J187-11	BC!2	0.0022	2.3	0.1	1.7	2.06	0.1	1.17	660																	
W15J187-12	FD-BC!2	0.0026	2.3	0.1	1.8	2.03	0.1	1.35																		
W16A103-01	FC!0	0.0042	2.23	0.759	16.5	1.23	0.1	7.09	150																	
W16A103-02	FC!1	0.0032	2.32	0.896	18.3	1.2	0.1	11.4	690																	
W16A103-03	JC!1	0.0052	2.49	1.06	24.1	0.979	0.1	12.6	610	0.99	1.9	0.99	0.99	0.99	0.99	0.99	0.99	2.7	0.99	0.99	0.99	0.99	2.9	0.99	0.99	0.99
W16A103-04	JC!2	0.0099	4.36	2.95	18.5	0.99	0.1	1.66	960	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
W16A103-05	KC!1	0.0060	3.47	1.35	51.8	1.54	0.1	26.7	750																	
W16A103-06	KC!3	0.0088	5.03	1.83	21.2	1.64	0.1	2.58	910																	
W16A103-07	KC!4	0.0101	4.98	2.24	29.6	1.1	0.1	3.36	810																	
W16A103-08	KI!1	0.0056	2.95	1.27	14.1	1.44	0.1	7.81	1500																	
W16A103-09	KI!2	0.0031	0.824	0.31	5.7	0.454	0.1	2.88	140																	
W16A103-10	BC!1	0.0128	5.06	2.78	39.8	1.09	0.1	3.09	500																	
W16A103-11	BC!2	0.0122	6.94	5.01	34.0	0.767	0.1	0.635	350																	
W16A103-12	FD-KI!2	0.0024	0.776	0.296	5.4	0.453	0.1	2.83	110																	
W16D223-01	FC!0	0.0014	1.2	0.254	5.9	0.812	0.215	3	52																	
W16D223-02	FC!1	0.0013	1.05	0.301	14.1	0.74	0.1	11.4	98																	
W16D223-03	JC!1	0.0028	1.72	0.278	11.1	1.25	0.1	6.33	590	0.99	0.99	0.99	0.99	3	0.99	0.99	5	3.4	0.99	0.99	0.99	0.99	2.9	0.99	1.8	0.99
W16D223-04	JC!2	0.0045	2.3	0.794	6.5	1.1	0.1	1.53	1200	2.8	0.99	2.8	0.99	7	0.99	0.99	3.8	12	0.99	0.99	1.8	0.99	0.99	0.99	0.99	0.99
W16D223-05	KC!1	0.0034	2.93	0.512	24.1	2.06	0.111	16	510																	
W16D223-06	KC!3	0.0023	2.3	0.143	60.4	1.65	0.1	50	340																	
W16D223-07	KC!4	0.0013	1.53	0.1	34.9	1.22	0.1	29.9	96																	
W16D223-08	KI!1	0.0026	1.61	0.371	8.4	1.09	0.1	4.83	1400																	
W16D223-09	KI!2	0.0016	0.474	0.13	3.9	0.329	0.1	1.67	110																	
W16D223-10	BC!1	0.0022	1.82	0.208	6.4	1.42	0.1	2.85	530																	
W16D223-11	BC!2	0.0018	1.5	0.135	3.2	1.11	0.1	1.01	340																	
W16D223-12	FD-JC!2	0.00455	2.53	0.985	7.9	1.14	0.1	1.68	1300	1	1	1	1	6.1	1	1	1	11	1	1	0.87	1	1	1	1	1

Continuous Temperature Monitoring

Basin	Site	Days 7DADM >18	Max of 7DADM
Kelly/Beaver	Arrow Creek @ mouth	65	21.5
Kelly/Beaver	Kelly Creek @ Kane Rd	64	21
Kelly/Beaver	Kelly Creek upstream of Mt. Hood Community College pond	67	20.8
Kelly/Beaver	Kelly Creek downstream of Mt. Hood Community College pond	114	26.2
Kelly/Beaver	Beaver Creek upstream of Kelly confluence	98	105
Kelly/Beaver	Beaver Creek downstream of Kelly confluence	105	27.7
Kelly/Beaver	Beaver Creek @ 302nd	54	20.1
Kelly/Beaver	South Fork of Beaver Creek @ 302nd	0	14.8
Kelly/Beaver	Beaver Creek @ Division	94	24.1
Kelly/Beaver	Beaver Creek @ Cochran	99	24.1
Kelly/Beaver	Beaver Creek @ Stark	113	27.7
Kelly/Beaver	Beaver Creek @ Glen Otto Park	107	25.2
Johnson	Badger Creek @ Telford	61	20
Johnson	Badger Creek @ Telford 2	66	21.4
Johnson	Badger Creek @ Kluth residence	56	20.2
Johnson	Brigman Creek @ Hogan	0	15.2
Johnson	Brigman Creek upstream of inline ponds	88	22.2
Johnson	Brigman Creek downstream of inline ponds	101	26
Johnson	Burlingame Creek @ Hogan Rd	83	20.3
Johnson	Butler Creek @ mouth	96	22.1
Johnson	Sunshine Creek @ Rugg Rd	102	24.4
Johnson	Sunshine Creek @ Senkyr	66	20.5
Johnson	West Fork of Sunshine Creek @ Borges	56	20.1
Johnson	East Fork of Sunshine Creek @ Sunshine Valley Rd	40	19.2
Johnson	North Fork Johnson Creek	74	21.4
Johnson	North Fork Johnson Creek @ Telford	29	18.7
Johnson	Hogan Creek @ mouth	110	24.6
Johnson	Hogan Creek tributary	9	18.4
Johnson	Hogan Creek upstream of Cedar Lake	86	22.5
Johnson	Hogan Creek upstream of golf course	0	16.8
Johnson	Mitchell Creek upstream of Centennial Pond	57	20.3
Johnson	Mitchell Creek downstream of Centennial Pond	108	29
Johnson	Kelley Creek @ 159th	88	22.1
Johnson	Kelley Creek @ Richie Rd	119	27.2
Johnson	Kelley Creek @ PV Grange	69	21.5
Johnson	Kelley Creek upstream of Brookside development on forest edge	53	20.5
Johnson	Kelley Creek upstream of Brookside development outfall	76	21.2
Johnson	Johnson Creek @ 282nd	89	22.8
Johnson	Johnson Creek at 307th	87	22.6
Johnson	Johnson Creek @ Telford	96	23.9
Johnson	Johnson Creek @ Regner	111	26.5
Johnson	Johnson Creek @ Jenne Rd	104	26.2
Johnson	Johnson Creek @ Palmblad	97	24.1
Johnson	Johnson Creek @ Bluff Rd	84	21.6
Fairview	Fairview Creek @ Division	70	21.5
Fairview	Fairview Creek @ Glisan	162	29.4
Fairview	Fairview Creek @ trailer park	119	25
Air temperature		123	24.4

Red =temperature exceedances for more than 100 days

Blue = no temperature exceedances

Temperature is not a pollutant associated with stormwater runoff since the rainy season does not coincide with summer temperatures. This data is provided to help the reader understand the general condition and impacts to streams in Gresham and Fairview.

Stormwater Stampling

System ID	Trips per Day	Land Use	Functional Class	Date	Time	Rainfall Previous 24 hrs.	DO	pH	Temp	Cond	Turbidity	E. coli	BOD	TSS	Ammonia	Nitrate	o-Phos	TKN	T-Phos	Hardness	Total Antimony	Total Copper	Total Lead	Total Mercury	Total Zinc	Diss Copper	Diss Lead	Diss Zinc
												MPN/100 ml.	2 mg/L	2 mg/L	10 ug/L	100 ug/L	20 ug/L	200 ug/L	30 ug/L	mg/L CaCO3	0.100 ug/L	0.200 ug/L	0.100 ug/L	0.00200 ug/L	0.500 ug/L	0.200 ug/L	0.100 ug/L	0.500 ug/L
3151-F-064	>1000	Commercial	Collector	12/17/2015	10:15	0.92	12.84	6.2	3.9	7.4	19.7	230	2	16	137	100	20	380	43	7.08	0.744	5.44	1.06	0.00123	27.1	1.540	0.1	11.5
3251-F-013	>1000	Residential	Residential	12/17/2015	9:45	0.92	14.30	6.4	3.8	7	8.09	140	3	8	20	100	22	270	55	3.93	0.1	2.51	0.229	0.00317	29.1	1.290	0.1	14.4
3148-W-014	>1000	Residential	Community	12/17/2015	11:32	1.07	14.24	6.4	3.8	3.1	15.1	98	3	6	38	100	20	220	30	1.93	0.332	2.32	0.623	0.00135	13.2	1.030	0.1	7.61
3150-F-030	<1000	Residential	Residential	12/17/2015	10:33	0.98	13.90	6.3	3.4	4.1	8.04	170	2	4	20	100	31	200	30	2.69	0.142	2.55	0.493	0.00141	48.8	1.120	0.1	39.5
3153-F-040	Residential	Residential	Residential	12/17/2015	8:52	0.82	14.65	6.1	4.3	43.8	7.1	63	2	6	20	100	20	200	30	2.65	0.100	1.17	0.317	0.0014	18.1	0.958	0.1	12.6
3349-W-034	>1000	Residential	Minor Arterial	12/17/2015	12:09	1.07	13.04	6.4	4.3	8.3	5.08	340	4	94	142	100	20	640	119	5.64	1.680	10.6	1.67	0.00484	45	3.930	0.1	19.2
3254-F-072	>1000	Residential	Collector	12/17/2015	9:16	0.82	14.49	6.1	3.6	7.3	30.2	29	3	24	132	100	20	450	70	5.82	0.637	4.94	1.61	0.00331	44.7	1.020	0.1	13.3
3047-W-048	>1000	Residential	Community	12/17/2015	12:55	1.16	12.86	6.4	4.7	5.9	14.2	280	2	9	61	100	20	270	30	3.51	0.349	3.43	0.549	0.00138	28.2	1.670	0.1	17
3150-W-068	>1000	Commercial	Boulevard	12/17/2015	11:05	0.98	12.60	6.3	3.8	4.2	21.2	170	2	22	80	100	20	250	44	4.12	0.348	3.51	2.12	0.00136	28.2	0.850	0.1	11.8
FD												660	3	20	76	100	20	440	60	4.29	0.990	1.62	1.82	0.00451	31.5	1.840	0.1	11.3
3048-W-077	>1000	Residential	Minor Arterial	12/17/2015	13:25	1.16	12.76	6.5	4.1	5.6	24.3	500	3	22	79	100	20	400	60	4.41	1.020	1.69	1.69	0.00454	39	1.750	0.1	10.9
3252-F-059	<1000	Residential	Residential	3/9/2016	9:58	0.25	10.42	5.4	8.8	46.3	48.4	4400	5	34	35	100	20	840	100	7.88	0.571	6.77	2.08	0.0131	47.1	2.290	0.117	11.8
3947-W-013	<1000	Residential	Residential	3/9/2016	12:25	0.41	10.60	6.2	8.9	13.4	11.6	41	3	5	18	100	20	330	43	5.33	0.223	2.27	0.43	0.00289	10.7	1.200	0.1	5.77
3053-F-026	<1000	Residential	Residential	3/9/2016	14:35	0.41	7.74	7.1	8.9	38.7	60.8	10	2	16	92	400	63	530	152	19.1	0.188	2.7	1.27	0.00515	8.53	1.18	0.1	2.02
3050-F-043	<1000	Residential	Residential	3/9/2016	13:40	0.41	10.80	6.6	9.5	10.7	23.7	>24000	4	17	40	100	20	560	59	4.42	0.426	3.73	1.48	0.00523	20.7	1.640	0.1	8.82
3046-W-006	>1000	Residential	Minor Arterial	3/9/2016	11:50	0.32	9.85	6.7	8.9	17.4	41.4	2100	4	45	145	100	20	730	92	9.7	0.845	8.59	9.82	0.00525	63.3	2.080	0.278	13.2
3153-F-091	>1000	Commercial	Minor Arterial	3/9/2016	14:15	0.41	9.22	7.1	9.1	96	521	400	6	252	142	180	65	1610	886	62.9	1.510	22.4	15.9	0.0427	123	3.050	12.4	173
3149-W-016	>1000	Industrial	Community	3/9/2016	10:50	0.25	9.76	6.7	8.4	64.9	1726	130	4	410	20	150	34	1540	1120	105	0.576	36.2	25.6	0.0379	119	2.780	0.1	1.34
3155-F-025	>1000	Residential	Primary Arterial	3/9/2016	15:05	0.56	8.60	6.9	9.1	20.9	145	450	10	189	454	110	20	1490	247	18.3	2.590	22.5	6.52	0.00764	138	3.450	0.11	33
3351-F-011	<1000	Commercial	Residential	3/9/2016	10:20	0.25	9.56	5.6	8.8	10	15.6	340	4	54	11	100	20	480	67	3.7	0.305	4.83	2.03	0.0044	44.3	1.560	0.1	9.55
3349-J-003	<1000	Residential	Residential	3/9/2016	11:25	0.32	9.67	7.2	8.9	6.3	7.54	270	2	12	20	100	20	200	30	4.54	0.100	1.6	0.509	0.00146	17.4	0.543	0.1	10.5
FD												550	11	108	451	120	20	970	161	12.9	2.740	23.3	8.69	0.00751	144	3.370	0.1	31.3
3150-W-056	>1000	Residential	Boulevard	4/12/2016	19:10	0.04	7.19	5.4	13.8	66.8	84.7	120	>70	81	4360	960	341	9910	817	31.5	3.540	61	3.01	0.0127	357	14.600	0.281	116
3150-W-025	>1000	Vacant	Minor Arterial	4/12/2016	18:50	0.02	5.86	5.7	14.3	70.7	75	10	>70	129	2140	540	353	10900	951	41.6	1.560	28.3	5.67	0.0123	219	13.400	0.49	102
3249-W-027	>1000	Commercial	Minor Arterial	4/12/2016	19:50	0.04	7.84	6	12.7	61.9	136	180	>70	121	3320	650	153	7230	462	40	3.680	43.3	7.23	0.0106	292	18.100	0.352	151
3055-B-007	<1000	Residential	Residential	4/12/2016	22:20	0.13	9.48	6.6	10.7	13.9	4.53	10	14	6	411	210	72	1930	120	7.07	2.02	8.3	0.669	0.00515	512	7.280	0.1	429
3348-W-037	>1000	Commercial	Minor Arterial	4/12/2016	21:15	0.09	8.82	6.6	13.2	46.3	12.8	110	89	82	2520	620	125	4620	403	29.5	4.580	53.6	8.23	0.0142	224	32.500	0.482	135
3349-W-043	<1000	Residential	Residential	4/12/2016	21:05	0.11	7.8	6.3	12.7	31.4	15.8	86	>70	55	1510	260	281	7290	912	16.9	0.725	19.1	0.985	0.0161	178	17.200	0.381	86.3
3847-W-028	<1000	Residential	Residential	4/12/2016	21:35	0.11	7.94	6.5	12	30.3	6.21	20	34	12	625	230	131	3090	298	17.7	0.488	92.9	0.45	0.00854	1570	81.500	0.182	1530
3049-W-041	<1000	Residential	Residential	4/12/2016	19:30	0.04	7.94	5.5	13.8	27.5	16.4	10	>70	17	876	250	322	4880	672	11.6	0.704	19.7	1.11	0.0117	80.5	16.800	0.304	36.4
3449-J-010	<1000	Residential	Residential	4/12/2016	20:30	0.09	9.03	6.5	11.7	19.8	6.29	10	29	6	563	160	98	3560	180	11.8	0.237	6.12	0.389	0.00573	238	5.400	0.1	207
3153-F-054	<1000	Residential	Residential	4/12/2016	22:40	0.13	9.05	6.3	10.5	20.3	5.91	200	11	10	236	270	82	1330	135	16.2	0.288	31.2	0.652	0.00918	121	24.200	0.1	85.5
FD												10	15	3	429	220	73	1310	121	7.23	0.246	9.76	0.749	0.00637	577	7.240	0.1	420

Stormwater Sampling

System ID	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	Butyl benzyl phthalate	Di-n-butyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl) phthalate	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	2,4-DB	Acifluorfen	Bentazon	Clopyralid	Dicamba	Dichloroprop	Dinoseb	MCPA	MCPP	Pentachlorophenol	Picloram	Quinclorac	Triclopyr
																							0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L	0.040 ug/L
3151-F-064	0.020	0.020	0.020	0.011	0.013	0.021	0.054	0.010	0.021	0.010	0.061	0.020	0.013	0.040	0.050	0.130	1.0	1.0	1.0	1.0	0.6	3.8	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.073	<0.400	0.39	<0.080	<0.080	0.14
3251-F-013	0.020	0.020	0.020	0.010	0.010	0.010	0.018	0.010	0.010	0.010	0.010	0.010	0.010	0.040	0.020	0.013	1.0	1.0	1.0	1.0	1.0	1.0	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	<0.040	<0.400	0.16	<0.080	<0.080	<0.080
3148-W-014	0.020	0.020	0.020	0.010	0.010	0.010	0.017	0.010	0.010	0.010	0.024	0.020	0.010	0.040	0.027	0.049	1.0	1.0	1.0	1.0	1.0	1.6	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.087	<0.400	0.29	<0.080	<0.080	0.25
3150-F-030	0.020	0.020	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.028	0.020	0.010	0.040	0.028	0.024	1.0	1.0	1.0	1.0	1.0	1.4	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.365	<0.400	0.34	<0.080	<0.080	<0.080
3153-F-040	0.020	0.020	0.020	0.010	0.010	0.010	0.011	0.010	0.010	0.010	0.017	0.020	0.010	0.040	0.020	0.027	1.0	1.0	1.0	1.0	1.0	0.1	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	<0.040	<0.400	0.17	<0.080	<0.080	<0.080
3349-W-034	0.020	0.020	0.022	0.010	0.110	0.180	0.150	0.069	0.150	0.023	0.510	0.020	0.084	0.040	0.160	0.510	1.0	1.0	1.0	1.0	1.0	1.2	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	3.42	<0.400	0.18	<0.080	<0.080	<0.080
3254-F-072	0.020	0.020	0.020	0.026	0.027	0.039	0.095	0.018	0.045	0.010	0.097	0.020	0.022	0.064	0.074	0.020	1.0	1.0	1.0	1.0	1.0	1.1	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	2.36	<0.400	<0.160	<0.080	<0.080	<0.080
3047-W-048	0.020	0.020	0.020	0.010	0.010	0.010	0.013	0.010	0.017	0.010	0.046	0.094	0.010	0.058	0.240	0.080	1.0	1.0	1.0	1.0	1.0	1.8	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	<0.040	<0.400	<0.160	<0.080	<0.080	0.092
3150-W-068	0.020	0.020	0.020	0.010	0.010	0.017	0.035	0.010	0.017	0.010	0.039	0.020	0.010	0.040	0.035	0.080	1.0	1.0	1.0	1.0	1.0	3.8	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.098	<0.400	<0.160	<0.080	<0.080	<0.080
FD	0.020	0.020	0.020	0.013	0.015	0.021	0.045	0.010	0.024	0.010	0.066	0.020	0.010	0.043	0.052	0.120	1.0	1.0	1.0	1.0	0.9	5.1	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	2.19	<0.400	0.16	<0.080	<0.080	<0.080
3048-W-077	0.020	0.020	0.020	0.012	0.012	0.022	0.049	0.010	0.022	0.010	0.067	0.020	0.012	0.050	0.052	0.120	1.0	1.0	1.0	1.0	0.6	5.5	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	2.27	<0.400	<0.160	<0.080	<0.080	<0.080
3252-F-059	0.020	0.020	0.020	0.044	0.043	0.074	0.093	0.015	0.055	0.010	0.100	0.020	0.027	0.047	0.051	0.170	1.0	1.0	1.0	1.0	1.0	5.8	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.096	<0.400	0.37	<0.080	0.15	
3947-W-013	0.020	0.020	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.017	0.020	0.010	0.040	0.022	0.031	1.0	1.0	1.0	1.0	1.0	1.0	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	<0.040	<0.400	<0.160	<0.080	<0.080	<0.080
3053-F-026	0.020	0.020	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010	0.040	0.020	0.040	1.0	1.0	1.0	1.0	1.0	1.0	<0.100	<0.100	1.44	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	<0.040	<0.400	0.21	<0.080	<0.080	0.29
3050-F-043	0.020	0.020	0.020	0.010	0.010	0.010	0.017	0.010	0.010	0.010	0.023	0.020	0.010	0.040	0.029	0.042	1.0	1.0	1.0	1.0	1.0	1.5	<0.100	<0.100	0.224	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	<0.040	<0.400	1.3	<0.080	<0.080	<0.080
3046-W-006	0.020	0.020	0.020	0.011	0.018	0.060	0.110	0.014	0.052	0.010	0.130	0.020	0.028	0.053	0.074	0.230	1.0	1.0	1.0	1.0	1.0	6.9	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.510	<0.400	<0.160	<0.080	<0.080	<0.080
3153-F-091	0.020	0.020	0.020	0.190	0.180	0.230	0.360	0.410	0.520	0.100	0.310	0.040	0.680	0.044	0.260	0.051	0.280	1.100	1.0	1.0	1.0	8.3	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	3.38	<0.400	<0.160	<0.080	<0.080	<0.080
3149-W-016	0.020	0.022	0.039	0.045	0.050	0.087	0.085	0.018	0.067	0.010	0.150	0.020	0.038	0.043	0.080	0.230	1.0	1.0	1.0	1.0	0.6	3.3	<0.100	<0.100	0.419	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.18	<0.400	0.43	<0.080	<0.080	<0.080
3155-F-025	0.130	0.130	0.410	0.050	0.065	0.130	0.220	0.015	0.086	0.014	0.230	0.300	0.050	0.360	0.600	1.200	1.0	1.0	1.0	0.5	1.0	12.0	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.101	<0.400	<0.160	<0.080	<0.080	<0.080
3351-F-011	0.200	0.200	0.200	0.100	0.140	0.028	0.041	0.010	0.017	0.010	0.048	0.020	0.010	0.040	0.027	0.1	1.0	1.0	1.0	1.0	1.5	3.7	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.086	<0.400	0.51	<0.080	<0.080	<0.080
3349-J-003	0.020	0.020	0.020	0.010	0.010	0.018	0.010	0.010	0.013	0.010	0.039	0.020	0.010	0.040	0.021	0.037	1.0	1.0	1.0	1.0	1.0	1.0	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	<0.040	<0.400	0.19	<0.080	<0.080	<0.080
FD	0.089	0.120	0.360	0.046	0.058	0.086	0.200	0.014	0.090	0.010	0.210	0.320	0.044	0.330	0.540	1.100	1.0	1.0	1.0	0.5	1.0	12.0	<0.100	<0.100	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.130	<0.400	<0.160	<0.080	<0.080	<0.080
3150-W-056	0.020	0.020	0.022	0.025	0.034	0.062	0.140	0.013	0.063	0.010	0.140	0.030	0.030	0.042	0.12	0.250	1.0	1.0	0.5	0.6	3.4	4.9	<0.100	<1.20	<0.200	<0.400	<0.200	<0.200	<0.200	<0.200	<0.400	<0.100	0.121	<0.400	0.777	<0.080	<0.080	<0.080
3150-W-025	0.020	0.020	0.020	0.021	0.041	0.072	0.140	0.017	0.060	0.010	0.084	0.020	0.041	0.040	0.062	0.130	1.0	1.0	1.0	1.0	1.0	3.3	<0.200	<1.20	1.07	<0.400	<0.200	<0.200	<0.200	<0.800	<0.200	<0.800	<0.800	1.36	<0.800	<0.160	<0.080	<0.080
3249-W-027	0.020	0.040	0.053	0.039	0.045	0.074	0.200	0.010	0.091	0.010	0.210	0.020	0.044	0.097	0.180	0.370	1.0	0.6	0.6	0.75	1.1	8.4	<0.200	<1.20	0.671	<0.400	<0.200	<0.200	<0.200	<0.800	0.109	<0.800	<0.800	0.386	<0.800	<0.160	<0.080	<0.080
3055-B-007	0.020	0.020	0.020	0.010	0.010	0.010	0.010	0.010	0.100	0.010	0.020	0.020	0.010	0.040	0.020	0.010	1.0	1.0	1.0	1.0	1.0	1.0	<0.200	<1.20	<0.200	<0.400	<0.200	<0.200	<0.200	<0.800	<0.200	<0.800	<0.800	0.027	<0.800	0.36	<0.080	0.11
3348-W-037	0.020	0.040	0.029	0.035	0.039	0.066	0.150	0.025	0.078	1.000	0.150	0.020	0.035	0.059	0.110	0.290	1.0	0.7	0.7	1.2	1.5	26.0	<0.200	<1.20	0.422	<0.400	<0.200	<0.200	<0.200	<0.800	<0.200	<0.800	<0.800	0.841	<0.800	0.29	<0.080	0.2
3349-W-043	0.020	0.320	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.010	0.040	0.020	0.010	1.0	1.0	1.0	1.0	0.6	1.8	<0.200	<1.20	32.4	<0.400	<0.200	<0.200	<0.200	<0.800	<0.200	<0.800	<0.800	0.031	<0.800			
3847-W-028	0.020	0.040	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.015	0.020	0.010	0.040	0.020	0.019	1.0	1.0	1.0	1.0	1.0	1.0	<0.200	<1.20	1.14	<0.400	<0.200	<0.200	<0.200	<0.800	<0.200	<0.800	<0.800	0.021	<0.800	0.22	<0.080	<0.080
3049-W-041	0.020	0.060	0.020	0.010	0.010	0.010	0.013	0.010	0.010	0.010	0.015	0.020	0.010	0.040	0.020	0.019	1.0	1.0	1.0	1.0	1.0	0.7	<0.200	<1.20	8.8	<0.400	<0.200	<0.200	<0.200	<0.800	0.79	<0.800	<0.800	0.147	<0.800	2	<0.080	<0.080
3449-J-010	0.020	0.320	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.010	0.040	0.020	0.010	1.0	1.0	1.0	1.0	1.0	1.8	<0.200	<1.20	9.547	<0.400	<0.200	<0.200	<0.200	<0.800	<0.200	<0.800	<0.800	0.031	<0.800	0.83	<0.080	<0.080
3153-F-054	0.020	0.020	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.010	0.040	0.020	0.010	1.0	1.0	1.0	1.0	1.0	0.6	<0.200	<1.20	0.235	<0.400	<0.200	<0.200	<0.200	<0.800	<0.200	<0.800	<0.800	0.021	<0.800	<0.160	<0.080	0.09
FD	0.020	0.020	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.010	0.040	0.020	0.010	1.0	1.0	1.0	1.0	1.0	1.0	<0.200	<1.20	<0200	<0.400	<0.200	<0.200	<0.200	<0.800	<0.200	<0.800	<0.800	0.027	<0.800	0.48	<0.080	<0.080

BMP Sampling

Sample ID	Site ID	Storm	Date	Time	24-hr Rain fall	NH3-N	BOD5	NO3-N	O-PO4	TKN	Total-P	TSS	Hardness	Hg-Total	Cu-Dissolved	Pb-Dissolved	Zn-Dissolved	Cu-Total	Pb-Total	Zn-Total	E. coli
					inches	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg CaCO3/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	MPN/100ml
Analytical Method						EPA 300.0	SM 5210B	EPA 300.0	EPA 365.1	EPA 351.2	EPA 365.4	SM 2540D	SM 2340B CAL	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	SM 9223B
Detection Limit						20	2	100	20	20	30	2	1	0.002	0.2	0.1	0.5	0.2	0.1	0.5	10
W15K61-01	CSWQF-1-1	1	11/7/2015	13:25	0.57																1400
W15K064-01	CSWQF-1-2	1	11/8/2015	4:03	0.56																530
W15K065-01	CSWQF-1-3	1	11/8/2015	17:18	0.56																960
W15K065-04	CSWQF-1	1	comp		0.56	32	2	1100	64	340	102	4	34.2	0.00283	2.07	0.125	23.6	3.15	0.686	32.7	
W15K61-02	CSWQF-2-1	1	11/7/2015	13:35	0.57																470
W15K064-02	CSWQF-2-2	1	11/8/2015	4:22	0.56																130
W15K065-02	CSWQF-2-3	1	11/8/2015	17:06	0.56																380
W15K065-05	CSWQF-2	1	comp		0.56	37	**0.2**	600	56	300	76	**2**	47.1	0.00238	1.64	**0.101**	18.8	2.49	0.414	25.6	
W15K61-03	CSWQF-3-1	1	11/7/2015	14:18	0.57																2400
W15K064-03	CSWQF-3-2	1	11/8/2015	18:03	0.56																1600
W15K065-03	CSWQF-3-3	1	11/8/2015	18:15	0.56																1200
W15K082-01	CSWQF-3	1	comp		0.56	21	**2**	520	61	440	125	9	23.1	0.0031	2.89	0.124	32.1	3.74	0.818	39	
W15K082-02	CSWQF-3-4	1	11/10/2015	8:15	0.56																160
W16A067-01	CSWQF-1-1	2	1/12/2016	10:48	1.71																540
W16A085-01	CSWQF-1-2	2	1/12/2016	20:14	1.71																200
W16A085-02	CSWQF-1-3	2	1/13/2016	7:33	1.71																2800
W16A085-06	CSWQF-1	2	comp		1.71	58	3	380	20	440	104	33	18	0.00374	1.86	0.105	27.8	5.98	2.54	55.1	
W16A067-02	CSWQF-2-1	2	1/12/2016	10:58	1.71																530
W16A085-03	CSWQF-2-2	2	1/12/2016	20:04	1.71																75
W16A085-04	CSWQF-2-3	2	1/13/2016	7:43	1.71																86
W16A085-07	CSWQF-2	2	comp		1.71	64	2	420	26	300	60	14	29.7	0.00245	1.63	**0.1**	25.2	4.41	1.24	43.8	
W16A067-03	CSWQF-3-1	2	1/12/2016	11:39	1.71																1100
W16A085-05	CSWQF-3-2	2	1/13/2016	7:54	1.71																380
W16A089-2	CSWQF-3-3	2	1/14/2016	8:36	1.71																360
W16A089-1	CSWQF-3	2	comp		1.71	43	2	560	25	270	64	8	28.4	0.00238	2.00	**0.1**	29.3	3.46	1.04	37.2	

Light grey = samples from inlet 1

Dark grey = samples from inlet 2

white = samples from outlet

Macroinvertebrate Sampling

Order	Family	Genus	Species	Life stage	Sediment Sensitive/ Tolerant	Pollution Sensitive/ Tolerant	BCI1	BCI2	FCI0	FCI1	JCI1	JCI2	KCI1	LD (KCI1)	FD (KCI1)	KCI4	KI1	KI2
							Units in the columns are individuals of a species found and identified											
Acari							33	15	14	3	1	7	2		3	4	17	29
Amphipoda				immature														
		Crangonyx					1	3	31	2	3	5	66	42	49	196	52	
		Gammarus				tolerant												
Copepoda								3	1		3					47	2	1
Decopoda	Astacidae	Pacifasticus								1	1	1	2		3			
Hirudinea						tolerant		7					1	1		47		
Hydra						tolerant									1	1		
Isopoda	Asellidae					tolerant	1			4		1						
	Caedidotea																	
Mollusca	Ancylidae	Ferressia			tolerant	tolerant	3	12	2		26	12	47	69	114		2	
	Corbiculidae	Corbicula			tolerant	tolerant			26		15							
	Hydrobiidae																	
		Fluminicola				tolerant	13		18		2						3	
		Pristinicola																1
	Planoriibae	Gyraulus			tolerant	tolerant		2					2	2				3
		Menetus																
	Lymnaidae				tolerant	tolerant		1										
	Physidae					tolerant								1				
	Pleuroceridae	Juga			tolerant	tolerant	10	161	8	360	24	155	16	14	4		22	16
	Unionidae	Margaritifera				sensitive												
	Sphaeriidae	Pisidium					1	35	1	38	4	2	64	54	16	2	70	8
Nematoda							1	3	11	2		2				6	1	2
Oligochaeta					tolerant	tolerant	37	63	221	44	73	18	2	1	14	52	72	10
Ostracoda										1								
Turbellaria	Planariidae						7	26	6		1		4	3	1	13	1	7
Ephemeroptera	Ameletidae	Ameletus																
	Baetidae	Acentrella		immature			2					1						
	Baetidae			damaged													1	
		Baetis		immature														
		Baetis	tricaudatus				52	8	20	75	10	62	19	6	17		2	3
		Baetis	notus								2							
		Callibaetis				tolerant												
		Centroptilum				tolerant												
		Diphetor	hageni				1				1	26						10
		Pseudocloeon				tolerant												
	Caenidae	Caenis				tolerant												
	Heptageniidae			immature														
		Cinymga				sensitive												1
		Cinygmula																3
		Heptagenia																1
		Ironodes																3
	leptohyphidae	Tricorythodes				tolerant												
	Leptophlebidae	Paraleptophlebia					1	1			41	74		1			12	68
		Paraleptophlebia	bicornuta															
Plecoptera	Capniidae			immature		sensitive												
	Chloroperlidae	Sweltsa																18
	Leuctridae					sensitive						1						11
	Perlidae	Calineuria																
		Hesperoperla																
	Perlodidae	Isoperla																1
		Skwala																4
	Pteronarcyidae	Pteronarcella																1
	Nemouridae	Malenka																14
		Soyedina																6
		Zapada	cinctipes									5						54
Coleoptera				larva														
Coleoptera	Dytiscidae			larva		tolerant												
	Elmidae			immature													2	
		Cleptelmis		adult		tolerant						1						
		Heterlimnius		larva														
		Lara		immature			1		1	1	1						5	1
		Optioservus		larva		tolerant	1	1	13			37					3	1
		Optioservus		adult		tolerant			15			6						1
		Ordobrevia		larva														
		Narpus	concolor	larva				1										8
		Narpus		adult														
		Zaitzevia		larva								4						
		Zaitzevia		adult		tolerant	1					2						3
	Gyrinidae			adult														
	Hydraenidae			adult														2
	Hydrophilidae			larva														
				adult														
Neuroptera	Sisyridae	Climacia																
Lepidoptera	Pyralidae					tolerant												

Macroinvertebrate Sampling

Order	Family	Genus	Species	Life stage	Sediment Sensitive/ Tolerant	Pollution Sensitive/ Tolerant	BCI1	BCI2	FCI0	FCI1	JCI1	JCI2	KCI1	LD (KCI1)	FD (KCI1)	KCI4	KI1	KI2
							Units in the columns are individuals of a species found and identified											
	Petrophila					tolerant												
Megaloptera		Sialis				tolerant					4	2						1
Odonata	Zygotera			immature					3							1		
		Aeshna				tolerant									1			
	Cordulegastridae			immature														
Trichoptera				pupa														1
	Brachycentridae	Micrasema		larva													4	
	Glossosomatidae			immature														
		Glossosoma																2
	Glossosomatidae			pupa														
	Hydroptilidae			immature		tolerant												
	Hydroptilidae			pupa		tolerant	7			2								
		Hydroptila		immature	sensitive		26			2								
		Leucotrichia				tolerant												
	Hydroptilidae			pupa			7			2								
	Hydropsychidae			immature					2								6	
		Cheumatopysyche				tolerant	273		1	6	89	22	104	63	48		5	
		Hydropsyche				tolerant												6
		Parapsyche																
	Lepidostomatidae	Lepidostoma		larva						1							2	7
	Limnephilidae	Dicosmoecus																
		Homophylax				sensitive												
		Hydatophylax		immature														4
		Onocosmoecus																
		Psychoglypha																
	Philopotamidae	Wormaldia			sensitive													72
	Polycentropidae	Polycentropus																
	Rhyacophilidae	Rhyacophila		immature														11
		Rhyacophila		pupa														
		Rhyacophila	betteni									1						6
		Rhyacophila	blarina															
		Rhyacophila	narvae															7
	Uenoidae	Neophylax																1
Diptera				immature														
	Ceratopogoninae								1							1	2	3
	Ceratopogoninae			pupa														
	Forcipomyinae		Atrichopogon	larva														7
	Forcipomyia																	1
	Forcipomyinae			pupa														
	Chaoboridae																	
	Chironomidae	Ablabesmyia				tolerant		6										
		Alotanypus																
		Alotanytarus						6										
		Brillia						2			1	1						2
		Brundiniella																
		Chaetocladius																
		Chironomus				tolerant												
		Corynoneura					1	1	12		2		1		1		1	
		Cricotopus					2		3									
		Cricotopus bicintus grp					2											
		Cryptochironomus				tolerant											2	
		Dicrotendipes				tolerant												
		Diplocladius					2	1										
		Eukiefferiella brehmi grp										1						
		Eukiefferiella claripennis grp								1					1			
		Eukiefferiella pseudomontana grp					7						1					
		Heleniella																
		Heterotrissocladius marcidus grp				sensitive	1			1							2	
		Limnophyes				tolerant												
		Macropelopia																1
		Micropsectra					9	15	2	4			4	3		6		14
		Microtendipes pedellus grp																
		Microtendipes rydalensis grp						2										
		Nanocladius						2										
		Nilotanypus									1	2	2	1			3	
		Orthocladius complex					4				3					1		
		Orthocladius (Symposiocladius)																6
		Parakiefferiella																
		Paramerina																
		Parametriocnemus					6	11		3	1	3	4	1	3		4	12
		Paraphaenocladius														4	2	
		Paratanytarsus						2								1		
		Paratendipes				tolerant			1							5		
		Phaenospectra					5	18	9	2	9							
		Polypedilum					6	6	10	7	6	14	37	30	110	3	70	2

Macroinvertebrate Sampling

Order	Family	Genus	Species	Life stage	Sediment Sensitive/ Tolerant	Pollution Sensitive/ Tolerant	BCI1	BCI2	FCI0	FCI1	JCI1	JCI2	KCI1	LD (KCI1)	FD (KCI1)	KCI4	KI1	KI2
Units in the columns are individuals of a species found and identified																		
		Procladius				tolerant					2						2	
		Prodiamesa							1	1							2	
		Rheocricotopus									3							
		Rheotanytarsus					5	3	3		1	7	184	176	95		2	
		Stempellinella								1		1					4	4
		Stenochironomus														1		
		Stictochironomus				tolerant												
		Synorthocladius				sensitive			1									
		Tanypus																
		Tanytarsus					11	58	29	2	151	20	2	2	2	166	7	5
		Thienemanniella						1	1	4								
		Thienemannimyia complex					12	16	42	14	7	2	16	19	43	2	22	7
		Tvetenia bavarica grp				tolerant	17		1	34				1				7
		Zavrelimyia				tolerant												3
	Culicidae			immature		tolerant										2		
	Dixidae	Dixa						1				2						34
		Dixella																
		Meringodixa																
	Dixidae			pupa														2
	Empididae			pupa					1									
		Clinocera							3									
		Chelifera						3		1			1		1		2	3
		Hemerdromia					2											
		Hemerdromia		pupa			1											
	Ephydridae			larva												1		
	Pelecorhynidae	Glutops				sensitive												1
	Psychodidae			pupa										1				
		Maurina		larvae									4	1				1
		Maurina		pupa														
		Pericoma																1
		Psychoda																
	Ptychopteridae	Ptychoptera																2
	Sciomyzidae			pupa														
	Simuliidae			immature				4	1						1		1	
	Simuliidae			pupa						1					1			
		Simulium					11			17	1	3					1	2
	Tabanidae			immature		tolerant												1
	Thaumaleidae																	9
	Tipulidae			immature	tolerant		1											
	Tipulidae			pupa	tolerant													
		Antocha			tolerant		10					1						
		Antocha		pupa	tolerant		1											
		Dicanota			tolerant							4				1		2
		Hexatoma			tolerant													2
		Limnophila			tolerant													
		Limonia			tolerant	tolerant												
		Tipula			tolerant			1										1
Benthic Index of Biological Integrity (B-IBI)							22	16	12	16	16	18	18	18	18	20	22	44
Stream Condition as Level of Impairment from B-IBI							Moderate	Severe	Severe	Severe	Severe	Severe	Severe	Severe	Severe	Moderate	Moderate	None

Macroinvertebrate analysis protocol is from the Oregion Water Quality Monitoring Technical Guide Book: https://www.oregon.gov/OWEB/docs/pubs/wq_mon_guide.pdf
>39 individuals = no impairment, 30-39: slight impairment, 20-29: moderate impairment, <20 severe impairment

Appendix B--Map of Instream Monitoring Site Locations & Map of Fixed Dry Weather Screening Site Locations

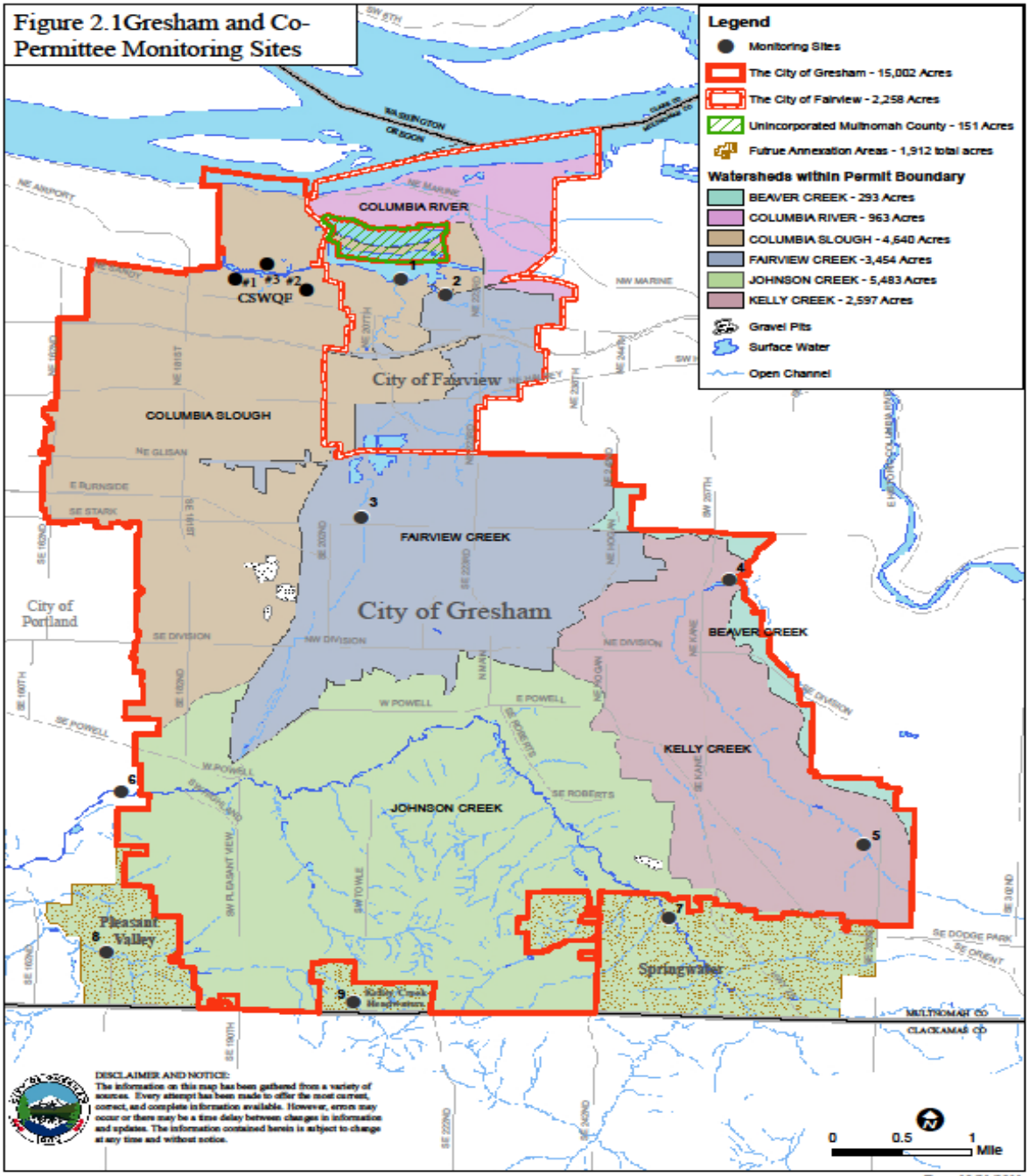
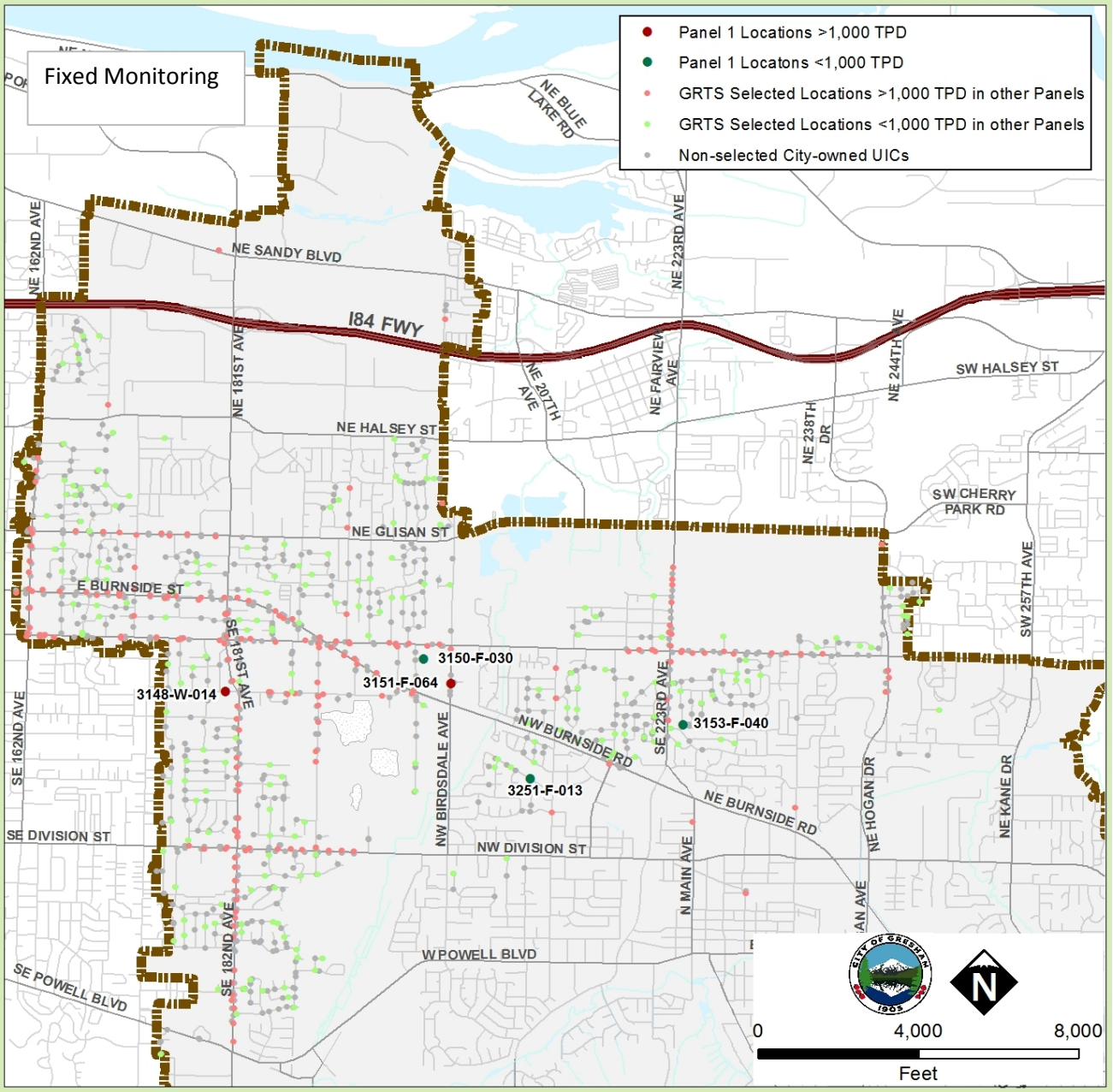
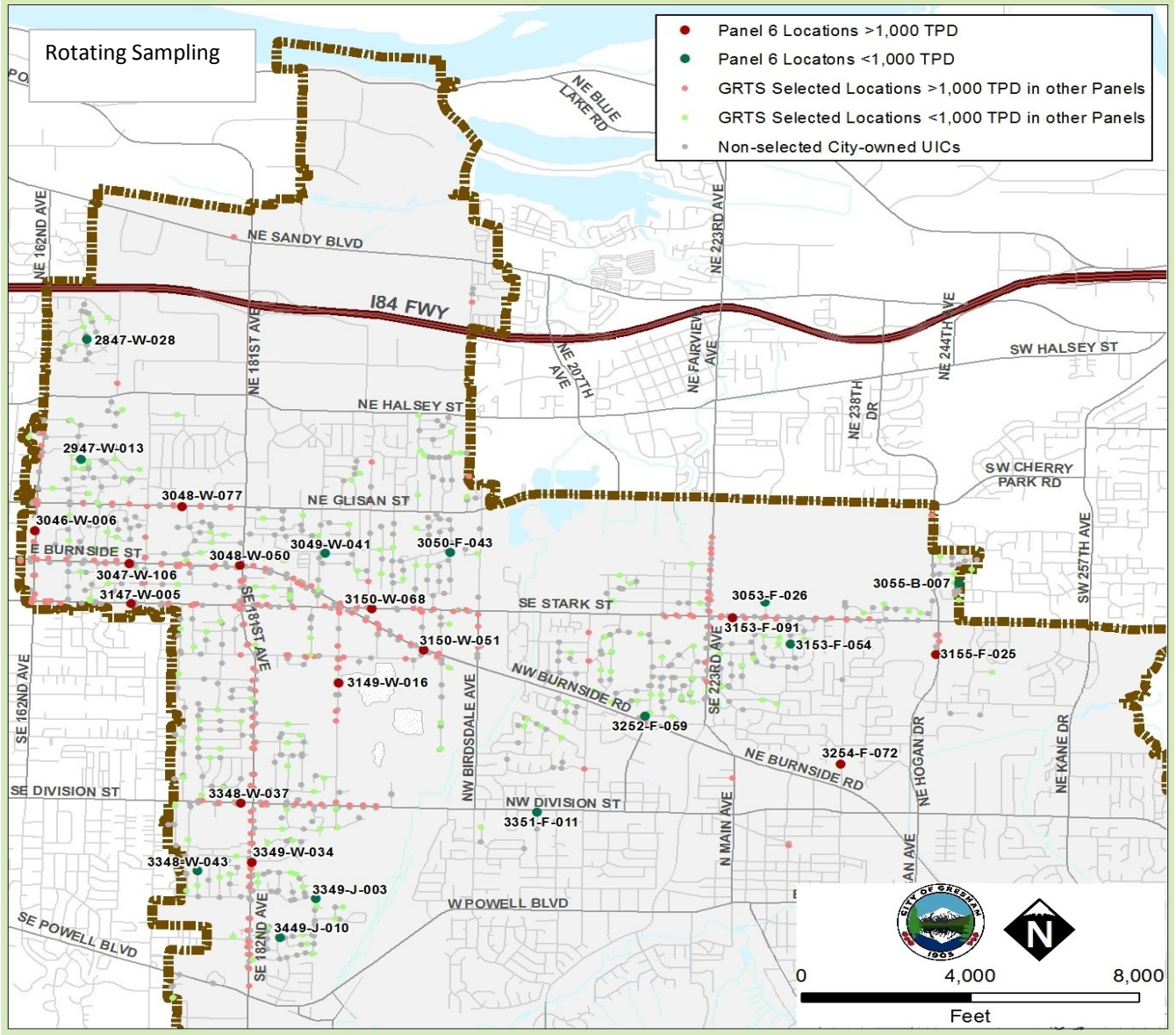


Figure 2.1Gresham and Co-Permittee Monitoring Sites
Legend
Monitoring Sites
The City of Gresham - 15,002 Acres
The City of Fairview - 2,258 Acres
Unincorporated Multnomah County - 151 Acres
Future Annexation Areas - 1,912 total acres
Watersheds within Permit Boundary
BEAVER CREEK - 293 Acres
COLUMBIA RIVER - 963 Acres
COLUMBIA SLOUGH - 4,640 Acres
FAIRVIEW CREEK -3,454 Acres
JOHNSON CREEK - 5,483 Acres
KELLY CREEK - 2,597 Acres
Gravel Pits
Surface Water
Open Channel
COLUMBIA RIVER
CSWQF
City of Fairview
COLUMBIA SLOUGH
FAIRVIEW CREEK
City of Gresham
City of Portland
BEAVER CREEK
KELLY CREEK
JOHNSON CREEK
Pleasant Valley
Springwater
MULTNOMAH CO
CLACKAMAS CO
DISCLAIMER AND NOTICE:
The information on this map has been gathered from a variety of sources. Every attempt has been made to offer the most current, correct, and complete information available. However, errors may occur or there may be a time delay between changes in information and updates. The information contained herein is subject to change at any time and without notice.
0 0.5 1 Mile
Path: Y:\Inter-Departmental\MapsAndData\Projects\2011\1600-1699\1648\MapDocs\MonitorSite2011.mxd
Date: 10/31/2011

Appendix C
Maps of Wet Weather Stormwater Monitoring Locations


Fixed Monitoring
Panel 1 Locations >1,000 TPD
Panel 1 Locatons <1,000 TPD
GRTS Selected Locations >1,000 TPD in other Panels
GRTS Selected Locations <1,000 TPD in other Panels
Non-selected City-owned UICs
NE BLUE LAKE RD
NE SANDY BLVD
NE 162ND AVE
I84 FWY
NE 181ST AVE
NE 207TH AVE
NE FAIRVIEW AVE
NE 223RD AVE
NE 238TH DR
NE 244TH AVE
SW HALSEY ST
NE HALSEY ST
SW CHERRY PARK RD
NE GLISAN ST
E BURNSIDE ST
SE 181ST AVE
SW 257TH AVE
3150-F-030
3151-F-064
3148-W-014
3153-F-040
3251-F-013
SE 162ND AVE
NW BIRDSDALE AVE
SE 223RD AVE
NW BURNSIDE RD
NE BURNSIDE RD
NE HOGAN DR
NE KANE DR
SE DIVISION ST
NW DIVISION ST
N MAIN AVE
SE 182ND AVE
W POWELL BLVD
SE POWELL BLVD
0
4,000
8,000
Feet


Rotating Sampling
Panel 6 Locations >1,000 TPD
Panel 6 Locatons <1,000 TPD
GRTS Selected Locations >1,000 TPD in other Panels
GRTS Selected Locations <1,000 TPD in other Panels
Non-selected City-owned UICs
NE BLUE LAKE RD
NE SANDY BLVD
I84 FWY
NE 162ND AVE
NE 181ST AVE
NE 207TH AVE
NE FAIRVIEW AVE
NE 223RD AVE
NE 238TH DR
NE 244TH AVE
SW HALSEY ST
NE HALSEY ST
SW CHERRY PARK RD
NE GLISAN ST
E BURNSIDE ST
SE STARK ST
SW 257TH AVE
SE 181ST AVE
SE 162ND AVE
NW BURNSIDE RD
NE BURNSIDE RD
NW BIRDSDALE AVE
SE 223RD AVE
NE HOGAN DR
NE KANE DR
SE DIVISION ST
NW DIVISION ST
N MAIN AVE
W POWELL BLVD
SE POWELL BLVD
SE 182ND AVE
2847-W-028
2947-W-013
3048-W-077
3046-W-006
3049-W-041
3050-F-043
3048-W-050
3047-W-106
3147-W-005
3150-W-068
3150-W-051
3149-W-016
3053-F-026
3153-F-091
3153-F-054
3055-B-007
3155-F-025
3252-F-059
3254-F-072
3348-W-037
3351-F-011
3348-W-043
3349-W-034
3349-J-003
3449-J-010
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Section 3:
City of Gresham Stormwater Management Plan Summary

City of Gresham NPDES Annual Stormwater Compliance Report

Section Three: Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
RC 1 Stormwater System Maintenance Plan						
A. Pipe Cleaning	Ongoing	Maintain stormwater system pipes to ensure proper function and limit impacts to water resources.	Clean and inspect 15-20 miles of pipe per year.	Number of pipe miles cleaned. Volume of debris collected.	15.5 miles. 3.8 cubic yards (cy) removed. ~350 staff hours.	A request was submitted to DEQ in fall 2012 to reduce the miles of pipe cleaned to 5, in favor of conducting other higher priority maintenance activities. Staff met with former DEQ staff to discuss the proposal. DEQ requested additional data from the City. In 2014, DEQ hired a new permit coordinator. DEQ was unable to put the request out for public comment prior to the permit's expiration. Oregon Adminstrative Statute prohibits alterning a permit that has been administratively extended, therefore, the City's request is on hold until the permit is reissued. There is no current projected timeline for permit reissuance.
B. Catch Basin Cleaning	Ongoing	Maintain stormwater system catch basins to ensure proper function and limit impacts to water resources.	Clean or inspect 100% of publicly-owned catch basins that drain to surface water annually.	Number of catch basins cleaned. Volume of debris collected.	6,132 residential cbs cleaned. 139 cy of debris removed. Notices are issued regarding parking, but 100% cleaning is never achievable given resource efficiencies and overall maintenance objectives for other activities. 1,498 arterial cbs cleaned. 50 yards of debris removed. The city has begun using software in the field to track debris in basins on the arterials to see if a different cleaning rate would be more cost and/or water quality effective. 3,159 hours of grey infrastructure cleaning activities.	None
C. Maintain Public Water Quality Facilities	Ongoing	Maintain publicly-owned water quality facilities to ensure proper function and limit impacts to water resources.	Maintain an average 20-25 facilities per year over the permit term. (Annual totals may vary).	Number and type of facilities inspected. Number and type cleaned. Type of maintenance conducted. Volume of debris removed.	Removed 92 cy of debris from two publicly-owned regional water quality facilities. Conducted 174 rain garden inspections and 24 ponds/swales. Routine maintenance is litter removal, minor sediment removal, mowing, pruning, removal of invasive weeds and volunteer trees, and debris blockage of inlets and outlets. 110 cy of debris removed. 3,469 hours of green infrastructure cleaning activities.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
D. System Repair and Maintenance	Ongoing	Maintain and repair pipes, ditches, culverts, inlets, off-road systems, etc. in order to ensure proper function and limit impacts to water resources.	Maintain and repair the stormwater infrastructure as needed.	Number of hours dedicated to R&M activities.	~6,580 staff hours were allocated to the repair and maintenance of pipes, catch basines, manholes, laterals, outfalls, conducting utility locates, significant rain event infrastructure inspections and emergency response, shop and equipment maintenance, gis mapping corrections of infrastructure, and public facility inspections.	None
E. Manhole/Detention Line Cleaning	Ongoing	Maintain manhole and detention line structures to ensure proper function and limit impacts to water resources.	Inspect 75% of manhole structures annually, as appropriate; clean detention lines only as needed based on inspections.	Track number of structures cleaned/repaired. Report volume of debris removed.	Inspected 248/248 sedimentation manholes removing 48 cy of debris from 21 structures. Inspected 200/200 flow control manholes removing 8.5 cy of debris from 17 structures. Inspected 227/227 detention pipes removing 6 cy of debris from 102 structures. Represents about 370 staff hours.	None
F. Ensure Proper Debris Disposal	On going	City staff decant water to the wastewater system, dry debris & test debris to ensure that it meets disposal requirements.	Ensure that the city utilizes environmentally sound disposal practices and services.	Keep records of annual disposal services utilized. Keep annual debris testing data.	The City contracts with Water Truck Services, a DEQ permitted entity, to recycle as much of the debris (separated into dirt v. rock and is reused).	None
G. Underground Injection Controls (UIC's) Maint. & Cleaning	As required by UIC Permit	Ensure that the city complies with the required elements of the WPCF permit in order to limit stormwater impacts to groundwater.	Under the City's UIC WPFC permit, report all maintenance and cleaning activities as required.	Keep records of annual maintenance locations and cleaning activities. Reporting not part of the MS4 Annual Report requirements.	NA	None
RC 2 Planning Procedures						
A. Water Quality Manual for New and Re-Development	Ongoing	Ensure that the water quality best management practices as described in the city's *Water Quality Manual/Green Development Practices Manual* are implemented by the development community to reduce impacts to local streams from stormwater pollutants.	Implement the *Manual* and bi-annually determine whether updates to the document are necessary. Conduct training to users of the *Manual* if it is updated significantly.	Track #, location, acreage & land use of new and redevelopment projects. Track # and type of private water quality facilities installed to comply with new development stds. Delineate and GIS map the drainage areas of the private facilities installed to comply w/new dev. standards. Track training activities.	See Table 3.1. Staff work with GIS staff to continually ensure a robust and high quality data set of stormwater system assets. As facilities are built, their type and area treated are recorded to aid the City in CIP and retrofit planning and design decisions as needed. This mapping also aids the City's pollutant reduction modeling that is required during the permit renewal submittal. During PY 21, staff hired an engineering graduate student to collect data on potential retrofit locations and develop a standardized scoring criteria with categories for staff to score and rank future planned retrofits. Staff continued to work on the Stormwater Manual update. The Manual update is expected to be completed in PY 22.	None
B. Promote Low Impact Development (LID) Practices	Ongoing	Utilize city *Water Quality/Green Development Practices Manuals* to incorporate low impact development practices into new and redevelopment projects where applicable.	Implement practices or programs that promote the use of low impact development techniques.	Track location, drainage area & type of LID practices that are implemented.	See Tables 3.1 and 3.2.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
C. Private Water Quality Facility Maint. Program	PY 16 and Ongoing	Continue implementing tracking procedures for the installation of privately-owned water quality facilities and policies that ensure that private owners understand their maintenance responsibilities.	Collect and record maintenance agreements for privately-owned facilities that legal code allows. Develop a program to ensure facilities are being adequately maintained.	Track #, type, year installed, & watershed location for all private water quality facilities. Report progress on program dev. related to private facility maintenance annually in PY 16 and ongoing.	There are approximately 207 private stormwater facility locations, some with multiple owners and some with multiple facility types (About 260 vegetated and 65 proprietary underground devices). City's code is utilized to ensure that private owners have legal responsibility for maintaining their facilities. During PY 20, staff obtained approval from City Council to take over the maintenance responsibility for 41 multiple owner residential private stormwater facilities, which represents a significance maintenance work load impact in the next three to five years. During PY 21, staff completed 31 inspections of 31 multi-owner underground vaults and replaced 58 proprietary stormwater cartridges at 13 private locations: staff completed 20 inspections of multi-owner vegetated facilities and completed maintenance work at 4 of them. Staff collected documentation from 32 commercial vault owners that maintenance was conducted. Staff continues to work with the City Attorney's office to transfer maintenance responsibility from the owners to the City and notify batches of owners to gain legal access to the private properties in the future. During PY 22-24, all facilities are expected managed to meet good to excellent condition standards.	None
D. Master Plan Update	Ongoing	Develop and update, as appropriate, Stormwater Master Plans for the city.	Include water quality goals in the city's master plans. Complete the Natural Resource Master Plan by PY 11-12.	Report on updates to Master Plans. Master plan project implementation w/water quality benefits are reported in BMP RC4: Water Quality Retrofits.	A flood reduction plan for Burlingame Creek is being developed during PY 21 and is expected to be completed within the next 2 years. The City is also planning to undertake a systemwide stormwater master plan effort over the next five to six years.	None
E. Urban Canopy Initiatives	Ongoing	Protect and enhance the urban canopy as part of the city's overall stormwater management strategy.	Create and implement an Urban Forestry Management Plan. Utilize Code Enforcement to ensure that urban canopy objectives are supported. Collect fines from tree removal violations that may be used for tree replacement efforts.	1) Report on progress of creating Urban Forestry Mgmt. Plan (UFMP) & annually report on status of Plan's implementation; 2) Report number of code compliance investigations & outcomes related to tree protection objectives; 3) Report outcomes that result from the collection of tree removal fines; 4) Report code changes, as applicable. See MON 2: Legal Authority and Code Review; 5) Report type/number of outreach activities conducted & estimated persons reached. See EDU 1: Stormwater Education Program.	The elements implemented under the UFMP included: *Tree code amendments to update rules for tree protection, removal and replacement. *Draft of a technical tree manual as companion to new tree code to assist property owners with code guidance. *Collaboration with community stakeholder groups that resulted in the Rockwood Tree Inventory. *Evaluation of Significant Trees *Implementation of various plan elements such as promotion of habitat along trails, enhanced tree list with tree committee, improved the arboreteum landscape plan to enhance survivability. There were seven tree code violations and all were resolved with replacement corrections.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
RC 3 Maintain Public Streets						
A. Street Sweeping	Ongoing	Continue street sweeping activities to prevent litter and debris from entering the public stormwater system.	Provide 8-10 sweeps of the city per year.	Track & report the number of sweeps per year, total miles swept and total debris collected.	Just over 5,800 street miles were swept during 10 sweeps in residential areas and 12 sweeps of arterials. Over 1,300 cy removed. 753 hours of additional sweeps were conducted by staff removing an additional 500 cy of debris.	None
B. Deicing	Ongoing	Continue to implement standard operating procedures to limit impacts to the environment from sand, gravel, and deicing product application.	Implement deicing practices in a manner that limits impacts to water quality.	Track & report an estimate of sand/gravel & deicing product applied to Gresham roads. Track miles of road to which sand/gravel or deicing products are applied.	Applied about 6,300 gallongs of Magnesium Chloride to 478 lane miles (streets vary from 2-4 lanes). Applied 75 yards of sanding rock and utilitized 115 staff hours to sweep the rock off the street.	None
C. Standard Operating Procedures for Road Maint. Activities	PY 16 and Ongoing	Continue utilizing ODOT's maintenance standard operating procedures, as well as the City's manual titled Standard Operating Procedures for Wetland, Waterway and Habitat Protection in order to guide city staff and contractors in resource protection efforts when working near jurisdictional resources.	Implement a road maintenance program that will limit impacts to water quality. Biennially train appropriate staff. Monitor program implementation and adaptively manage based on feedback and results.	Track & report implementation of training activities. Report changes to SOP's annually, if updated.	Continue to implement road maintenance SOPs for the protection of waterways.	None
RC 4 Retrofit & Restore System for Water Quality						
A. Water Quality Retrofits	Ongoing	The Watershed Engineering group will continue to implement the Stormwater Capital Improvement Projects that include water quality enhancement and pollution reduction elements.	Implement a CIP program that will help mimic the natural hydrologic cycle, treat stormwater, and promote stream protection and enhancement.	Track number, type, watershed location & total drainage area of CIPs constructed for water quality.	Table 3.1 includes CIPs implemented by departments other than the Watershed Division that include water quality treatment. Table 3.2 includes projects undertaken as a result of the Watershed and Natural Resource CIP list.	None
B. Enhance Riparian Areas	Ongoing	Continue conducting riparian restoration activities to remove invasive species, restore and enhance buffers and encourage multi-story native plant communities, channel stabilization and support of critical habitat.	Continue to seek partnerships/grants to implement riparian enhancement projects that will limit the introduction of stormwater pollutants into streams.	Track and describe riparian enhancement activities by location. Estimate number of volunteers/partners involved, where applicable. Estimate of acreage enhanced and total plans installed or invasives removed.	See Table 3.3.	None
RC 5 Monitor Pollutant Sources from Closed or Operating Municipal Waste Facilities						
Pollutant Source Evaluation	Ongoing	The City has reviewed historic records and current operating businesses to determine that, as of the 2010 permit application approval, no pollutant source exists from an operating or closed treatment, storage, or disposal facility for municipal waste. The City conducted an assessment of a closed facility during PY 12 and determined that no threat to stormwater existed from the facility. This report is available upon request.	Ensure that new municipal waste facilities within the City's permitted area are appropriately permitted and designed to limit the potential for pollutants to enter stormwater.	Review business permits annually. (Conducted under the IND 1 & 2 BMP A. Business Inspection Program). Report any new facilities and assessment results.	There are currently no operating treatment, storage or disposal facilities for municipal waste within the city. However, Gresham Sanitary Services who is a solid waste hauler, holds a UIC permit #13410 and is not connected to the City's stormwater system. They also have a DEQ Transfer Permit #1392 for reloading waste. The reloading area is entirely sealed and wastewater is discharged to the sanitary sewer via a licensed contractor. Annual inspections by DEQ or Metro and storm water management compliance is part of the inspection protocol.	None
RC 6 Reduce Pollutants from Pesticides, Herbicides and Fertilizers						

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
Integrated Pest Mgmt. Program	Ongoing	Limit the introduction of pesticides and fertilizers from city operations by implementing an integrated pest management plan.	Review and implement the IPM Plan biennially and, at a minimum, update at least once per permit cycle. Conduct training. Annually review the list of city approved pesticides.	Track frequency of staff trainings & number of staff trained. Report updates of the plan. Track quantities and types of pesticide, herbicides and fertilizer applications.	See Table 3-4 of Pesticide/Fertilizer Application Records. Staff applicators follow Oregon education certification requirements to retain their licensure, as applicable. See also EDU 1--Staff/Stakeholder Trainings	None
ILL. 1 Non-Stormwater Discharge Controls						
A. Control Releases from Fire Training Activities	Ongoing	Limit pollutants to stormwater from fire training activities by implementing standard operating procedures.	Ensure Fire Training is overseen by staff familiar with the SOP for stormwater protection.	Document fire training protocols for stormwater protection and train staff.	SOP is on file and Fire Training staff are familiar with protocol.	None
B. Water Line Flushing	Ongoing	Minimize impacts to the stormwater system from water line flushing activities by implementing standard operating procedures.	Ensure Water Line Flushing is overseen by staff familiar with the SOP for stormwater protection.	Train employees on standard operating procedure to minimize impacts to local streams. Annually report gallons flushed.	6.7 M gallons flushed using SOP. Flushing SOP is reviewed at staff meetings prior to work and for the benefit of new staff.	None
ILL. 2 & 3 Illicit Discharges Elimination Program						
A. Field Screening and Investigation	Ongoing	Conduct dry weather screening at high priority outfalls, at a minimum of once per calendar year. When appropriate conduct follow up investigation to identify the source (responsible party). If a responsible party is identified work to eliminate the illicit discharge.	Conduct annual dry weather screening at high priority outfalls. Document the procedures the city will follow when an illicit discharge investigation identifies a responsible party.	Track number & location of outfalls inspected. Track number & location of illicit discharges and/or connections identified. Include documentation in 2011 Annual Report. Describe follow-up actions for identified illicit discharges and/or connections in Monitoring Plan.	We inspected thirty sites. Ten sites had no flow. Several sites had turbidity above our action level of 15 NTU. Follow up investigation upstream did not reveal any source for the sediment. The most likely explanation is that the sample collection bailer stirred up sediment while collecting the water because the flow was very low. One site had pH below our action level of 6.5, but the follow up investigation upstream did not reveal any probable cause. One site had an ammonia value that exceeded our action level of 0.5 mg/L. We investigated the upstream portion of the pipeshed and found increasing ammonia levels. We located a cross-connection with the wastewater system on Wilkes Road near 181st Ave which was immediately repaired. Resampling after the correction showed levels well below action levels. See Table 3.5. The City's illicit discharge enforcement response procedures are described in Section 7 of the Stormwater Monitoring Plan on the City's website at: www.greshamoregon.gov/watershed	None
B. CCTV New Development Stormwater Pipes	Ongoing	Conduct closed-circuit television (CCTV) inspections of new stormwater pipe installations during development projects to eliminate cross-connections.	CCTV at least 80% of all new pipes installed in the city.	Track number of stormwater pipe miles inspected as a percentage of the total stormwater pipes installed.	100% of new development inspected. About 3.8 miles CCTV'd for development finals, routine or investigative inspections. Represents ~750 staff hours.	None
ILL. 4 Spill Response Program						
A. Spill Response	Ongoing	Respond to reports of spills or illegal dumping using the city's spill response protocol for hazardous and non-hazardous substances.	Implement the city's spill response protocol and conduct periodic review of the document to ensure efficacy.	Track number, type & location of spills that occur & the approx. quantity of material spilled. Track the response activities. Does not include traffic accidents, unless additional assistance is requested from the Watershed Operations staff.	See Table 3-6.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
B. Spill Prevention (Hazardous Waste Mgmt. - City)	Ongoing	Continue to carefully manage hazardous materials to prevent spills on City-owned property from city practices.	1) Ensure safe handling, storage and disposal of hazardous fluids in order to prevent spills and limit pollutant sources to stormwater by training staff appropriately. 2) Provide periodic review of City contractor's safety and environmental violations and disposal permits, where applicable, to help ensure environmental compliance of contractors handling the City's waste products.	Report quantities of hazardous materials disposed annually. Report number of spill incidents and outcomes annually. Request & review contractor's permits, where applicable, at least annually and biennially review appropriate regulatory agency databases for safety and environmental violations.	Quantities of hazardous materials disposed: Used oil filters: (1) 30 gal drum Used oil: 230 gal Used Antifreeze: 50 gal Used Tires: 355 Used batteries are returned to the vendor for recycling All other recyclable commodities are recycled. Vendors utilized: Thermo Fluids, Tire Disposal & Recycling, Battery Systems, and Automotive Xpress Delivery.	None
C. Maintain Public Vehicles	Ongoing	Continue to maintain city vehicles and equipment to limit the contribution of stormwater pollutants from leaks and runoff, etc.	1) Maintain City-owned vehicles & equipment and ensure proper handling & disposal of fluids to reduce the likelihood of leaks or spills being released into the MS4 system or the environment. Meet DEQ Permit 1700 A deminimis discharge or seek a permit and/or waiver.	Report annual disposal quantities of all fluids and vendors utilized. Report status of deminimis discharges or Vehicle Wash Water permit implementation and/or waiver.	Quantities included in the BMP: Spill Prevention (Hazardous Waste Mgmt. - City) above. DEQ is currently not issuing Vehicle Wash Water permits. The Fire Department washes less than 8 vehicles per week per fire station and does not use heated water, does not wash the engine, transmission or undercarriages, but does use a phosphate-free soap on the vehicle exterior.	None
ILL. 5 Facilitate Public Reporting						
Facilitate Public Reporting & Respond to Citizen Concerns	Ongoing	Continue to provide an outlet for public concerns regarding stormwater pollutant issues such as illegal dumping, erosion, plugged drains, invasive plants, etc.	Include information about how to report concerns of illegal discharges in various city publications.	Track number of calls/letter received, the issue of the call, and the response to the call.	See Table 3-7.	None
ILL. 6 Facilitate Proper Management Disposal of Used Oil & Toxics						
Facilitate the Proper Mgmt. & Disposal of Used Oil & Toxics	Ongoing	The City uses a variety of approaches to encourage proper solid waste, recycling, and hazardous waste management practices including: GREAT Business Education Program, Special Collection Events for the Public, and Curbside Recycling of Oil.	Continue to offer disposal, recycling, and/or collection programs that facilitate the proper management of solid and hazardous waste in the business and residential sectors.	Track quantities of used oil and toxics collected. Estimate the number of persons and/or households reached.	City contracted haulers estimated 11,424 gallons of curbside oil collected. Hazardous Waste Event collected: 1,600 cfl bulbs. lamps and tubes, 40 cy of stretchy plastics, 1,000 lbs of styrafoam, and 7,621 mixed electronics like microwaves, TVs, printers, etc., and 2 large moving vans of reusable household rigid plastic lawn furnture, toys, etc. were donated to charity for reuse. Approximately 1,100 cars/households attended.	None
ILL. 7 Limit Sanitary Sewer Discharges						

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
Limit Sanitary Sewer Discharges	Ongoing	The City's Wastewater Treatment Plant operates under its own NPDES discharge permit. Its programs include a pretreatment inspection program and implementation of Capital Improvement Projects that overall assist the City in meeting the NPDES MS4 Stormwater Discharge Permit objectives.	Continue to implement operations and maintenance programs for the wastewater pipe system that limits the introduction of sanitary sewer waste into the stormwater system.	Track sanitary discharge to the stormwater system, including estimated volume and location. Track follow-up responses to the identification of any sanitary discharges to the stormwater system. Track implementation of the CIP to connect currently unsewered properties to the sanitary sewer system.	During FY 15-16, the City switched to a new utility billing system and is in the process of updating and digitalizing accounts, making future account analysis more powerful. Based on this system update, our records show 24,014 total accounts (active and inactive). County Sanitarian records show 3 tanks were decommissioned within Gresham. Operations cleaned 62 miles of pipe and inspected 33 miles with the CCTV camera. Conducted 7 mainline repairs, 39 lateral repairs, 15 manhole repairs and investigated and alleviated 53 blockages. The Wastewater CIP continued the replacement of the 1950s mainline pipe. Project work included replacement of 1,354 linear feet (lf) of 15” pipe, 251 lf of 12” pipe, and 3,369 lf of 8” sewer pipe. City Attorney's office continues to work on the civil penalty legal issues related to two properties refusing to hook up to the city sewer.	None
IND. 1 & 2 Industrial Inspection & Monitoring						
A. Business Inspection Program	Ongoing	The City's Stormwater Business Inspection Program consists of a variety of approaches including: business license review and technical assistance; prioritized business inspections; review of business classification codes to determine those that may need 1200Z or 1200-COLS permits to submit to DEQ and collaboration with DEQ to ensure 1200Z permit data is adequately reviewed; cross training with the Wastewater Pretreatment and Fats Oils and Grease Inspectors to look for potential stormwater concerns, and a business education program that is implemented by the Solid Waste & Recycling Division staff.	Continue to implement business license review, business inspections and business education efforts to help prevent and reduce the introduction of pollutants into stormwater from business practices.	1) Track number & location of stormwater related issues identified during the business license review and follow-up. 2a) Report status of ongoing program development.	(1) 285 new businesses licenses came into the city. Review for environmental compliance concerns was provided to 12 food/bar/grocery related establishments, 15 automotive and 2 medical related businesses.	None
A. Business Inspection Program				2a) Report status of ongoing program development.	2a) Stormwater business inspections are conducted in partnership with the Water and Wastewater Division inspections. The program will continue to look for stormwater concerns by conducting 1200Z/COLS/Wellfield/Pretreatment inspections and will rotate across the total number of automotive businesses every other year. As resources allow or observational concerns come up for a particular sector, additional businesses with potential to contribue to stormwater pollutants will be added.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
A. Business Inspection Program				2b) Notify DEQ of businesses that may need a 1200-Z or 1200-COLS permit and report actions promised by businesses with which the City is working.	(2b) Staff reviewed the business license applications and did not identitfy any businesses neeing a DEQ 1200-Z or COLS permit. Table 3-9 contains a list of currently permitted industries with their inspection history, as applicable.	None
A. Business Inspection Program				2c) Track business inspections, including businesses location, outcome and follow-up. Estimate the number and type of businesses to be inspected for the next year. 2d) Report stormwater concerns identified by the wastewater pretreatment program and resolution. 3) Track GREAT business program environmental audits and certification annually. (Reported in Public Education--Table 3-8).	(2c) Sixteen auto related businesses inspected. Two are requiring follow up code violation warnings and may result in enforcement during PY 22. Others are in compliance and made voluntary corrections related to storage and washing. Staff inspected 71 businesses within the wellfield area, six of which required corrections and voluntarily complied. Ten Pretreatment Inspections were conducted. No stormwater violations were found. Projections for PY 22, include 35-45 Wellfield/1200Z/Pretreatment Inspections and 10-12 automotive businesses. (2d) Staff inspected 8 permitted industrial sites and DEQ staff inspected one (1200Z/COLS and Wastewater Pretreatment). Compliance for violations at McDonald and Wetle will continue into the future. (3) See Table 3-8.	None
B. Industrial Monitoring Program	Ongoing	Coordinate with DEQ to ensure adequate notification of potential 1200Z and 1200-COLS permits and review of data submitted by permit holders.	Continue annual inventory of 1200-Z and 1200 COLS businesses within the city's boundaries and review monitoring results submitted to DEQ on an annual basis, if DEQ has not already done so. Report exceedances to DEQ, if applicable.	Track NPDES 1200Z/1200COLS permits issues in Gresham. Track number of violations reported.	During PY 21, staff reviewed the DEQ database of permitted facilities and checked for DEQ enforcement actions. There are currently 14 permitted facilities within Gresham's jurisdiction. No DEQ enforcements have been taken on any of these permitted industries and no additional assistance was requested by DEQ. Gresham staff inspected 10/14 industries to ensure wellfield protection area code implementation. Some corrective measures were requested. One industry enforcement is ongoing to gain full correction measures. These are listed in Table 3-9.	None
CON. 1 & 2 Construction Site Planning & Controls						
Erosion Prevention & Sediment Control Manual	Ongoing	Continue to update the City's *EPSC Manual* when necessary to reflect current available and accepted technologies and City code and implement the Manual in order to limit impacts to local streams from stormwater.	Implement the EPSC Manual in order to limit stormwater pollutants from construction and development. Review and evaluate the manual biennially to assess changes needed, if any. At a minimum, at least once per permit cycle.	Track updates to the Manual.	The EPSC Standard Operating Details and Manual are being issued and implemented.	None
CON. 3 Construction Site Inspection & Enforcement						

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
Construction Site Inspection & Enforcement	Ongoing	Continue to implement an EPSC inspection program to ensure adherence to EPSC Manual requirements and 1200-C permit requirements, where applicable.	1) Implement the EPSC inspection program to enforce the EPSC Manual. 2)Ensure proper staff training. 3) Examine tracking parameters such as types of violations, number of active sites and total associated acreage.	Track the number of sites inspected annually. Track training sessions conducted for staff. Report parameters assessed and program adaptive managment that result, if applicable.	A total of 254 sites were inspected: 242 with residential or commercial building permits and 12 sites with grading permits. Ther were 15 disapproved inspections affecting 12 sites. Correction notices were related to installing/maintaining perimeter control or permanent vegetation, protecting stockpiles, and sweeping streets.	None
Stormwater Education Program	Ongoing	Provide notice to construction site operators concerning where education and training to meet EPSC requirements can be obtained.	Ensure developers and construction permit holders are adequately informed of the city's EPSC Manual BMPs and requirements to limit impacts to streams from stormwater.	Report training and communication efforts to the construction community.	See Appendix D: Wet Weather Notification Letter Notice to Contractors.	None
EDU. 1 Stormwater Education Program						
A. Ensure Staff/Stakeholder Training	Ongoing	Continue to train new or existing employees as appropriate on all documents that regulate stormwater pollutant control activities such as: IPM Plan, Water Quality Manual, EPSC Manual, and Spill Response Protocol, etc.	Continue to train new personnel and existing personnel, as appropriate on stormwater regulatory documents and conduct trainings for stakeholders, when applicable.	Track the number of personnel & contractors who receive training by topic.	A variety of staff across operations & maintenance, inspections, and policy positions attended trainings in the following areas: * Invasive Species Identification (1) * NASSCO-National Association for Sewer Service Companies (2) * Oregon State Pesticide Licensure Renewal (2) *APWA Short School (6) *Standard Operating Procedures for new employees *Equipment Use and Safety for new employees	None
B. Educate Residents	Ongoing	Continue to create and deliver programs and/or messages to educate the public regarding non-point sources of pollutants of concern.	Continue to educate the public regarding their personal contributions to stormwater pollutant sources and impacts to water bodies, as well as the steps or actions they can take to reduce pollutants.	Track programs/messages delivered, type of communication piece and, where appropriate/known, the number of people affected and measured behavior changes. Annually report the Public Education program priorities and plans for the following year.	See Table 3-8. For PY 22, staff will continue to support the implementation of the Backyard Habitat Conservation Program, an ACWA/Regional Coalition coordinated effort for media advertising, Watershed Council outreach, individualized customer response, neighborhood illegal discharge response, a new public education garden at Main City Park, and Nadaka Park education programs.	None
C. Educate Businesses	Ongoing	Continue to create and deliver programs and/or messages to educate businesses regarding non-point sources of pollutants of concern.	Continue to educate the public regarding their personal contributions to stormwater pollutant sources and impacts to water bodies, as well as the steps or actions they can take to reduce pollutants.	Track programs/messages delivered, type of communication piece and, where appropriate/known, the number of people affected and measured behavior changes. Annually report the Public Education program priorities and plans for the following year.	See Table 3-8. For PY 22, staff will continue to support the implementation of the GREAT Business Program, the EcoBiz Program, the SCAP program, the EPSC contractor outreach and also completed a notice to area carpet cleaning companies regarding proper disposal and staff training expectations, as well as notices to private catch basin owners regarding the need to submit cleaning documentation to the City.	None
Program Management & Monitoring						

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
MON 1 Annual Report Writing	Ongoing	Coordinate across the city to review program commitments, gather data, and where appropriate, assist with program evaluation and additional goal setting or BMP enhancements.	Submit the Annual Report to DEQ on behalf of Gresham and Co-Permittee, as required by the permit.	Each year provide a report that includes the following components: * a description of the public comment notice method; *status of the SWMP implementation and SWMP program elements, progress in meeting the measurable goals; *status and/or results of any public education program effectiveness evaluation conducted during the reporting year and a summary of how the results were or will be used for adaptive management.; *a summary of the adaptive management. process during the report year, including any proposed changes to the SWMP identified through implementation of the adaptive mgmt. process; *proposed changes to SWMP elements designed to reduce TMDL pollutants to the MEP; *a summary of total stormwater program expenditures and funding sources over the reporting fiscal year and those anticipated in the next fiscal year;	This year's Annual Report included a public comment period from October 14-27, 2016. Notices ran in the Oregonian and on Oregonlive.com. The City placed a notice on its website and also issued a press release to all media. A notice was also published in the City's e-newsletter which is emailed to ~800 households. A notice was emailed to the local active Watershed Councils and the City's Natural Resource & Sustainability Committee. The status of the SWMP implementation and progress meeting measurable goals is described throughout this report. The Adaptive Management Process is described in Section 1 and a summary of the adaptive management process and resulting proposed changes may be found in the Summary and Date of Proposed Adaptive Management Column for the respective BMPs effected. A summary of total expenditures is included as Table 3-10.	None
				*a summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year and/or assessments or evaluations; *any proposed modifications to the monitoring plan that are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments;	A summary of the Environmental Monitoring Plan implementation for Gresham and Fairview is included as Section 2 of this report with a separate Appendix A, B & C of supporting raw data collected during PY 21.	None
				*a summary describing the number & nature of enforcement actions; inspections & public education programs, including the results of ongoing field screening and follow-up activities related to illicit discharges; *an overview, as related to MS4 discharges, of concept planning, land use changes and new development activities that occurred within the UGB expansion areas during the previous year, and those forecast for the following year, including the number of new post-construction permits issued, and the estimate of total new or replaced impervious surface area related to new development and redevelopment projects commenced during the report year; *Annual Report 2014 must also include: TMDL Pollutant Load Reduction Evaluation; Wasteload Allocation Attainment Assessment; 303 (d) Evaluation; Hydromodification Assessment; Retrofit Plan.	A summary of the Illicit Discharge Detection & Elimination Program (Dry Weather Screening and Spill Response) may be found in Tables 3-5 and 3-6. Locations for IDDE sampling are shown in Monitoring Program Appendix B Figure 2-1. A summary of concept planning, land use changes and new development activities for UGB expansion areas may be found in Appendix B. A summary of development permits issued within the City of Gresham is included in Table 3-1.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	Status 2015-2016	Summary and Date of Any Proposed Adaptive Management Modifications
MON 2 Legal Authority and Code Review	Ongoing	Review existing code to ensure that the city maintains adequate legal authority and other requirements as stated in the NPDES MS4 permit.	Maintain adequate legal authority, as required by the permit.	Maintain adequate legal authority through ordinance(s), interagency agreements or other means to implement and enforce the provisions of the NPDES MS4 Permit #101315. Track enhancements or improvements to existing City code.	See Appendix A.	None
MON 3 Program Evaluation/Monitoring	PY 17 or as otherwise dated in the permit.	Review the 303(d) list to determine whether there is a reasonable likelihood of stormwater from the MS4 to cause or contribute to water quality degradation of receiving waters. Utilize the city's GIS mapping staff to enhance program evaluation efforts.	Conduct a 303 (d) pollutant evaluation, as required by the permit.	Submit a report summarizing the results of the 303(d) list review and evaluation and any proposed SWMP modification or updates necessary to reduce applicable 303(d) pollutants to the MEP: Submit a Waste Load Attainment Assessment; Submit a TMDL Pollutant Load Reduction Evaluation; Track significant mapping efforts that help evaluate, enhance or support the SWMP BMPs.	Significant mapping projects conducted during PY 21 include: *Provide maps for operations and maintenance activities. *Created a digital inspection form for mapping private catch basins. *Created walk/bus maps for stormwater interns cb mapping project. *Ongoing maintenance of stormwater asset data and drainage treatment areas *Map of Backyard Habitat/Rain Garden/Downspout programs for analysis. *Address exports for illicit discharge issues, business program notices, community education events and workshops *Maps for public/private pond/swale/rg maintenance. *Maintenance mailers to private stormwater system owners.	None
MON 4 Public Involvement	Ongoing	Conduct public involvement activities as required by the permit, such as annual reports, retrofit strategy, and Permit Renewal Submittal elements.	Conduct public involvement activities and report outcomes.	Report the number of people reached during public involvement activities.	The Annual Report is also released for public comment which is described in MON 1: Annual Report Writing. Below is a summary of potential reach utilizing the typical methods for making public announcements. Gresham's population is about 105,000 (2010 U.S. Census). The Oregonian daily readership in the Portland-Metro area is about 200,000, and Oregonlive.com recieves 9M unique visitors annually. The City's Website Home Page receives ~13,000 visits per month. The City's Watershed Division web page, where public comment documents are housed electronically, receives ~1,300 views annually. City Newsletter mailed quarterly to 48,000 households.	None
MON 5 Permit Renewal Submittal	PY 17-18 or as appropriate to meet permit deadlines.	At least 180 days prior to permit expiration, prepare and submit the Permit Renewal Submittal package to DEQ.	Submit the Permit Renewal Package to DEQ.	Submittal includes as required by permit but is not limited to: Proposed modifications, including additions and removals of MBPs and measurable goals; Information allowing the Dept. to make an independent assessment that the SWMP proposed meets the requirements of the permit to the MEP; Updated pollutant loads for TMDL pollutants and BOD5, COD, nitrate, total phosphorus, dissolved phosphorus, cadmium, copper, lead & zinc; Establishment of TMDL Pollutant Reduction Benchmarks, if not achieving the WLA; A proposed monitoring program; A description of service area expansions; A fiscal evaluation summarizing expenditures for the current and next permit cycle; Updated MS4 maps.	The City of Gresham submitted its permit renewal package to DEQ on December 15, 2015. This included an updated Stormwater Management Plan and Monitoring Plan that went out for public comment on Nov 30 thru Dec 13, 2015. No comments were received. The City's permit expired on December 29, 2015 and was administratively extended by DEQ in a letter dated February 25, 2016. The City, therefore, is following the SWMP dated April 2011 and adaptively managed in April 2013. The City's permit allows for the Monitoring Plan to be adaptively managed by reporting changes in the annual report to DEQ. As such, the City's current Monitoring Plan was last updated in August 2014. All documents are located at GreshamOregon.gov Watershed Documents.	None

Table 3-1: Total New and Redevelopment Acreage

Project Name	Land Use Type	Develop-ment Type	Location	WQ Treatment	Ownership*	System	Project Size/Area Treated (acres)	Construction Disturbance (acres)	Percent*** Impervious
Baseline Industrial Construction	Industrial	RE	17101 NE Halsey	Infiltration Rain Garden	Private	UIC	0.2	1.2	80%
Friends of the Children	Commercial	RE	424 NE 172nd	Stormwater Planter/Vegetated Bioswale/Pervious Pavement	Private	UIC	0.5	1.0	66%
Gresham Toyota	Commercial	RE	950 NE Hogan	Rain Garden	Private	MS4	0.5	0.7	88%
Hayden Meadows at Brookside	Residential	New	SW 41st and SW 43rd	Stormwater Planters	Public	MS4	9.7**	6.0	62%
Legacy Mt Hood Office Building	Commercial	New	25050 SW Stark	Rain Garden	Private	UIC	6.0	6.0	21%
Gateway Corporate Center	Industrial	New	3000 NE 181st	Rain Garden/Vegetated Bioswale	Private	MS4	5.0	11.5	97%
Orient Plaza	Commercial	New	2705 SE Orient	Rain Garden	Private	MS4	0.3	0.6	41%
Rockwood Water Cleveland Pump Station	Residential	RE	2901 SE Cleveland	Rain Garden	Private	UIC	0.1	0.7	43%
Crystal Creek Professional Building	DTM	New	742 SE Division Street	Rain Garden	Private	MS4	0.9	0.6	55%
Vo's Auto Repair	Commercial	RE	2311 SE 182nd	Vegetated Bioswale	Private	UIC	0.2	0.3	54%
Moore Partition	Residential	New	17309 NE Couch St	Pervious pavement	Private	UIC	0.6	1.0	60%
Walter's Hill Radio Towers	Residential	New	1099 SW Blaine Ct	Rain Garden	Private	MS4	0.1	0.2	7%
Total Disturbed Acreage								**29.8**	

Key: Treatment: N/A = development did not trigger water quality treatment requirements (disturbance of 1,000 sq. ft. or greater).
Disturbance: Trace or N/A = work done within an existing developed area, i.e., on pavement or within a pipe or other structure.
Impervious Area: N/A = existing impervious was not increased or reduced.
New = New Development
RE = Redevelopment (more likely to develop on existing impervious foot print)

*Public ownership is City of Gresham only, Private refers to all projects owned by entities other than City of Gresham.
**Typically, projects cross multiple years and data entry lags significantly from when permits are issued; therefore, data for many impervious estimates in this table is not currently available but will be reported in subsequent years, as finaled.

***Final percentage of site that is covered in impervious area and sometimes includes a net reduction in redevelopment projects. If data is unknown, modeling impervious values by land use are used.

Table 3-2 Examples of City of Gresham Watershed/Natural Resource Program Projects with Water Quality Benefits

Project Name/Watershed	Watershed	Project Status	Stormwater Mitigation Measures/Area Treated	Funding Mechanism
Private/Public Partnership Projects				
Riparian and Upland planting	Fairview Creek, Johnson Creek, Kelly Creek, Butler Creek, Bear Creek, and Chastain Creek.	Old farm structures at Fairview Creek Headwaters northern end (33 acres) demolished and restoration initiated in partnership with Metro. Continued weed control and interplanting of native species occuring along Fairview Creek at 3 project sites, Johnson Creek at 3 project sites, Kelly Creek at a single project site, Butler Creek along 3 project sites, and a single project site at Bear Creek and Chastain Creek.	NA	Natural Resources Operating Funds
Invasive Weed Survey & Control	All	Active, ongoing invasive control	Spot treatment for controlling aggressive invasives that lead to bank failures, including Japanese knotweed, Himalayan blackberry, purple loosestrife, and yellow flag iris.	Natural Resources Operating Funds
Fairview Creek Wetland Mitigation Bank	Fairview Creek/Columbia Slough	Sought input from Governor's staff and Oregon's Regional Solutions team to overcome permitting barriers; again working with state and federal resource agencies related to required permitting for project involving restoration of 39 acres of wetland, and creation of a discrete Fairview Creek (removal of 2 inline ponds).	Water quality, stream function, wetland function, and habitat improvements.	Watershed CIP and external partner funding (Port of Portland)
Homeless Camping Impacts in Riparian area	Fairview, Kelly, Burlingame and Johnson Creeks	Due to sharp uptick in homeless camping and drug use at camp sites, Natural Resource staff invested a significant amount of time and operating dollars to assist other City departments with camping issues. Concerns included assessing riparian damage and restoration plantings, tree cutting, litter and human waste. Riparian damage was most pronounced near multi-use trails such as the Springwater Cooridor, Wy'East Way, and Gresham Fairview Trails. City resources were spent conducting camp site cleanups and removal of human waste.	Water quality, riparian function, understory function, erosion control	Natural Resources, Parks, Transportation, and General Fund Operating Funds

Table 3-3: Restoration Activities

Project Site	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Plants Installed	Notes
Gresham Woods	JCWC, PWRP, FOT, NYC	100	24.00	9	2,800	Includes 9 acres are long-term maintenance stage along Chastain Creek, completed by FOT through grants and matching City funds. Long-term maintenance of the corridor. Intensive invasive weed removal and spraying this past year for Yellow-flag iris, lesser celandine, Himalayan blackberry, and Japanese knotweed.
Butler Creek Corridor	AC, NYC, Talon	525	24.00	10	2,780	Entire area continues to be restored. No new area this year. Restoration work includes invasive removal and native interplanting throughout the entire site. Sites are located starting at 14th street, up to Marpol Pond.
Eagle Woods/Johnson Creek Reach 1	Metro	0	3.48	3.48	1,400	Entering into maintenance phase; invasive removal and native interplanting throughout the entire site. Intensive removal of invasives this past year included both spraying and hand pulling of weeds.
Springwater Woods	AC, NYC, Springwater Trail HS, JCWC, Citizen volunteers	645	20.00	4	4,125	Restoration work includes invasive removal and native interplanting throughout the entire site. One particular site in Springwater Woods was the focus this past year, Ochioto. Most of the plantings and live staking occurred at this location.
Fairview Creek Headwaters	AC, RLA	24	6.00	1	200	Ongoing test site for reed canary grass control methods and restoration of headwater wetlands. Turtle habitat restoration adjacent to Wolf Property included weed control and seeding of the area. Live staking and invasive species control occurred at RLA work area off Sandlewood Loop.
Bear Creek	AC, NYC	80	1.10	1.1	1,610	Bear Creek restoration at outfall and above confluence with Butler Creek. Restoration this year focused on removal of aggressive invasives and planting of shrub and tree stock.

Project Site	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Plants Installed	Notes
Kelly Creek (Scott Street)	AC, NWYC	200	4.50	4.50	1,305	Restoration work includes invasive removal and native interplanting throughout the entire site.
Jenne Creek (Border Way) - Headwaters	AC, NYC, JCWC, Centennial High School	450	5.00	5.00	2,105	Invasive removal and native plantings. Included in JCWC Watershed Wide event. Removal of invasives included both hand pulling and spraying of herbicide.
Jenne Butte	AC, NYC	350	10.00	2.00	300	Included extensive work on removal of garlic mustard and planting of native species in area of garlic mustard impact.
Grant Butte	AC	75	4.00			Invasive tree and vine removal, including removal of spurge laurel on butte.
Gabbert Butte	AC, NYC	60	12.00	3.00	685	Oak savannah restoration; installation of wildlife structures; invasive species removal
Total		**1374**	**79**	**29**	**12915**	

CSWC =	Columbia Slough Watershed Council	PWRP =	Portland Watershed Revegetation Program
FOT =	Friends of Trees	STHS =	Springwater Trail High School
GHS =	Gresham High School	NYC =	Northwest Youth Corp
JCWC =	Johnson Creek Watershed Council	RLA =	Reynolds Learning Academy
AC =	AmeriCorps	Talon=	Audubon Society of Portland youth program

Table 3-3

Table 3-4 City of Gresham Pesticide/Fertilizer Applications

Department	Product Utilized	Quantity
Facilities Maintenance		
	Ranger Pro (isopropylamine salt of glyphosate)	336.6 oz.
	Speedzone (2-Methyl-4-chlorophenoxyacetic acid, 2-ethylhexyl ester, 3,6-Dichloro-o-anisic acid (Dicamba), Carfentrazone-ethyl, R(+)2(2-Methl-4-chlorophenoxy propionic acid (MCPP)	13.5 oz.
	Crossbow (2,4-D, Triclopyr, Kerosene)	13.25 oz.
	Power Zone ((2-Methyl-4-chlorophenoxyacetic acid, 2-ethylhexyl ester, 3,6-Dichloro-o-anisic acid (Dicamba), Carfentrazone-ethyl, R(+)2(2-Methl-4-chlorophenoxy propionic acid (MCPP)	43.2 oz.
	Dimension 2 EW (Dithiopyr, Cyclohexanone, 2-Ethylhexanol, Toluene)	90 oz.
	Snapshot 2.5 TG (Isoxaben, Trifluralin)	365 lbs.
Transportation		
	Crossbow (2,4-D/Triclopyr, Kerosene)	600 oz.
	Roundup (glyphosate)	1,010 oz.
	Dimension (dithiopyr)	288 oz.
	Gallery 75 DF (Isoxaben, Kaolin)	3 lbs.
	Gallery (isoxaben)	303 oz.
	Dimension (dithiopyr)	607 oz.
Wastewater	none	NA
Watershed	Rodeo (isopropylamine salt of glyphosate)	327 oz.
	Monterey Super 7 (surfactant: methyl acetic acid/monoethanolamine)	205 oz.
	Milestone VM Plus (Triclopyr)	12 oz.
	Garlon 3A (triclopyr)	278 oz.
Natural Resource Program	Competitor (surfactant)	2.4 gal.
	Rodeo (isopropylamine salt of glyphosate)	6.4 gal.
	Garlon 3A (triclopyr)	5.0 gal.
Water	Roundup (glyphosate)	490 oz.
	Crossbow (2,4-D/Triclopyr, Kerosene)	76 oz.
	Casoron (dichlobenil)	45 lbs.
Parks	Roundup (glyphosate)	206 oz.
	Roundup Pro (Isopropylamine salt of N-(phosphonomethyl) glycine; Isopropylamine salt of glyphosate)	17 oz.
	Crossbow (2,4-D/Triclopyr, Kerosene)	208 oz.
	Element 3A (triclopyr triethylamine salt, triethylamine, ethanol)	18 oz.
	Casoron (dichlorbenil)	212 lbs.
	Wilbur Ellis Perfection 21-7-14 (N-P-S, Quartz, Cristoboli	880 lbs.
	Scythe (Pelargonic Acid, petroleum distillates)	345 oz.
	Red Zone (2,4-D, Mecoprop-p, Dicamba, Pyraflufen-ethyl	320 oz.
	Snapshot 2.5 TG (Isoxaben, Trifluralin)	30 lb.
	Power Max (potassium salt of glyphosate)	1,244 oz.
	4-speed (2,4-D, Triclopyr, Dicamba)	348 oz.
	Chaser Turf Care (2,4-D Ester, Triclopyr)	140 oz.
	Weedar 64 (2,4-D)	1,080 oz.
	Finale (Glufosinate ammonium, Sodium alkyl ether sulphate, 1-Methoxy-2-propanol)	215 oz.
	liquid totals	**82.8 gal**
	dry totals	**1,535 lbs**

Table 3-5: Illicit Discharge Detection & Elimination--Dry Weather Screening Results and Follow-up

Basin	Site Code	Date	Flow	Odor	Color	Clarity	Floatables	Deposits/ Stains	Veg Cond	Structural Cond	Biological	Last Rain	DO (mg/L)	pH	Temp (*C)	Conductivity (µS/cm)	Turbidity (NTU)	Total Chlorine (mg/L)	Ammonia Nitrogen (mg/L)	Observations and Outcome
Pollutant Parameter Action Levels (Table 15 of the Gresham/Fairview Monitoring Plan)													**NA**	**<6.5, >8.5**	**NA**	**>300 µS/cm**	**>15 NTU**	**>0.5 mg/L**	**>0.5 mg/L**	
Johnson	J17	8/12/2015	Yes	None	Clear	Clear	None	None	NA	Normal	Iron Bacteria	> 1 Week	7.65	7.31	19.4	152.7	5.96	0.1	0.25	
Burlingame	T18	8/11/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	No flow
Burlingame	S18	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	Iron Bacteria	> 1 Week	6.1	7.17	20.3	73.5	7.66	0.1	0.25	Iron Bacteria present
Burlingame	T14A	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	Minimal flow, could not collect sample.
Kelly	R15	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	8.44	6.71	18.6	103.2	39.3	0.4	0.25	Turbidity reading was affected by sediment scraped into the bailer.
Burlingame	S11	8/11/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	Minimal flow. Not enough to collect a sample.
Burlingame	P13	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	7	7.2	20	86.2	2.52	0.1	0.25	
Columbia Slough	G1	8/12/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	8.5	8.17	18.5	234	0.94	0.1	0.25	
Johnson	J10	8/12/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	6.8	6.15	17.8	144.9	0.86	0.1	0.25	
Fairview	I12B	8/12/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	9.3	8.08	17.1	185.9	1.19	0.1	0.25	
Johnson	E18A	8/12/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	No flow
Johnson	G18A	8/12/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	Not enough flow to collect sample
Burlingame	S20	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	8.03	6.95	21.5	84.1	1.39	0.1	0.25	
Johnson	J18	8/12/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	No flow
Johnson	M16	8/12/2015	Yes	None	Clear	Clear	None	None	NA	Normal	Iron Bacteria	> 1 Week	7.62	7.22	19.4	284.5	17.6	0.4	0.4	Lots of iron bacteria
Johnson	J18A	8/12/2015	Yes	None	Clear	Cloudy	None	None	NA	Normal	NA	> 1 Week	9.25	7.88	18.4	220.9	35.4	0.1	0.4	Sediment from bottom of pipe contributed to turbidity reading.
Johnson	N16	8/12/2015	Yes	None	Brown	Cloudy	None	None	NA	Normal	NA	> 1 Week	7.92	7.49	18.4	259.5	32.5	0.1	0.4	Sediment from bottom of pipe contributed to turbidity reading.
Johnson	L16B	8/12/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	8.52	7.95	19.9	222	15.4	0.1	0.25	Sediment from bottom of pipe contributed to turbidity reading.
Columbia Slough	D2A	8/11/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	Minimal flow, could not collect sample.
Columbia Slough	H3	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	7.75	7.35	27.3	169.3	6.37	0.1	0.25	Sample taken at inlet of pipe from Catellus Slough

Table 3-5: Illicit Discharge Detection & Elimination--Dry Weather Screening Results and Follow-up

Basin	Site Code	Date	Flow	Odor	Color	Clarity	Floatables	Deposits/ Stains	Veg Cond	Structural Cond	Biological	Last Rain	DO (mg/L)	pH	Temp (*C)	Conductivity (µS/cm)	Turbidity (NTU)	Total Chlorine (mg/L)	Ammonia Nitrogen (mg/L)	Observations and Outcome
Columbia Slough	F2	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	5.9	7.28	21.3	145.1	4.74	0.1	4	Ammonia result high. Followed up with sampling on 8/12 and 8/13 in the upstream portion of the pipeshed with increasing ammonia levels. Tracked source to cross-connection with the wastewater system on Wilkes Road near 181st Ave.
Fairview	K4	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	8.08	7.4	20.5	105.5	0.51	0.1	0.25	Small amount of foam at outlet
Fairview	L7A	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	8.4	7.36	19.4	81.5	2.45	0.1	0.25	Sampled east outfall at north side of Glisan
Fairview	L7	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	7.9	7.41	21	108.7	0.68	0.1	0.25	Sampled west outfall north side of Glisan
Burlingame	P12B	8/11/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	No flow
Burlingame	P12A	8/11/2015	Yes	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	6.14	7.31	19.2	61.7	5.52	0.1	0.25	
Johnson	F18	8/12/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	No flow
Columbia Slough	D2A	8/11/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	No flow
Columbia Slough	D2B	8/11/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	No flow
Kelly	R14	8/11/2015	No	None	Clear	Clear	None	None	NA	Normal	NA	> 1 Week	NM	NM	NM	NM	NM	NM	NM	No flow

Key:

NTU=Nephelometric Turbidity Units Clean drinking water is 1NTU or less. 50 NTU would be slightly cloudy.

DO=Dissolved Oxygen Stormwater is typically >5 mg/L which rarely poses a direct threat to instream conditions. This measurement is taken in order to collect pH and conductivity.

Temperature is not associated with stormwater as a pollutant, because typically rain fall does not occur in summer months. However, temperature is measured because release of heated water is a violation of City Code. In general, summer flow in pipes is either associated with high groundwater, incidental releases of potable water such as irrigation runoff which is allowed by DEQ, or is indicative of illegal discharges.

Table 3-6: Spill and Illicit Discharge Response

Category	Address	Complaint	Action	Resolution	Watershed
Auto fluids	1323 SE 212th	Resident dumping oil on the ground for weed control. Unknown quantity, but a 1 gallon container was nearby.	Staff inspected	Owner and renter were notified of violation and potential liability and best practices.	Fairview
Unknown discharge	20912 NE Interlachen Ln	Drums in Fairview Lake	Inspected for sheen, fish kill, nothing found. Suspect that drums were old dock floats.	Referred to Fairview, Mult Co, DEQ.	Columbia Slough
Auto fluids	San Rafeal / 181st	Gresham Fire requested cleanup assistance for oil and antifreeze on the street. Quantity was minimal.	Transportation placed absorbant and swept and kept from entering the system.	NA	Columbia Slough
Auto fluids	1374 NE Village Sq. Ct	Leak form on site under ground boring tanker truck. Quantity was minimal.	Stormwater staff pressure washed and absorbed off the street and kept from entering the system.	City billed contractor for the cleanup	Kelly
Auto fluids	1391 NW 19th	Rivercity Environmental vehicle leaded fluid on to the private driveway and public street. Quanity was minimal.	Stormwater staff pressure washed and absorbed off the street and kept from entering the system.	City billed contractor for the cleanup	Johnson
Misc	South Bound NE 181st at I 84	Field staff observation. Approximately .5 cy.	Contractor spilled soil onto the street.	Contractor cleanup up right away without incident.	Columbia Slough
Misc	1629 SE Elliott Ave Gresham	Neighbor reported a person threw a/c unit from upper house window to back yard. Concern about freon to JC watershed and into environment.	Staff inspected and verified that the unit was in tact.	No further action required.	Johnson

Table 3-6: Spill and Illicit Discharge Response

Category	Address	Complaint	Action	Resolution	Watershed
Paint	2620 SW 16th Pl	Paint brushes being washed out such that the paint water was running down the street gutter. Quantity was minimal.	Staff inspected and installed a filter in the catch basin, but could not find anyone at home. Staff visited the next day and the paint tools were cleaned up and staff informed residents of proper practices.	No further action required.	Johnson
Oil spill	17363 NE Sacramento	Cutting oil drained from large shavings dumpsters into adjacent private catch basins.	Staff inspected and found that no oil entered the public system.	River City was called by the RP to clean up the site.	Columbia Slough
Auto fluids	18433 SE Stark	Neighboring business reported that the stormdrain in next parking lot of an autoshop is clogged and running off into their lot and has a sheen.	Staff inspected and ordered the business to have the catch basin cleaned. Staff reinspected the final work.	Business hired a professional service to clean and repair their system.	Columbia Slough
Oil spill	Marc Nelson's Pacific Pride on SE Hogan Rd.	Field staff observation, applied city absorbant pads. Minimal quantity.	Staff notified the business and the maintenance staff cleaned the spill.	No further action required.	Kelly
Auto fluids	SE Cleveland and Oak	Oil sheen on street. Minimal quantity.	Staff used absorbant to clean up the spill with was scattered and minimal.	No further action required.	Columbia Slough
Stockpiling	185th and Marine Dr.	Gravel on road from a hauling truck making the turn and accelerating. No impact to stormwater system.	City cleaned up the road.	RP not found.	Columbia Slough

Table 3-6: Spill and Illicit Discharge Response

Category	Address	Complaint	Action	Resolution	Watershed
Auto fluids	SE Oak x NE Cleveland	Oil sheen on street. Minimal quantity.	Staff placed absorbant pads in nearby stormwater system.	RP not found. Often, these leaks are from hauling trucks, but it was not garbage day.	Kelly
Carpet cleaner	Black Bear Diner, Burnside, Gresham	Staff observation. 5 gallon bucket.	Staff ordered the company to vactor out the catch basin.	A follow up warning letter was sent to the company.	Fairview
Auto fluids	2395 NW Eleven Mile	Anonymous complaint came in to permit center about work at this address occuring w/o permits, as well as potential dumping to CB	Staff inspected and referred to DEQ under the UIC program.	DEQ ordered professional cleanup and registration of the private UIC.	Fairview
Auto fluids	E Powell Loop and 10th	City Equipment on public street.	Hydraulic line became disconnected after recent maintenance service. Staff cleaned the street.	No further action required.	Johnson
Paint	SE Hogan x Cleveland	Paint spill at above intersection. Approximately 1 gallon.	Staff cleaned off the street.	RP not found.	Kelly
Misc	Border Way Wetland, natural area, stormwater facility	Restoration staff observing lots of accumulated dog waste	Staff notified the neighborhood (300 homes) and installed signs and a dog waste bag holder.	No further action required. Two residents called to thank staff for the letter.	Johnson

Table 3-6: Spill and Illicit Discharge Response

Category	Address	Complaint	Action	Resolution	Watershed
Soap/detergents	440 NW Division St.	Field staff observation.	Staff cleaned soap off the sidewalk.	RP not found.	Johnson
Oil spill	6355 SE 32nd Terrace, Gresham, OR	Neighbor reported oil leaking from a car.	Staff advised RP on how to cleanup and they complied and discussed the connection between the drains and the creeks.	No further action required.	Kelly
Auto fluids	NE Holladay	Field staff observation of gas can tip over.	Staff cleaned up the spill.	RP not found.	Columbia Slough
Misc	NE Greenway, natural area	Resident complained about owners leaving dog waste in natural area and letting dogs run loose.	Staff sent an educational letter to the neighborhood (100 homes). Installed sign.	No further action required.	Kelly
Oil spill	SE 177th x Mill Ct.	Power pole down. Emergency locate request prompted staff to investigate leaking transformer.	Staff notified PGE of issue and they hired a professional cleanup.	No further action required.	Fairview
Auto fluids	SE 21st and Hale	Neighbor reported oil spot on road.	Staff inspected. Oil stain was old and not leaching.	No further action required.	Kelly
Auto fluids	25 NW 1st St.	Vehicle leaked diesel. Minimal quantity.	Staff cleaned the street and absorbed the sheen with pads.	RP not found.	Johnson

Table 3-6: Spill and Illicit Discharge Response					
Category	**Address**	**Complaint**	**Action**	**Resolution**	**Watershed**
Unknown discharge	707 SW Florence Ave.	Foam in creek. Minimal quantity.	Staff investigated. Appeared to be surfactants washing into the creek from the road after a rain event.	No further action required.	Johnson
Restaurant greases	1000 N Main Ave., Gresham, OR 97030. Parking lot behind Sweet Betty's Restaurant.	Field staff observation of cooking oil on parking lot outside of oil dumpster. Sheen.	Restaurant was ordered to request a newer bin from Pacifc Biodiesel and to be more careful when disposing oil into the dumpster.	No further action required.	Johnson

Table 3-7: Citizen Complaints*

Issue and Resolution	
Streambank Failure/Flooding concerns	Staff responded to ongoing bank stabilization complaints on Johnson Creek (across creek from Club Paesano) and initiated geo-tech studies to assess severity of ongoing erosion potential. Also initiated engineering repair to Kelly Creek at El Camino in response to discovering that creek alignment with culvert has shifted over time and has potential to impact adjacent private structure. Staff and consultants reviewed several reports of large trees felled by beaver on Johnson Creek.
Fee Reduction	Staff inspect properties and process requests for stormwater fee reductions based upon on-site stormwater management, typically from a resident having a private drywell or disconnected downspout from the city's infrastructure. 57 applications were processed in PY 22.
Pesticide application/water quality/stormwater management concerns	Typical issues that staff assist with include questions about invasive plant control, onsite stormwater management techniques, pesticide safety questions, etc.
Private Facility Maintenance	Staff spend time providing research documents to residents about who owns a particular facility and providing guidance for facility maintenance. When residents have a concern about the condition of a public facility, staff are sent to inspect and respond accordingly.
Minor Drainage	22 reports of concerns over drainage investigated by staff. Eight were private property to private property. Five were placed on the CIP priority list for remedy. Four were maintenanced by Operations. One was repaired and two did not have an identifiable issue.

*Many citizen calls are also reported in the illicit discharge categories. These combined tables provide a representation of the nature of issues addressed by the stormwater program staff.

Table 3-8 Examples of Water Quality Education Efforts*

Program/Event and Partners	Watershed of Focus	Number of Contacts	Educational Focus
For Residents			
Backyard Wildlife Habitat home visits	All	82 homes	Consultation visits with homeowners regarding qualifying for "Backyard Wildlife Habitat" status thru a partnership with Audubon/Columbia Land Trust Includes stormwater management, pesticide reduction, and tree education elements among others
Weed and wildlife classes	All	Approx 100 people	A series of 12 classes were held to educate residents about local flora and fauna and what they can do to help preserve and protect them and their habitats
City of Gresham Parks & Recreation Division: Adopt a Trail program: Springwater, Butler, Bear and Kelly Trail Corridor about 5 miles of trail maintenance and litter removal	Johnson/Kelly	Total number of volunteers who participate is not reported to the City	General stewardship and appreciation of natural resources, litter removal.
JCWC E-bulletin, monthly	Johnson	JCWC e-list to over 700 Gresham contacts, list goes to over 3,000	General watershed education, city public comment meetings/open houses, city natural resource workshops/events.
WMD Fish-Friendly Car Wash program	All	Kits continue to be used at various Gresham certified sites. Total number of contacts unknown.	Soap, grease and heavy metal pollution prevention. Education on use of professional car washes as an environmentally friendly alternative.
JCWC Restoration events in Gresham: Butler Creek, Springwater Woods, Watershed Wide Event, Jenne Creek, and Chastain Creek supported by City of Gresham staff and Gresham's AmeriCorps volunteers. Plus EMSWCD grant funded private riparian planting on 1.26 miles of streamfront	Johnson	over 200 adults and children	Riparian buffer function for stream protection. More than 11,000 trees and shrubs planted.
JCWC Coho Spawning Surveys Oct to Dec including stream portions in Gresham	Johnson	104 volunteers	Stream and stormwater heath education.
JCWC Education Events: NaturescapeWorkshops, Salmon Watch with Centennial HS, Chamber of Commerce, Salmon education for adults and students at community meetings	Johnson	300 adults and children	Native plants, stream health, salmon lifecycle
Gresham Arbor Day Tree Planting Event	All	50+ adults and children	Education on the value of trees
Columbia Slough Watershed Council--WMD support of Slough School program	Fairview/Columbia Slough	7 schools participated in SS programs, worked directly with 1213 students and teachers	General education of watershed protection and pollutant prevention measures.
Columbia Slough Watershed Council--Regatta event--supported by WMD	Fairview/Columbia Slough	Over 400 attendees.	General watershed education.
Columbia Slough Watershed Council--*Explorando de Slough* event for Latinos	Fairview/Columbia Slough	Over 500 attendees.	General education of watershed protection and pollutant prevention measures.
City of Gresham and Regional partners with KOIN TV--"Do the Right Thing" ad campaign and website	All	Aired 7 stormwater pollution reduction PSAs 105 times. 8M adult viewer TV impressions (32,000 homes) 1.1M impressions from web banner ads. ~ 4,000 web page visits.	Topics: plant natives, plant trees, erosion control, fall lawn care, wildlife friendly yards, avoid pesticides, remove invasives, RV and Spa disposal, car washing

Table 3-8 Examples of Water Quality Education Efforts*

Program/Event and Partners	Watershed of Focus	Number of Contacts	Educational Focus
City of Gresham e-newsletter, City newsletter, DES News to Reuse, social media, and website: greshamoregon.gov/watershed This represents the variety of approaches that Gresham uses for environmental education messaging to the public	All	e-newsletter: ~830 monthly City news (print): 48,000 biennially Facebook: ~6,900 fans Twitter: ~1,840 MyGresham: ~1,600 GoCart:~ 511 Web Main page: 1.6 M Web Watershed page: 1,300 annually Utility bill stuffer 22,000 print Y.O.U. digital utility bill ~2,600 Next Door: ~5,500	Pesticide and fertilizer reduction, naturescaping, and rain garden education information.
Interpretive panels and public rain gardens, COG Watershed Division	Johnson/Fairvie w	Total contacts unknown	All residents: City oversees volunteer stewardship of public demonstration gardens at Hall Elementary, Hollydale Elementary, St. Henry's Church, Covenant Baptist Church, West Gresham Elementary, SnoCap Charities and Gresham High School.
Downspout Disconnection	Johnson/Fairvie w/Columbia Slough	Disconnected 10 homes.	Program on hiatus this year. Disconnected those who proactively asked for the service.
Gresham Green and Clean Summer Event	Johnson	~ 30 volunteers	Conducted stormdrain marking in the Gresham downtown
City of Gresham Erosion Control Reporting sign (English and Spanish)	All	Unknown	General education regarding threats to streams from development projects that are seen by surrounding residential homes near development projects.
For Businesses			
City of Gresham GREAT Business Newsletter (Fall, Spring)	All	400 businesses 2X Per Year	Stormdrain Cleaning Assistance Program, General Best Practices
City of Gresham Erosion Control Reporting sign (English and Spanish)	All	Placed on active development sites	General education regarding threats to streams from development projects that are seen by surrounding businesses in commercial and industrial areas. This also ensures contractors and their subs are informed of the City's expectations.
JCWC staff attendance and presentations at Gresham Chamber of Commerce Meetings (monthly)	All	100+	General watershed education and watershed council events.
City of Gresham Stormdrain Cleaning Assistance Program (SCAP)--offered to City of Fairview businesses as well	All	124 Businesses, 165 drains cleaned	Pollution prevention via removal of sediment and debris.
City of Gresham GREAT Business technical assistance visits	All	290 Outreach assistance contacts	5 new certifications and 34 recertifications. Visits include education to limit introduction of stormwater pollutants from businesses including referrals to SCAP and recommendations to fix catch-basins, maintain stormwater facilities, follow spill response procedures, label storm drains, use native plants in landscaping, and reduce pollution from dumpsters

Table 3-9
Industrial Stormwater Permit Holders (1200-COLS & 1200-Z) in Gresham's Jurisdictions

Facility Legal Name	Street Address	City	Zip	DEQ WQ File Number	Permit Type	DEQ Permit Expiration Date	DEQ Enforcement	Gresham Inspections
ABS OR-O DC LLC	17505 NE San Rafael St	Portland	97230	104374	Gen. 1200-COLS	9/30/2016	None	WFPP: Not inspected this FY
Denton Plastics Inc.	18811 NE San Rafael	Portland	97230	113915	Gen. 1200-COLS	9/30/2016	None	WFPP: Not inspected this FY
Pella Vinyl Northwest Inc.	18600 NE Wilkes Rd	Portland	97230	120478	Gen. 1200-COLS	9/30/2016	None	WFPP, in compliance, now in monitored status. Inspections not required (below chemical threshold).
McDonald & Wettle Inc.	2020 NE 194th Ave	Portland	97230	119535	Gen. 1200-COLS	9/30/2016	None	WFPP: Violations for lack of secondary containment and improper chemical storage. Working with the business on the compliance plan which will continue into PY 22.
Owens Corning Foam Insulation, LLC	18456 NE Wilkes Rd	Portland	97230	113153	Gen. 1200-COLS	9/30/2016	None	WFPP: in compliance.
Cascade Corporation	2201 NE 201st Ave	Fairview	97024	100491	Gen. 1200-COLS	9/30/2016	None	WFPP: Not inspected this FY
The Boeing Company	19000 NE Sandy Blvd.	Portland	97230	9269	Gen. 1200-COLS	9/30/2016	None	WFPP: in compliance.
Rolling Frito Lay Sales LP	4300 NE 189th Ave	Portland	97230	113285	Gen. 1200-COLS	9/30/2016	None	WFPP: Business working to complete required protective floor coatings.
International Paper Company	1601 NE 192nd Ave	Portland	97230	107744	Gen. 1200-COLS	9/30/2016	None	WFPP: Business working to complete paving of on-site transit route. To be completed summer 2017.

Facility Legal Name	Street Address	City	Zip	DEQ WQ File Number	Permit Type	DEQ Permit Expiration Date	DEQ Enforcement	Gresham Inspections
NRI Inc.	19004 NE San Rafael	Portland	97230	111262	Gen. 1200-COLS	9/30/2016	None	WFPP: Business completed overhead cover for oil tank.
First Student, Inc.	1625 SE Hogan Rd	Gresham	97080	112646	Gen. 1200Z	6/30/2017	None	Technical assistance provided by EcoBiz. Housekeeping practices required improvement. Voluntary compliance.
Mutual Materials Company	2300 SE Hogan Rd	Gresham	97080	108092	Gen.1200Z	6/30/2017	None	Some recommendations for materials storage provided. On-site stormwater treatment devices for run-off appear to be managed correctly.
Scenic Fruit Company	7510 SE Altman Rd.	Gresham	97080	78990	Gen. 1200Z	6/30/2017	None	Planned joint inspection with Gresham and DEQ staff for spring 2017.
Pioneer Sheet Metal	19591 NE San Rafael St.	Portland	97230	120503	Gen. 1200-COLS	9/30/2016	None	Inspected by DEQ 6/10/16. Required improved record keeping and employee education.
Wellfield Protection Program (WFPP)	Where noted, these businesses lie within the City's designated wellfield areas.							

Table 3-10: City of Gresham Water Resource Division--Stormwater Budget Allocation (including staff and operating)		
Program Area	**PY 20 Budget**	**PY 21 Budget**
	FY 15-16 (actual)	**FY 16-17 (projected)**
Water Quality: Policy Development Stormwater/Erosion Manual Oversight Permit Compliance Monitoring and Analysis Spill Response Public Education & Outreach Private Water Quality Facility Program Inspection & Enforcement Erosion Control Inspection & Enforcement TMDL Compliance Stormwater Assets Management Training	$ 665,556	$ 830,951
Natural Resources: Restoration Capital Improvements Master Plan Updates Invasive Species Control TMDL Compliance Green Space Acquisition	$ 350,614	$ 403,437
Engineering: Capital Improvements Minor Drainage/Flood Control Public Works Standards Stormwater Manual Oversight Master Plan updates Mapping Stormwater Assets Management Training	$301,327 $1M CIP	$410,125 $14M CIP
Operations & Maintenance: Systems Maintenance & Repair Equipment Repair & Replacement Spill Response Inspection IMP implementation Mapping Training	$ 1,885,830	$ 2,180,644
Infrastructure Development (Development Engineering, Surveying, Public Works Inspections, Commercial Erosion Control Inspections)	$ 267,800	$ 283,900
City Admin Support, GIS Support, Management, Overhead	$ 2,127,884	$ 2,399,494
Total	**$5.9M Operating/Salary $1M CIP**	**$6.5M Operating/Salary $14M CIP**

FY 16-17 CIP includes $5M for Kane Road repairs and $4M for the Fujitsu Pond restoration project.

City of Fairview

NPDES MS4 Annual Compliance Report

Permit Year 21

2016

Section Four – City of Fairview Summary of Program Monitoring

Municipal National Pollutant Discharge Elimination System Annual Report for Permit Year 21, Permit #101315, November 1, 2016

Executive Summary

The City of Fairview (City) manages the stormwater system with the goal of reducing pollutants to the maximum extent practicable, preventing flooding and enhancing natural resources. The City is a co-permittee with the City of Gresham on the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit (#101315).

DEQ reissued the Permit on December 30, 2010 requiring the City to modify the SWMP to reflect the new permit conditions. The City's 2011 SWMP incorporates the new Permit conditions and includes best management practices (BMPs) and other elements intended to reduce the introduction of pollutants to the maximum extent practicable (MEP). The Stormwater Management Plan (SWMP) was modified on December 29, 2015 in accordance with Schedule B.6.a of the City's NPDES MS4 permit requirement for updates.

This Permit Year (PY) 21 Annual Report documents implementation activities from July 1, 2015 through June 30, 2016 within the city limits of Fairview. Activities include, but are not limited to, the Best Management Practices (BMP) contained within the Stormwater Management Plan (SWMP). The status of the BMP's and adaptive management are summarized in the table that follows. Table 4-2 (Prioritization Criteria) summarizes the time period July 1, 2015 to June 30, 2016 implementing the 2011 SWMP. Section 2 of this report summarizes the Environmental Monitoring Program that is conducted by the City of Gresham on behalf of the City of Fairview.

As part of the annual adaptive management process, data and feedback were collected from staff responsible for implementing/reporting on each BMP. Factors considered include but are not limited to: Was the BMP measurable goal attained? If not, describe circumstances why, and how progress will be made toward future attainment. For multi-year BMPs, were milestones or timelines met? Can we feasibly refine or improve the BMP to gain efficiency or effectiveness in removing stormwater pollutants? In addition to assessing the implementation of each BMP, staff weighed resource availability and needs related to the overall stormwater program, including consideration of budget/funding, training needs, new technology and available equipment. The annual adaptive management process will inform any alterations to the stormwater program or future modifications to

There are no Urban Growth Boundary expansion areas contiguous to the City of Fairview. Consequently there are no associated concept planning, significant land use changes or significant development activities to report for PY 21.

Stormwater Management Program Budget

City of Fairview Stormwater Management program costs for Permit Year 21 are primarily associated with the Department of Public Works.

Stormwater fund expenditures and anticipated budget allocations incorporate wages and benefits, operating materials, equipment repair/maintenance, water testing (NPDES compliance), storm water disposal (NPDES permitting), improvements, and general administration.

Street fund expenditures and anticipated budget allocations incorporate wages and benefits, operating materials, maintenance services (including IGA with Multnomah County), equipment repair/maintenance, improvements, traffic calming, footpaths and bike trails, and general administration.

The table below outlines fund expenditures for PY 21 and provides the anticipated budget for Permit Year 22.

Table 4-1	2015-2016	2016-2017
Program Area	**PY 21 Expenditures**	**PY 22 Anticipated Budget**
Stormwater Fund	$593,528	$663,980
Street Fund	$529,953	$767,542

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #1- Illicit Discharge Detection and Elimination							
Illicit Discharge Enforcement	Ongoing	Implement City code sections 13.40.050 and 13.40.110: • City code section 13.40.050 prohibits constructing, using, maintaining, or continuing an illicit connection to the storm drain system. • City code section 13.40.110 discusses enforcement actions for failing to comply with control of non-stormwater discharge. The penalty for a first violation is $250. A penalty of $1,000 may be imposed for each subsequent failure to comply and each day of a continuing violation shall constitute a separate offense. The City may order compliance by written notice that includes performance of monitoring, analysis, and reporting; elimination of illicit connections or discharges; abatement or remediation; payment of fines; and implementation of source control or treatment BMPs. The public works director may also exercise authority to enforce a construction permit or NPDES permit through a stop work order if necessary.	For identified illicit discharges conduct appropriate enforcement actions.	Track number, location and resolution of enforcement actions.	There are 4 total Illicit discharge enforcements implemented this PY 21; are as follows: 1. Townsend Farms, Inc. - 23400 NE Townsend Way, Fairview, OR 2. Yamaha Sports Center - 224th Halsey St., Fairview, OR 3. Salish Pond (East of Salish Elementary School - 1210 NE 201st, FV, OR) 4. Sulamita Church - 20447 NE Sandy Blvd., Fairview, OR The enforcement details are as follows: *1. Townsend Farms, Inc.* - During the dry-weather outfall inspection, maintenance crew discovered a white discoloration and unpleasant odor in an outfall pipe. After an investigation, the identified responsible party is TFI's detention pond. Sample was taken from the detention pond and analyzed by PIXIS laboratory for E.Coli, pH level Residual Chlorine. The laboratory results indicated a low pH level (acidic) reading on the sample taken from the detention pond. An enforcement was issued to clean up the pond, 13 manhole runs and approximately 1800 LF of pipe leading to the outfall pipe. An environmental service clean-up provider was hired by TFI to flush and vactored the SW facilities. *2. Yamaha Sports Center* - A call was received from a citizen regarding a resident employee of the YSC dumping his waste at Fairview Creek. The security guard resident employee is living in a trailer home in the business facility. Investigation was conducted and followed up by an enforcement for the employee to vacate the property within 24 hours and was complied with.	No modification	Engineering Associate
					No clean-up action was enforced.		

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
					3. Salish Pond (East of Salish Elementary School - A call was received that a white sheen of considerable amount was floating on the surface of the Salish Pond (owned by the City of Fairview). An investigation was conducted and it was a discharged from a fire extinguishers. It was found that some kids broke into a steel-track hoe of a contractor (Wilson Construction Company) who was installing power lines in the area and stole 2 fire extinguishers and discharged them onto the pond. The contractor was notified to verify the hazardous chemicals contained in the fire extinguishers and was found out that there were no adverse environmental impact on environment as well as on humans. The white sheen eventually dissipated over period of time and no additional clean-up was required. *4. Sulamita Church* - Received a call from a citizen that Green Pro (Landscape Contractor hired by Sulamita Church) is dumping debris in the vicinity of Osburn Creek. An investigation was conducted and it was found out that the debris was from a burnt wooden materials, vehicle metallic parts, brushes and other unidentified materials. Green Pro was the identified responsible party and was given an enforcement to clean-up the debris within 24-hr. compliance. The incident took place during dry weather; so most of the debris was taken out from the creek and was disposed to a landfill facility.		
Illicit Discharge Field Screening Procedures	Ongoing	Conduct dry weather inspections of accessible outfalls following the procedure in the Stormwater Operation and Maintenance (O&M) Manual to search for, detect, and prevent illegal dumping of pollutants and illicit connections (including connections from sanitary sewers and commercial and/or industrial wastewater sewers) to the storm sewer system. Any dry weather flows identified will be reported to the public works department. Annually update maps as necessary to indicate field screening locations.	Inspect accessible outfalls annually. Maintain maps of outfall inspection locations.	Track number and percent of outfalls inspected.	Violations for - Containment - Chemical Storage - storm runoff - Enforcement in progress The City of Fairview has identified and mapped a total of 38 outfalls; 9 of which are categorized as high priority outfalls. The 38 total outfalls (100%) were inspected for structural integrity and cleaned for maintenance capacity, last August 25-26, 2015. One of the 9 high priority outfalls was identified in BMP 1, where illicit discharge was detected. The City of Fairview has updated and refined the stormwater GIS data on Structural Stormwater Facility Maps reflecting public facilities (BMP 8.1_Structural Public Stormwater Facilities) including outfalls, last PY 19	No modification	Storm Lead Worker Map Tech

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Illicit Discharge Investigation Procedures	1-Jul-12	Implement follow-up actions on a prioritized basis when problems are reported to the public works department. Follow up actions may include sampling for pH, dissolved oxygen, temperature, conductivity, ammonia, and total chlorine. If elevated results or poor water quality are detected, additional samples could be collected for lab analysis. If screening results indicate a potential problem, staff will conduct upstream investigations. The City will revise and document standard operating procedures to address new permit requirements and to document and update the details of the illicit discharge field screening and investigation procedures by June 30, 2012.	Develop revised procedures by July 1, 2012. Until procedures are revised, investigate problems reported within 2 weeks of the initial report.	Track number and type of problems reported, and track problem resolutions. Track status of revisions to procedures.	See BMP 1:1 (Illicit Discharge Detection and Elimination)_Enforcement. There are 4 total of IDDE investigations conducted this PY 21, which resulted to enforcement actions. Under incident 1 (Townsend Farms, Inc.) of the enforcement (BMP 1.1), samples were taken for pH, Chlorine residuals and E. coli analysis conducted by PIXIS Laboratory. The laboratory results revealed to be on the acidic side (low pH level) and clean-up enforcement was implemented.	No modification	Engineering Associate
Spill Prevention	Ongoing	**Wellhead Protection Program.** The wellhead protection program serves to prevent spills and illegal dumping. The City will work to maintain its existing agreement with the City of Gresham for wellhead inspection in the Columbia South Shore Well Field Wellhead Protection Area and continue to implement wellhead protection throughout Fairview for the protection of groundwater. This program is included here because of its residual benefits to stormwater. **Wellhead Protection - Intergovernmental Agreement.** The City of Gresham and the City of Portland entered into an intergovernmental agreement for the Implementation of the Columbia South Shore Well Field Wellhead Protection Program in 2003 (City of Gresham contract number 1609). This agreement provides protection of the Columbia South Shore Well Field Wellhead Protection Area lying within Gresham and Fairview from contamination by hazardous substances generated at industrial and commercial facilities.	Once during the permit term, conduct inspections of all businesses with regulated quantities in the well field.	Track the number of inspections conducted.	City of Fairview with 3.5 square miles geographic area is located in the Columbia South Shore Wellfield Protection Area. City of Fairview maintains the existing Intergovernmental Agreement with the City of Gresham established in 2003 for inspection of the regulated and monitored industrial/commercial facilities in the Columbia South Shore Wellfield Protection Program, (Zone 1). There were 7 total of regulated industrial/commercial facilities that were inspected during PY 21. Updated and most recent Hazardous Material Inventory Report (HMIR) and Site Plan were required in the notification letters that were sent to both regulated and monitored facilities last October, 2015 with November 28, 2015 deadline. The reporting is a tool used to evaluate and assess the classification of facilities; either an upgrade or downgrade of being regulated or monitored facilities. The seven inspected regulated facilities are as follows: • Townsend Farms Incorporated - 23400 NE Townsend Way, Fairview • Dirt & Aggregate, Exchange - 20905 NE Sandy Blvd., Fairview • Fairview Chevron - 1605 NE 223rd Ave., Fairview • Scrubby's Express Lube - 22015 NE Halsey St., Fairview • Scrubby's Car Wash - 22015 NE Halsey St., Fairview • Corporation Yard Dumpster - 225 NE Crestwood St., Fairview • City Main Public Works Shop - 48 NE First St., Fairview	No modification	Engineering Associate City of Gresham (IGA)

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
		Fairview has adopted Ordinance #12-2002 to protect the Columbia South Shore Well Field Wellhead Protection Area from contamination by hazardous substances by establishing an inspection and enforcement program governing the utilization, storage and transportation of hazardous materials in Fairview's portion of the Columbia South Shore Well Field Wellhead Protection Area. A wellhead inspection is performed at commercial and industrial facilities by the City of Gresham. The entire city, except for a residential area, high school and park, is included in the wellhead protection program. Fairview, Gresham and Portland Staff meet at least annually to discuss any changes to code provisions and any rules promulgated thereunder by either party. Wellhead Protection - City Code and Reference Manual.			The Columbia Southshore Wellfield Protection Program Reference Manual was recently updated by Doug Wise (City of Portland) and staff this year of 2016.		
		Wellhead protection is discussed in City code chapter 16.10. A wellhead protection program reference manual has been developed that establishes the wellhead protection boundaries. The code also includes requirements for reporting, standards, and inspections related to the storage, handling, use and transportation of hazardous materials; penalties for violations and enforcement actions; compliance requirements; building and site permit review and approval requirements; and inspection fees.					
Spill Clean-up	Ongoing	Maintain agreement with the City of Gresham Fire Department for clean-up after structural fires and vehicular accidents to prevent pollutants and debris from being washed into the storm drain system. When there is a hazardous spill or a spill of any other substance that: • Is hazardous in any quantity • Is non-hazardous and greater than 42 gallons on the ground • Or is any quantity that has entered a waterway or a dry well. The City of Gresham Fire Department staff notifies the Oregon Emergency Response System (OERS). OERS then notifies the Oregon Department of Environmental Quality (DEQ) and other state and local agencies that may be affected. The responsible party, if identified, is required to contact an environmental clean-up company and pay for clean-up costs. Examples could include spillage of a 55-gallon-drum of restaurant grease or sanitary sewer overflows on private property, resulting in or having the risk of resulting in, discharges to the public stormwater system. DEQ remains the enforcement authority in these cases. DEQ may choose to enforce against the responsible party under the following conditions: 1) the party has acted maliciously; 2) the party is a repeat offender; or 3) the party has failed to report the incident to DEQ.	Maintain agreement with City of Gresham Fire Department. Investigate spills and provide emergency containment and clean-up as necessary.	Track spill locations, type of materials and response activities.	There were no reported and recorded spill incident events that took place this PY 21 within the City of Fairview jurisdiction.	No modification	Gresham Fire Engineering Associate PW Superintendent

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
		Non-Hazardous Substances Public Works staff will investigate and provide emergency containment and clean-up as necessary. If the responsible party can be identified, he or she is directed to provide containment and site clean-up. If the spill is an imminent threat to waters of the state, the City reserves the right to provide clean-up and bill the responsible party for the work. The responsible party will be invoiced for any response and clean-up provided by the City. Examples include spills or dumping of paint, auto fluids, carpet cleaning wastes or concrete, etc. into catch basins or onto the street. In non-emergency situations, such as dumping of debris on private property near a stream bank, Public Works staff will notify the responsible party, verbally and in writing, and specify a timeframe for clean-up. Staff will refer the incident to Code Enforcement if the responsible party does not respond within the specified time frame. Code enforcement has the authority to issue Abatement Procedures, Violations or Civil Actions.			None, see above report.		
		Releases from Traffic Accidents If there is a spill of automotive fluids resulting from a traffic accident, the Gresham Fire Department will spread an absorbent compound (usually clay) and specialized absorbent pads on automotive fluids. Buckets are placed underneath dripping fluids. The road is swept and cleaned and, when necessary, additional protection is placed around the catch basins. Large leaking spills from commercial vehicles or semi-trucks are captured using a children's plastic pool. From a legal standpoint, the generator of the spill is responsible; therefore the waste materials are bagged and placed inside the wrecked vehicle or given to the tow truck driver for disposal. The City will perform the clean-up or utilize private clean-up contractors in order to continue the spill response program, when no responsible party can be identified.			None, see above report		
Municipal vehicle monitoring and maintenance	Ongoing	Ensure that materials from municipal vehicles do not leak, spill, or otherwise release contaminants onto roadways or open spaces where they may be washed into storm drains or waterways. Municipal vehicles are inspected by the driver during loading and unloading. If any leaks are observed between the regular maintenance the vehicles are repaired immediately.	Maintain vehicles on a 4-month schedule.	Track status of municipal vehicle maintenance.	All City fleet vehicles (Public Works, Administration and Police departments) were regularly maintained and serviced as scheduled (every 3 months) with auto service providers. No vehicular leaks were detected.	No modification	PW Superintendent Police Dept.
Water Line Flushing	Ongoing	The City periodically flushes all public water lines to ensure the reliability and quality of the domestic water system. To minimize impacts to the storm system, discharges are dechlorinated with the use of ascorbic acid (vitamin C). The flushing crew periodically tests the chlorine levels of the discharge prior to entering the storm system.	Dechlorinate waterline flushing with vitamin C.	NA	No chlorine detected.	No modification	Water Lead Worker

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SWMP Element #2- Industrial and Commercial Facilities							
Industrial and Commercial Facility Inspections	Ongoing	Implement the City's Industrial and Commercial Facility Inspection procedure that is included in the Stormwater Operation and Maintenance Manual to control the discharge of pollutants in stormwater from industrial and commercial facilities to the municipal separate storm sewer system.	Spend one week (40 hours) implementing commercial and industrial inspection procedures.	Track number of facility inspections and follow-up.	There were 7 total of inspected and followed up regulated industrial/commercial facilities during this PY 21. Inspection procedures were in conformance and compliance with the City of Fairview's Stormwater Operation and Maintenance Manual and the Columbia South Shore Wellfield Protection Program Reference Manual. See BMP 1.4_Spill Prevention. A total of 57.00 inspection hours (pre-documentation, inspection/photos, final documentation and follow up) were spent this PY 21, which exceeded the recommended 40 hours of inspection requirements.	No modification	Engineering Associate
Screen Industries/Businesses and Track NPDES Stormwater Permits	Annually	Annually, the City will review their business license inventory to determine whether any new facilities would be subject to an industrial stormwater NPDES permit. This determination will occur based on a review of the applicable SIC codes related to the 1200-series NPDES permit. If a facility is identified that would be subject to an industrial stormwater NPDES permit, the facility and DEQ will be notified within 30 days. During industrial and commercial inspections staff will obtain a copy of the facility's permit or work with the facility to either obtain a permit, or eliminate the potential for contact of pollutants with stormwater, thereby eliminating the need for a permit. In cases where discharges appear contaminated, the City will send a copy of the inspection report to DEQ.	Annually notify DEQ of any existing or new industrial facilities within the City's jurisdiction that may potentially be subject to an industrial stormwater NPDES permit.	Track number and type of new facilities identified as needing permits.	Screening process of applicable Industrial/Commercial SIC codes reflecting the 1200-series NPDES permit is being conducted during pre-application review process of land use permit. All 1200-C, 5-yr. permit term expired last November 30, 2015. Permit renewals are required for all current permit holders for the next 5 year term. City Staff coordinated with DEQ to confirm whether a vacant lot used as a stock yard for construction materials at NE Fairview Parkway (owned by Dirt & Aggregate Interchange) has or needs a 1200-C series permit. Correspondence confirmed that there was no issued 1200-C permit on file and they will review the category of the facility. There were 6 total of developments with active 1200-C permits during this PY 21 and are as follows: • 10 Homes Development on NE Depot St.(NE 5th - NE 7th St.), Fairview, OR (Wind River Development Project) • NE Halsey St. and NE 223rd Ave. (Dean Hurford's Project) • Veterans Administration Office Medical Building (Parker Development) • Townsends Farm Inc. (Lots # 5, 6: 11) • PGE Transmission Line Project (Blue Lake) • Northbrook Village Apartments (Jeff Parker)	No modification	Engineering Associate

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SWMP Element #3 - Construction Site Runoff Control							
Erosion Control Activities	Ongoing	Ordinance 3-1993 adopts an erosion control plan. The ordinance includes an Erosion Control Technical Guidance Handbook (Technical Guidance) that describes regulations, standards and provisions for erosion control as well as fees and penalties for violation. The City enforces the erosion control requirements through a permitting process required for sites disturbing 500 ft^2 or more as discussed under the BMP, Development Review. The Technical Guidance prescribes the following four steps to consider in planning for erosion control: Step 1: Identify Site Characteristics Step 2: Lay Out Preconstruction Plan and Proposed Base Measure Step 3: Measures During Construction Step 4: Post Construction Measures The Technical Guidance also has requirements for single-family homes and duplexes on existing lots of record, private developments construction, private construction in public rights-of-way, public works construction, erosion control measures, inspections and enforcements, and penalties. Non-stormwater wastes on construction sites are also addressed through the City's nuisance ordinance in Chapter 8 of the municipal code.	Inform all construction site owners that have 1 acre or more of disturbed land that they are required to obtain a 1200-C permit from DEQ. Review development sites required to meet City erosion control requirements.	Track the number of erosion control permits issued annually.	Resolution 49-2013 approved compliance order agreement with Environmental Protection Agency to implement reporting requirements and standards associated with the NPDES stormwater permit which includes adoption of the Erosion Prevention and Sediment Control (EPSC) Manual from the City of Gresham (Ordinance 2-2014). The City developed a standard operating procedures for implementation of Erosion and Sediment Control Standards. Total of 10 erosion control permits were issued and inspected during PY 21. Site developments of these 10 permits were less than an acre (43,560 ft.^2) of disturbed earth. Sites disturbed of greater than an acre were required to obtain a 1200-C General SW Construction permits from DEQ during the Planning Development Review Process.	No modification	Permit Tech Engineering Associate
Erosion Control Program Training	Ongoing	The Technical Guidance describes regulations, standards and provisions for erosion control as well as fees and penalties for violation.	Provide a copy of the Technical Guidance to all developers and contractors.	N/A	Erosion Prevention and Sediment Control (EPSC) manuals are provided with the erosion control permit applications.	No modification	Permit Tech Engineering Associate
Construction Site Inspections	1-Jan-14	The City currently reviews plans and inspects construction sites required to meet the City's erosion control standards using the following procedures: 1. Phone call before inspection to make sure BMPs are in place. 2. Visit every site over 1 acre after the first significant rainfall event and periodically thereafter. If time is limited, the City prioritizes inspections by visiting problem sites first, then visiting facilities that would have the highest environmental effect if the erosion control failed.	Inspect all construction sites required to meet City erosion control standards. Audit or review existing codes to ensure legal and escalation clauses exist for site design, source control, stormwater treatment BMPs, and post-construction BMPs by January 1, 2014.	Track the number of sites that were permitted and inspected. Report the number and type of enforcement actions.	Total of 10 Erosion Prevention & Sediment Control issued permits were inspected during PY 21. All were in total compliance with the City's Erosion Prevention & Sediment Control (EPSC) standards. No enforcement actions were taken. Total of 6 EPSC with 1200-C renewed permits inspections were conducted for PY 21. Current permit holders for 1200-C site developments are monitored during 1/2 an inch. rainfall precipitation. All 1200-C General SW Construction Permits expired last November 30, 2015 and all permit holders were requested to submit a renewed 1200-C permit from DEQ for the next 5-yr term.	No modification	Permit Tech Engineering Associate

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SWMP Element #4 - Education and Outreach							
Educational Activities	Ongoing	The City supports community programs, publishes articles in the City newsletter and coordinates with the City of Gresham where appropriate. Current City public education programs that are related to stormwater include educational programs on stormwater quality and the use of nonpolluting alternative garden products, including low-volume uses of pesticides, herbicides, and fertilizers (e.g., household uses). The City also supports the following programs: • Programs with local area schools • Programs with volunteer groups • Columbia Slough Watershed Council activities • Business Assistance Program – Private Catch Basin Cleaning • Spring Clean-up • Metro Hazardous Waste Clean-up • Informational kiosks at City events and City Hall • Doggy Don't waste bag	Publish stormwater related articles in the City newsletter. Support local education programs.	Track newsletter articles produced annually. Track activities conducted to support local education programs.	<u>Large scale public education campaigns:</u> • City of Fairview participated in Public Service Announcement (Do the right thing campaign through an IGA with the City of Gresham) with KOIN 6 TV for broadcast to provide public education services on stormwater quality program. Campaign messages are as follows: • Fall Lawn Tips • Wildlife Habitats • Being Rain Ready • Dog Doo • Spills • Don't Litter Your Cigarette Butts <u>Local Outreach Effort:</u> City of Fairview Public Works staff maintained a booth annually at the "Fairview On The Green" event during the month of August. The booth displays Groundwater/Aquifers, Rainfall/Water Cycle and Surface Water Models and distributes brochures on stormwater education, healthy streams, low impact development programs, use of pesticides, natural lawn care/gardening techniques, erosion control best management practices and other stormwater related educational subjects. City of Fairview is currently active with the Storm drain Cleaning Assistance Program (SCAP) (schools, apartments,	No modification	Engineering Associate Development Analyst Event Coordinator
					Other agencies that are affiliated with this program are: City of Wood Village and City of Troutdale.		
					Educational Outreach Articles: The City of Fairview utilizes the local monthly newsletter "Fairview Point" to provide education materials related to stormwater issues. Applicable articles are as follows: 1. Heron Pointe Community Wetlands Tree Planting 2. Help Prevent Flooding on Fairview Streets 3. Prevent Cars Leaking on Streets 4. Healthy Streams 5. Blue Lake Park Future Development 6. Spring Clean Up 7. Backyard Habitat 8. Fairview on the Green 9. Recycling for the Environment		

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Report Illegal Dumping and Illegal Connections	Ongoing	Continue to facilitate efforts by the public to report illegal dumping, illicit connections, and other incidents. Implement public reporting program as described in the Stormwater Operation and Maintenance (O&M) Manual.	Respond to reports and/or complaints from citizens regarding observed water quality problems.	Track the number of reports/complaints received, and the follow-up actions conducted (including the timing of the follow-up action).	Fairview citizens reported complaints this PY 21 impacting stormwater quality. See details on BMP 1.1 (Illicit Discharge Enforcement) and BMP 1.3 (Illicit Discharge Investigation). All complaints were addressed in compliance and conformance to the City of Fairview Municipal Code, Stormwater Operation & Maintenance Manual and the Columbia South Shore Wellfield Protection Program.	No modification	Engineering Associate PW Superintendent Code Compliance
Illegal Dumping and Illegal Connections, Public Education	Ongoing	Educate the public about the harmful effects of dumping oil, antifreeze, pesticides, paints, solvents, and other potentially harmful chemicals into storm sewers or drainage channels.	Support recycling and disposal programs; programs that provide convenient means to dispose of materials, existing solid waste management programs. Educate the public regarding the stormwater pollution that results from dumping and illegal connections.	Track the number of public recycling and disposal programs conducted annually.	The Fairview Point contains education outreach articles educating the public about harmful effects of dumping hazardous materials and waste into storm sewers or drainage channels as well as public recycling and disposal. City's website posted contact information as well about reporting illegal dumping and illegal connections (BMP 4.3). Also, staff tracks public complaints, reporting, and inquiry regarding illegal dumping, connections and other issues about harmful effects into our storm drainage system and any receiving water bodies. There are 9 total news letter articles published during PY 21 about educational outreach on healthy environment.	No modification	PW Assistant Metro Recycling
Participate in a Public Education Effectiveness Evaluation	Ongoing	By November 1, 2014, the City of Fairview will coordinate with other local, Phase I jurisdictions to provide information related to an effectiveness evaluation. The effectiveness evaluation information will focus on assessing changes in targeted behaviors and will allow for additional information that can be used in adaptive management of the City's education and outreach strategy.	Coordinate with other local jurisdictions in providing/compiling information regarding a public education effectiveness evaluation by November 1, 2014.	Report on activities annually.	City of Fairview recently submitted "Public Education Effectiveness Evaluation" report (Schedule A.4, NPDES Permit Term 2010-2015) to DEQ last, November 1, 2015. The City has a current IGA with the City of Gresham regarding participation in the ACWA public education effectiveness evaluation. This coordinated effort involves compilation of existing educational survey information and development of conclusions to inform how public education efforts result in behavioral change. DHM Consulting prepared a report in compliance to meet DEQ's intended requirements that pertained to general and targeted findings about evaluation on education effectiveness to public. These targeted findings are focused on pet care, car care, lawn and garden care, and home care which are distinct municipal stormwater pollutant sources where source control activities (like public education) are generally a preferred treatment approach.	No modification	Engineering Associate

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Staff Education and Training	Ongoing	Conduct training for new employees and contract employees on stormwater requirements and train existing employees when there is a significant update to the documents used by the City that regulates stormwater pollution control activities.	Provide annual training to personnel involved in stormwater management.	Track personnel receiving training annually.	City of Fairview's engineering staff (responsible reporting party) conducted (2) in-house trainings with nine (9) Public Works Operation & Maintenance staff during PY 21 (August 31,2015 and April 28, 2016). Topics discussed were: Stormwater Management on Facilities / Stormwater Operation & Maintenance Standard Operating Procedures (SOP) / SW Regulatory Compliance / Spill Prevention and What To Do When You Have a Spill Emergency Protocol & Contact Information. The responsible reporting party (Engineering Associate) has attended a total of 40 committee meetings, trainings (actual and on-line), seminars, workshops and trainings during PY 21 (July 1, 2015 to June 30, 2016), which are as follows: 1. 7/8/2015 - KOIN 6 TV_Water Do Your Part_Conference 2. 7/22/2015 - KOIN 6 TV_Water Do Your Part Steering Committee Meeting 3. 7/23/2015 - Modular Wetland Devices_Presentation 4. 8/13/2015 - The Benefits of a Utility_Webcast Presentation 5. 8/20/2015 - Metro Integrated Pest Management (IPM)_Presentation 6. 8/22/2015 - Fairview on the Green_Festival Booth 7. 8/31/2015 - Staff Education & Training_P.W. Staff, In-House	No modification	Engineering Associate PW Superintendent Development Analyst
					8. 9/9/2015 - ACWA SW Committee Meeting_Salem		
					9. 9/16/2015 - Sustainable SW Symposium_Presentation		
					10. 9/22/2015 - East County Planning & Community Outreach Mtg.		
					11. 9/24/2015 - Keygrid System Retaining Wall_Webinar		
					12. 9/24/2015 - Phase 2_General Permit Development_NPDES MS4 13. 10/8/2015-Permanent Pavement Repair Material_Presentation 14. 10/8/2015-ACWA Workshop_Temperature Compliance Strategies 15. 10/14/2015-ACWA Stormwater Committee 16. 10/15/15- BOLI Prevaling Wage Seminar 17. 10/21/15- CDBC Community Need Meeting 18. 10/28/15- Sellwood Bridge Project Presentation 19. 10/29/15- FEMA Training		

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					20. 11/4/2015 - EEO/Harassment Staff Training_Training 21. 11/10/2015 - Pipe Ramming_Webinar 22. 12/2/2015 - ACWA SW Committee Meeting 23. 12/3/2015 - ACWA Coordination Meeting_B & C Consultant 24. 12/72015 - CSSWFPP Team Coordination Meeting_City of Portland 25. 1/13/2016 - Trenchless Technology_Webinar 26. 1/21/2016 - Proactive Maintenance for Water Utilities 27. 1/26/2016 - SW Spill Committee Meeting 28. 1/27/2016 - Engineering Water Resources Group_Bio-Habitat Restoration 29. 1/28/2016 - Contractor's BOLI PWR_Seminar 30. 2/3/2016 - First Aid Training 31. 2/9/2016 - Groundwater Protection Program_Training 32. 2/10/2016 - ACWA Committee Joint Mtg._SW & GW 33. 2/16/2016 - Consolidated SW Master Plan Planning_Workshop 34. 2/19/2016 - Low Impact Development Technologies 35. 2/23/2016 - Public Agency_BOLI Prevailing Wage Rate_Seminar 36. 3/9/2016 - Project Management Workshop_Workshop 37. 3/30/2616 - Proposed Portland's SW Management Manual_EWRG 38. 5/11/2016 - Annual SW Summit_Conference		
					40. 6/8/2016 - ACWA SW Committee Meeting		

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SWMP Element #5 - Public Involvement and Participation							
Provide for Public Participation with the annual report, SWMP and Benchmark Submittals	Annually by November 1	Co-permittees must submit an annual report for the portion applicable to its jurisdiction by November 1 of each year. SWMP revisions and pollutant load reduction benchmarks are required for submittal to DEQ at the permit renewal submittal (180 days prior to permit expiration). Prior to submittal of these items, the City will provide the public with an opportunity to comment on the annual report, revisions to the SWMP and proposed pollutant load reduction benchmarks. The documents will be made available on the City's website or through web links. Comments on the documents will be collected and considered and a response to comments will be provided.	Provide for public participation with the annual report, SWMP and pollutant load reduction benchmarks prior to the permit renewal application deadline.	N/A	Public review and comments were solicited for public participation through publication on the City's website, Oregonian Newspaper and Oregon Live Media on NPDES MS4 annual compliance report during PY 21.	No modification	Engineering Associate
SWMP Element #6 - Post-Construction Site Runoff							
Development Review for Private Projects	Ongoing	Implement and enforce regulations which give legal authority to: 1) require site-drainage designs and systems which address water quality; and/or 2) minimize the total volume of runoff and the peak rate of runoff, where local conditions permit. The City implements these regulations through its Community Development Department and Public Works Department. New development and redevelopment projects are reviewed for conformance to the following existing City regulations: • Fairview Comprehensive Plan, June 2004–provides the guiding direction to protect the natural environment and ensure that long-term growth does not adversely affect the natural resources. • Community Development Department–Land Use and Building Permits; Land Use Code Enforcement. • Title 19, Development Code–requires accommodation and treatment of stormwater runoff and system installation conforming to standards and specifications adopted by the City. • City of Fairview Standard Specifications for Public Works Construction	Review development plans for conformance with standards. Maintain map of private water quality facilities	Track acreage of new and re-development activities requiring stormwater treatment annually. Track the number and type of private water quality BMPs built.	There were 4 total development reviews for private stormwater management facilities and 4 development reviews for agency stormwater management facilities conducted this PY 21, during planning on development review process. Private Stormwater Management Facilities: • All Stor Storage, PH. II (2/1/2016) • Winter Brook Development, NW corner of NE Halsey & 223rd (1/11/2016) • Townsend Farms_Lot Nos. 6,11 and 15 (6/6/2016) • Raze Meadow, 3 Duplexes, NE corner of NE Halsey & 208th (3/9/2016) Agency Stormwater Management Facilities: • New Fairview Elementary School, 225 NE Main St. (6/3/2016) • Reynolds School District, 1204 NE 201st Ave. (2016-2017) • Reynolds School Bus Barn Paving Project, 202nd & Glisan (2016-2017)	No modification	Permit Tech Engineering Associate Map Tech
					The City has recently updated both municipal and private stormwater facilities on GIS mapping, last PY 20. New polygon layers were created for both municipal and private stormwater facilities and sub-basins. New identified and updated facilities and their attributes were integrated in the City's GIS system.		

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Review Applicable Code and Development Standards related to Stormwater Management	1-Jan-14		Review and the City's current stormwater treatment standards for compliance with new MS4 NPDES permit language by January 1, 2014. Review the City's current public works development code provisions to ensure that applicable barriers related to the use of Low Impact Development techniques are minimized and eliminated where practicable by January 1, 2014. Document the City's post-construction inspection and enforcement response procedures by January 1, 2014	Track progress related to the review of the City's code and development standards per provisions in the MS4 NPDES permit.	City of Fairview's Stormwater Management Manual and Design Standards is currently updated by a Consultant as well as the Consolidated Stormwater Master Plan CIP was just updated by a consultant, Brown and Caldwell last July 20, 2016. City of Fairview's Resolution 49-2013 approved compliance order agreement with Environmental Protection Agency (EPA) to implement reporting requirements and standards associated with the NPDES MS4 stormwater permit which includes adoption of the Erosion Prevention and Sediment Control (EPSC) Plan from the City of Gresham. The Erosion Control Plan Review, Inspection and Enforcement Standard Operating Procedures describe the roles and responsibilities of Public Works Inspectors, acting as the lead Erosion Control Inspector with respect to erosion control-related plan review, inspections, documentation, and enforcement and serves as the City of Fairview's Standard Operating Procedure (SOP). Low Impact Development (LID) design methodology and the post-construction stormwater design standards will be addressed in the newly updated SW Design Standards which conforms to the provisions of our current public works development code.	No modification	Engineering Associate Development Analyst
Design Standards for Public Projects	Ongoing	Follow the Standard Specifications for Public Works Construction which requires treatment of stormwater runoff through the use of BMPs. Maintain database of BMPs that are implemented.	Ensure that public works stormwater related projects address treatment of runoff as appropriate.	Number and type of public stormwater quality BMPs built.	The City of Fairview completed some of the proposed CIP projects in the Consolidated Stormwater Master Plan, which are as follows: • Depot Street (Wind River Project) - Retrofit and enhancement of public R-O-W stormwater quality management • Shaver Detention Pond - Retrofit and enhancement for collection capacity, filtration and infiltration aspects of stormwater quality management. • Pavement Surface Treatment Maintenance - Two Crack Seal and Slurry Seal projects were completed this PY 21. Pavement preventive maintenance will not only preserve the City's street capital asset but to mitigate storm run-off pollutants in the streets preventing infiltration into the ground waters. The above projects contribute to address collection, conveyance, detention, treatment and disposal of surface storm run-off. The destination/disposal standard is classified under direct on-site infiltration and off-site storm-only pipe system flow conveyance.	No modification	Engineering Associate

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SWMP Element #7 - Pollution Prevention for Municipal Operations							
O&M Plan	1-Nov-13	Use the O&M Plan as a guide for designing and maintaining public storm facilities in order to maximize water quality benefits while maintaining flood capacity. The O&M Plan is intended to help locate and eliminate pollutants and provides a framework for maintaining field inspections records.	Implement the procedures in the O&M Plan. Review the O&M Plan by November 1, 2013, and update as necessary to maximize water quality benefits while maintaining flood capacity.	Track annual changes made to the O&M Plan	City of Fairview's O&M Manual along with the Standard Operating Procedures are being incorporated in our SW GIS tablets and are implemented during the annual work schedule in monitoring and inspecting stormwater facilities for maintenance activities. O&M staff uses the manual as a guideline in performing proper routine maintenance on stormwater facilities for the intended purpose of maximizing water quality benefits as well as maintaining flood capacity. Responsible reporting party conducted staff education and training to O & M staff on how to utilize the table as a new tool in relation to the Standard Operating Procedures, updated inspection forms and actual application in the maintenance of stormewater facilities.	No modification	Engineering Associate PW Superintendent Storm Lead Worker
Right of way–O&M	Ongoing	The City contracts with Multnomah County for road maintenance that includes street sweeping, roadside mowing and brushing and pavement maintenance. The maintenance program is substantially similar to, and at least as protective as, the ODOT Routine Road Maintenance program approved under the current 4(d) limit.	Maintain contract with Multnomah County for road maintenance.		City of Fairview maintains an IGA with Multnomah County for road maintenance activities. Road maintenance activities performed at County roads during PY 21 are as follows: • Catch basins cleaning - two times: September and October. • Roadside mowing - As needed • Roadside brushing - Once or twice a year • Route sweeping - 5 times: Aug, Oct, Dec, Jan and April • Misc. sweeping (snow gravel pick up) - None this PY 21 • Crack Sealing Pavement Preventive Maintenance - Once: May • Pavement Marking Restoration: Once: August	No modification	PW Superintendent
Street Sweeping	Ongoing	The City contracts with Multnomah County for street sweeping (approximately 6 times per year). The frequency is based on weather conditions, road conditions and funding.	Maintain contract with Multnomah County.	Track frequency of sweepings.	Multnomah County conducted a total of 5 street sweeping this PY 21. Please see details above, Right of Way operation and maintenance.	No modification	PW Superintendent
De-icing and Yard Debris Activities	Ongoing	Sand and gravel are applied to roadway surfaces to assist with traction during inclement weather. The sand is removed and recycled as soon as possible after the snow or ice event. Yard debris is picked up from residents weekly by the City's solid waste provider.	As weather permits, remove gravel when it is no longer needed.	Track processes conducted for sand and gravel removal.	There are no de-icing event that took place during this PY 21.	No modification	PW Superintendent

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BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Native Vegetation	Ongoing	Encourage the use of native vegetation in riparian areas on private and public property to reduce the need for fertilizers, pesticides, and herbicides. Planting and landscape policies for riparian buffer areas encourage use of vegetation (indigenous or imported) that is self-sustainable without the need for pesticides or herbicides. Riparian buffer permits are issued for alterations to the landscape within 50 feet of Fairview Creek, Fairview Lake, the Columbia Slough and their tributaries (City code chapter 19.106).	Review planting plans associated with riparian buffer permits.	Track number of riparian buffer permits.	Applicants for riparian buffer permits were encouraged to use native vegetation that is self sustainable without the need for pesticides or herbicides and to be in compliance with FMC chapter 19.106. This is implemented during the Natural Resources Land Use permitting process. There was only one riparian buffer permit issued this PY 21 where associated planting mitigation plan was implemented during the permitting process. Riparian buffer permit issued was for the Northbrook's proposed 180-unit apartment complex. A riparian buffer mitigation planting plan was required to compensate buffer areas that were encroached by the proposed development.	No modification	Permit Tech
Integrated Pest Management	Ongoing	The City encourages use of the Portland Parks and Recreation Pest Management Guide. This guide emphasizes controlling pests that are harmful to the health or aesthetic value of park plantings in a manner that is cost-effective, safe, and environmentally responsible. It is an approach that uses multi-faceted strategies that minimize negative impacts on the environment and on human health. The controls used in this program include manual, mechanical, cultural, biological and chemical methods. Often a combination of methods is used. Examples of Integrated Pest Management include: • Timing of chemical applications to avoid runoff. • Mowing high grass and brush to reduce weed seed crops in rough areas. • Pruning of trees and shrubs to increase air circulation to reduce susceptibility to disease and insect problems. • Appropriate fertilizing to encourage plant health and resistance to pests (i.e., weeds, insects and disease). • Using plants with natural resistance to pests. • Combining turf aeration and over-seeding along with any application of broadleaf weed control to eliminate the cause of the problem, and therefore the need for repeated applications.	Use Portland Parks and Recreation approved chemicals. Incorporate native plants in City planting projects to reduce chemical and fertilizer usage, as well as maintenance requirements.	Track City planting projects that incorporate native plants.	There were total of 27 City of Fairview neighborhood parks and recreation (Total of 443.56 acres) that were treated with approved Portland Parks and Recreation pesticides, this PY 21. In addition, there are 4 Metro parks and 3 Reynolds School District parks. Most of these parks were only treated with a mixture of herbicides as needed for evasive or unwanted native vegetation. Planting native vegetation were also incorporated in the City planting projects and during maintenance activities. Our Parks & Recreation Lead worker has been in total compliance in renewing his chemical applicator license bi-ennially. He will be participating in the Metro Integrated Pest Management (IPM) PRIME program (when available) through the coordinated effort with the responsible reporting party, which is a web-based software application developed by OSU. This IPM application offers Metro the ability to centralize agency-wide pesticide use records and to assess the risks of outdoor pesticide applications. Also, the IPM program will allow the public to see where Metro applies pesticides and the associated risks, as well as staff and contractors to track and explore least-risky options for pest management.	No modification	Engineering Associate Parks Lead Worker
Chemical Applicator Licensing	Ongoing	Maintain staff certification in public pesticide application and follow Oregon Department of Agriculture (ODA) requirements related to herbicide application.	All chemical applications will be supervised by an ODA Certified Applicator.	N/A	City of Fairview's Park Lead Worker is a certified Oregon Department of Agriculture (ODA) chemical applicator who updates his certification on biennial renewal period. All events involving chemical applications are supervised by the Park Lead Worker.	No modification	Parks Lead Worker

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Track Municipal Facilities	Ongoing	The City has one facility that includes the treatment, storage or transport of municipal waste. This facility is the Corporation Yard Dumpster. Collection of waste from municipal litter receptacles is collected and stored in a dumpster at this site until the City's garbage hauler collects the waste on a weekly basis. The dumpster has a cover on it and runoff from the site is treated by a structural stormwater filter. No additional stormwater management practices are deemed necessary for this site.		N/A	Public Works crew regularly monitored our Corporation Yard Dumpster facility known as the Crestwood Shop. Collected waste from municipal litter receptacles is collected and stored in this covered dumpster and collected by City's garbage hauler on a weekly basis. Storm run-off from the site is treated with Oil-Water separator / Concrete Structural Containment Vault (filter cartridges by Contech) / Bio-swale Retention Pond. Also, stockpile of construction materials needed for maintenance activities are covered and bermed to protect migration from run-off and wind erosion.	No modification	Engineering Associate
Litter Receptacles	Ongoing	Provide, collect, and maintain litter receptacles in strategic public areas and during major public events to provide disposal of pet waste bags and prevent trash from entering the stormwater system.	Maintain at least one litter receptacle at all public parks greater than 1 acre. Provide collection a minimum of once per week.	Track number of litter receptacles.	City of Fairview conducts public outreach through Fairview Outlook monthly magazine on healthy watershed campaign. One of the topics is about "Dog Waste Scooping" and dog waste bag receptacles are provided in every City Park. There are 43 litter receptacles that are maintained and collected once a week and after significant events.	No modification	Parks Lead Worker
Sanitary Sewer System Program	Ongoing	Limit wastewater infiltration through the operation, maintenance and construction of the sanitary sewer infrastructure based on existing conditions and projected sanitary flows.	Respond to pump station failures. Perform cleaning of the problem areas of the City's sanitary sewer system. Construct pipe restoration projects to replace defective pipe and reduce inflow and infiltration.	Track identified sanitary problems and resolutions related to the storm system each year.	We have no pump station failure or sanitary problem issues this PY 21. One significant high-profile sanitary sewer pipe bursting rehabilitation project was completed last February, 2016 on Bridge St. This project addressed capacity and eliminated Inflow and Infiltration (I & I) issues. Another upcoming significant sanitary sewer project is the Interlachen Sanitary Sewer Pipe Rehabilitation, which is about 50-yr old sewer piping system. Pipe CCTV, evaluation and assessment will be conducted by a Consultant this coming PY 22 and construction phase will be decided by budget availability.	No modification	Engineering Associate

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Consolidated Stormwater Master Plan (CSMP)	Ongoing	The Consolidated Stormwater Master Plan (CSMP) adopted in 2007 combines infrastructure improvements including retrofit opportunities with federal and state water quality requirements. Projects were developed to address water quantity and quality issues, utilizing hydrologic and hydraulic modeling as well as information from the TMDL regulatory program and the NPDES stormwater discharge permit.	Continue to make progress in the implementation of the CSMP.	Track the number, type and watershed location of projects that are completed.	City of Fairview has updated the Consolidated Stormwater Master Plan (CSMP), CIP project list by Brown and Caldwell last August 9, 2016. The following CIP projects are identified in the project list of the Consolidated SW Master Plan (CSMP) and were designed/constructed this PY 21; are as follows: • NE 7th St. (Main to Cedar) Sidewalk, Storm, Street Improvement Project: Grant proceeds from Community Development Block Grant (CDBG). Release order of $66,282.00 was awarded to Fairview as the CDBG funding for this PY 21. All County Surveyors (Design Consultant) has completed the plan (100%) and in the process of developing the construction contract specifications. The construction of the project is anticipated to be in the fall of 2016. • NE 7th St. (Main to Depot) Right-of-Way Improvement Project: All County Surveyors (Consultant) is in the 30% milestone of the plan design this PY 21 and the construction is anticipated during PY 22. • Bridge Street Sanitary Sewer Pipe Bursting Rehabilitation Project: Construction was done this PY 21.	No modification	Engineering Associate
					• Interlachen Sanitary Pipe assessment and evaluation: Project feasibility study, evaluation and assessment were done this PY 21.		
					• Shaver Detention Pond Retrofit Project: Construction was done this PY 21.		
					• NE Lincoln St. (7th to 6th) R-O-W Improvement Project: All County Surveyors (Consultant) is at 90% completion of the design and the construction will be determined by budget availability.		

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #8 -Structural Stormwater Facility Operations and Maintenance							
Inspect and Maintain Public Storm Facilities	Ongoing	Perform inspection and required maintenance as stated in the O&M Plan–clean catch basins and storm pipe, sedimentation manholes, channels and stormwater detention basins in areas where sediment and/or debris tend to accumulate.	Inspect 50 percent of detention lines, ponds, swales and outfalls. Inspect natural stream channels from bridge and road crossing. Clean catch basins and inspect adjacent pipes in one third of the City annually. Clean all water quality manholes (5). Update maps of City Structural Stormwater Facilities.	Track facilities inspected and maintained. Track number of catch basins cleaned. Estimate quantity of sediment removed from catch basins and water quality manholes.	The following are City of Fairview's stormwater quality facilities that are structurally inspected and operationally maintained annually: • Catch Basins: A total of 490 and are divided into 3 zones for maintenance purposes. Zone 1 (189 CBs), Zone 2 (176 CBs) and Zone 3 (125 CBs). Each zone is inspected and maintained annually. Zone 2 was inspected by city staff and cleaned by Multnomah County crew, this PY 21. City of Fairview has an Inter-Governmental Agency (IGA) with Multnomah County with respect to catch basin cleaning; however, inspection and monitoring is done by Fairview O & M staff. City of Fairview's O & M crew started using tablet/I-pad for field inspection and monitoring and has completed the structural and maintenance inspections of the following stormwater facilities, this PY 21: • Outfalls: 38 total (9 High Priority Outfalls) • Underground Injection Control Facilities (UICs) / Sumps and Sedimentation Manholes: 3 total • Rain Gardens: 4 total	No modification	Engineering Associate Storm Lead Worker PW Superintendent Map Tech
					*Detention Ponds: 4 total *Flow Control Manholes: 4 total		
					*Vortex Manholes: 3 total *Trash Racks: 3 total *Weir: 1 total *Oil Water Separator: 1 total *Storm Cartridge/Filters: 2 total *Natural Streams *Bio-filtration Swales *Detention Pipelines		

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2015-2016 (PY 21)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
Private Water Quality Facilities Inspection and Maintenance	Ongoing	Require plans conforming to the requirements of City of Fairview Standard Specifications for Public Works Construction and City of Portland Stormwater Management Manual at the time of permitting for stormwater facilities related to new private development and redevelopment/retrofitting. Include recording of operations and maintenance plans for stormwater quality facilities.	Ensure new private stormwater facility plans conform to City requirements. Inspect new facilities for conformance to approved O&M plans.	Track number of inspections conducted and inspection results.	City of Fairview engineering staff participates during pre-application and engineering review routing process for permit acquisition on new private development and re-development. The reporting staff manages review, comments and feedbacks on plans, specifications, stormwater report and calculations during the review process. It is one of the requirements from the consultants and project owners to include submittal of Operation and Maintenance Agreement on stormwater facilities maintenance activities at post-construction period. There are 14 total of new private developments conducted for permitting process this PY 21: are as follows: • Townsend Farms, Inc. (3 Lots) • Sandy Blvd. (230th - 238th)_Multnomah County Road Widening Project • Arata Road (223rd - 238th)_Multnomah County Road Widening Project • 20939 NE Halsey St. (3-Storey Mixed Use) • 1910 NE 201st (Sewer Connection to 203rd St. • 1210 NE 201st (Salish Elementary School) • 20500 NE Marine Dr. (Blue Lake Park Portland Metro) • Winter Brook Apartment (NE Sandy Blvd. & NE 223rd) • VA Medical Clinic	No modification	Engineering Associate
					• Reynolds Middle School (Additional Secured Vestibule) • Raze Meadows, 3 Duplexes (NE 208th Place) • New Fairview Elementary School • Northbrook 180 Units Apartment Complex • 2645 NE 205th_Proposed 49 Units Apartment		
					There were five total of private stormwater facilities inspected during PY 21 are as follows: *Dirt and Aggregate, Interchange *Fairview Chevron *Scrubby's Express Lube *Townsend Farms, Inc. *Scrubby's Carwash		

Appendix A—Legal Authority

CITY OF GRESHAM
City Attorney's Office
1333 NW Eastman Parkway, Gresham, OR 97030-3813 USA
(503) 618-2507 / FAX (503) 667-3031

October 19, 2016

Oregon Department of Environmental Quality
Water Division
811 S.W. 6th Ave.
Portland, OR 97204

RE: Adequate Legal Authority – 40 CFR 122.26(d)(2)(i)

To Whom It May Concern:

I am a Senior Assistant City Attorney for the City of Gresham and provide legal counsel to the Department of Environmental Services, which includes the Watershed Management Division. In that capacity, I am familiar with the provisions of the Gresham Revised Code that address stormwater issues, including but not limited to GRC Articles 3.20 to 3.60. These code provisions can be accessed at www.greshamoregon.gov/code.

I have reviewed these code provisions and have determined that the provisions provide the City of Gresham with adequate legal authority as required in 40 CFR 122.26(d)(2)(i). Enclosed please find the table that summarizes these requirements and the applicable Gresham Revised Code provisions.

Please feel free to contact me if you have any questions.

Sincerely,

David J. Ross
Senior Assistant City Attorney

Enclosures

c: Keri Handaly

Adequate Legal Authority		
Permit Reference	**Requirement**	**Code Authority**
Schedule A. 1. Prohibit Non-Stormwater Discharges	…effectively *prohibit non-stormwater discharges* into the MS4 unless such discharges are otherwise permitted under Subsection A.4.a.xii., another NPDES permit or other applicable state or federal permit, or are otherwise exempted or authorized by the Department.	GRC Article 3.23 contains the Discharge Regulations which prohibit non-stormwater discharges except as exempted per the City's permit.
Schedule A. 4. A. i.	*Prohibit* through ordinance or other regulatory mechanism, *illicit discharges* into the permittee's MS4. [Illicit discharges are any release/spill not composed entirely of stormwater.]	GRC Article 3.23 contains the Discharge Regulations which prohibit illicit connections and illicit discharges.
Schedule A. 4. A. ii.	Include documentation in an enforcement response plan or similar document… *describing the enforcement procedures* the permittee will implement when an illicit discharge investigation identifies a responsible party.	GRC Article 3.99, Council Resolution 3041, and Stormwater Pollution Prevention for Business Standard Operating Procedures.
Schedule A. 4. C. i.	Include ordinances or other enforceable regulatory mechanisms that *require erosion prevention and sediment controls be designed, implemented and maintained* to prevent adverse impacts to water quality and minimize the transport of construction-related contaminants to waters of the State. …the regulatory mechanism must apply to construction activities that result in land *disturbance of 1,000 square feet or greater.*	GRC Article 3.28 contains the requirements for erosion control compliance with the City's Erosion Prevention and Sediment Control (EPSC) Manual and authority to inspect for compliance. The City's EPSC Manual contains the threshold for the implementation of erosion control practices.
Schedule A. 4. C. ii.	Require construction site operators to *develop erosion prevention and sediment control site plans, and to implement and to maintain* effective erosion prevention and sediment control best management practices.	GRC 3.22.020 Stormwater Manuals
Schedule A. 4. C. iii.	Require construction site operators to *prevent or control non-stormwater waste* that may cause adverse impacts to water quality such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste.	GRC 3.22.020 Stormwater Manuals
Schedule A. 4. C. vi.	Describe… the *enforcement response procedures* the permittee will implement. The enforcement response *procedures must ensure construction activities are in compliance with ordinances* or other regulatory mechanisms.	GRC 3.22.020 Stormwater Manuals

Adequate Legal Authority		
Permit Reference	**Requirement**	**Code Authority**
Schedule A. 4. F. iii	…co-permittees must develop or reference an enforceable post-construction stormwater quality management manual….	GRC 3.22.020 Stormwater Manuals
Schedule A. 4. F. v.	Where a new or redevelopment project site is characterized by factors limiting the use of on-site stormwater management methods to achieve the post construction site runoff standards… the Post-Construction Stormwater Management Program must require equivalent pollutant reduction measures, such as off-site stormwater quality management.	GRC 3.22.020 Stormwater Manuals
	Control through ordinance, permit contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water *discharges associated with industrial activity* and the quality of storm water discharged from sites of industrial activity.	GRC 3.23.025(2) Waste Disposal Prohibitions, and GRC 3.24.010 Requires compliance with Industrial NPDES and WPCF permits
Schedule A. 4. H. 1.	Legal authority to inspect and require effective operation and maintenance [of stormwater structural facilities]	GRC 3.20.035(2) requires stormwater facilities to comply with the City's development standards and stormwater manual. It further requires that these facilities be located on private properties and shall be owned and maintained by the benefited property, as applicable. GRC 3.20.055 Describes Private Responsibilities for stormwater facility maintenance. GRC 3.24.050 Provides the City's right to inspect and require maintenance.
Code of Federal Regulations 122.26 (A)	Control through ordinance, permit, contract or similar means, the contribution of pollutants to the municipal storm sewer by stormwater discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.	GRC Article 3.30 requires a Stormwater User Permit. Includes new connections and the alteration, modification or increase in discharge from existing development. GRC Article 3.24 requires compliance with NPDES permits, and requires notification of spills, elimination of illicit

Adequate Legal Authority		
Permit Reference	**Requirement**	**Code Authority**
		connections, remediation of pollution and restoration of property and the monitoring, analysis, and reporting to demonstrate compliance. GRC Article 3.23 regulates discharges from all sites.
(B)	Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer.	GRC 3.23.020 prohibits illicit connections and illicit discharges. GRC 3.23.025 specifically prohibits certain waste disposal. GRC 3.23.030 adds general discharge prohibitions.
(C)	Control through ordinance, order or similar means the discharge to municipal separate storm sewer of spills, dumping or disposal of materials other than storm water.	GRC 3.23.010 generally prohibits non-stormwater discharge. GRC 3.23.025 specifically prohibits certain waste disposal. GRC 3.24.021 requires certain discharges to develop an Accidental Spill Prevention Plan.
(D)	Control through interagency agreements among the co-permittees the contribution of pollutants form one portion of the municipal system to another portion of the municipal system.	A cooperative monitoring and stormwater management program exists between the Cities of Gresham and Fairview, and Gresham and Multnomah County, based on historical arrangements that were formalized in June 2004.
(E)	Require compliance with conditions in ordinances, permits, contracts or orders; and	GRC Article 3.99 provides for enforcement of stormwater provisions pursuant to GRC Article 7.50.
(F)	Carry out all *inspection, surveillance and monitoring* procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.	GRC Article 3.24 and GRC Article 3.99 establish authority for inspection and monitoring to enforce provisions of the stormwater code.

Beery Elsner & Hammond LLP

MEMORANDUM

TO: Allan Berry, Public Works Director, City of Fairview

FROM: Heather R. Martin, City Attorney's Office HRM

SUBJECT: Legal Authority to Implement and Enforce NPDES MS4 Permit

DATE: October 6, 2016

Fairview's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit requires it to "maintain adequate legal authority through ordinance(s), interagency agreement(s) or other means to effectively implement and enforce" the permit's provisions. See NPDES MS4 Permit No. 101315 at Schedule D(1).

For the reasons listed in the attached memo from our office dated October 12, 2015 (Exhibit A), the City has maintained and currently possesses legal authority to implement and enforce the NPDES MS4 permit. None of the Fairview Municipal Code (FMC) provisions cited in Exhibit A have changed or been deleted. They are all still in effect as is the intergovernmental agreement the City has with Gresham.

I believe, given that information, the City continues to possess adequate legal authority required by its NPDES MS4 permit.

Please let me know if you have any questions.

t 503.226.7191
f 503.226.2348
e info@gov-law.com
1750 SW Harbor Way Suite 380
Portland OR 97201-5106
www.gov-law.com

MEMORANDUM

TO: Allan Berry, Public Works Director, City of Fairview

FROM: David F. Doughman, City Attorney's Office

SUBJECT: Legal Authority to implement and enforce NPDES MS4 permit

DATE: October 12, 2015

Fairview's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit requires it to "maintain adequate legal authority, through ordinance(s), interagency agreement(s) or other means, to effectively implement and enforce" the permit's provisions. *See* NPDES MS4 Permit No. 101315 at Schedule D(1). You asked our office to confirm that Fairview is maintaining such authority.

As outlined below, we are confident that Fairview has maintained and currently possesses adequate legal authority to implement and enforce the NPDES MS4 permit.

The legal authority must enable the City to:

(a) *Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.*

In 2004, the City adopted a comprehensive ordinance to control non-stormwater discharge into its storm sewer system, codified at Fairview Municipal Code (FMC or Code) Chapter 13.40. It applies to "all water entering the city of Fairview storm drain system and generated on any developed and undeveloped property unless specifically exempted." FMC 13.40.020.

The Code, at FMC 13.40.070, regulates industrial discharges into the storm sewer system. It requires an industrial discharger to prove it is complying with any NPDES permit it may possess for industrial discharges and allows the Fairview public works department to inspect a discharger's facility. It grants the public works department the authority to install monitoring devices at a facility to control the quality of storm water discharged from the site and provides for penalties for dischargers who fail to comply with FMC 13.40.070's terms.

For industrial dischargers that are not required to possess a NPDES permit, the City is able to require a reporting form and establish a schedule of monitoring discharges from such facilities.

(b) *Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer*.

The Code specifically prohibits illicit discharges to the system at FMC 13.40.040. Any materials that are not "stormwater" – defined as rain runoff, snowmelt runoff, and surface water and drainage – are not allowed to be discharged into the system, subject to certain exceptions. Penalties may be imposed upon persons illicitly discharging prohibited materials, including fines and suspending access to the system, among others. *See* FMC 13.40.060 and 13.40.110.

(c) *Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water*.

In addition to explicitly prohibiting non-stormwater discharges into the system as discussed above, the Code controls the discharge of materials other than stormwater by utilizing best management practices (BMPs) identified in Fairview's Stormwater Management Plan. *See* FMC 13.40.080. Further, the Code allows for monitoring of discharges at the public works department's discretion. *See* FMC 13.40.070.

The Code also requires dischargers to immediately report spills or disposal of materials other than stormwater and provides for penalties for those who may fail to report such spills. *See* FMC 13.40.100 and 13.40.110.

Other Code sections control the discharge of materials other than stormwater. FMC 19.106.040(B) prohibits alterations to wetlands that would appreciably diminish the values or functions of the water body or wetland. FMC 19.106.040(C)(9) requires construction sites adjacent to wetlands to install erosion/sedimentation control devices between the land area to be disturbed and any wetlands. The devices must conform to the specifications and procedures of the City's erosion control standards

FMC 19.106.040(C)(10) requires developments with significant impervious surface areas adjacent to wetlands to have storm water detention and filtration facilities as part of their approved design. The design of such facilities must conform to the BMPs described in the City's standard specifications for public facilities and related ordinances and technical/guidance manuals.

(d) *Control through interagency agreements among co-applicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system*.

The City has an intergovernmental agreement (IGA) with Gresham, a co-permittee for the duration of the permit term. The jurisdictions agree to minimize their contribution of

pollutants to each others' stormwater systems to the maximum extent practicable through implementation of an approved Stormwater Management Plan. In addition, each jurisdiction may provide services related to water quality protection to the other upon mutual agreement, at full cost.

(e) *Require compliance with conditions in ordinances, permits, contracts or orders*.

All of Fairview's ordinances are subject to enforcement actions, either specific to a given ordinance (e.g. FMC 13.40.110) or generally through a violation citation in municipal court. Land use/development permits routinely condition approval upon satisfying various Code criteria and such permits may similarly be enforced in court. Naturally, if a contract pertaining to stormwater management is breached the City has the right to enforce the contract in court.

(f) *Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.*

Fairview's comprehensive ordinance controlling non-stormwater discharges into its system explicitly:

► Permits the public works director to prohibit a discharger from engaging in activities that are, were or may be a significant source of non-stormwater discharge. FMC 13.40.040(B)(2).

► Prohibits illicit discharges into the system and illicit connections to the system. FMC 13.40.040(A).

► Permits the public works department to suspend MS4 discharge access if necessary to prevent an actual or threatened discharge that will harm the public, the system or the environment. FMC 13.40.060(A).

► Permits the public works department to enter and inspect a discharger's facilities, establish monitoring of the discharge, and require regular reporting to the City. *See* FMC 13.40.070.

For all of the above reasons, we believe the City continues to possess the adequate legal authority required by its NPDES MS4 permit. Please let me know if you have any questions.

Appendix B—Summary of Urban Growth Boundary Activities

Summary of Pleasant Valley, Springwater & Kelley Creek Applications

Below is a list of Development Permit Applications and Pre-Applications that have come into the City in for properties within the Pleasant Valley, Springwater areas and the Kelley Creek Headwater Area.

July-Dec 2015 Planning Permits

File Type	File No.	Date Filed	Project Description & Location	Pre-App#	Final Action	Action Date	Comments
FP	15-284	8/19/15	Jim Leeper/Charlotte Point final plat for Hayden Meadows; 19796 SE Butler Rd.	NA	APPD	1/29/16	
FP	15-285	8/19/15	Jim Leeper/Charlotte Point final plat for Brookside @PV; 2696 SW Butler Rd.	NA			Final Plat Approval Pending
MIS2	15-286	8/19/15	Jim Leeper/Charlotte Point modification of previous approval (Brookside 3); 2676 SW Butler	NA	AWC	3/21/16	
AE	15-319	9/23/15	Berg expedited annexation of 6 parcels into Gresham; east of Telford, north of Cooper Ct.	15-253	APPD	1/19/16	

Jan. - June 2016 Planning Permits

File Type	File No.	Date Filed	Project Description & Location	Pre-App#	Final Action	Action Date	Comments
FP/L	16-055	2/29/16	Monte Vista Homes final map for Van Buren Farms (LL 15-227); 3704 SW 31st	NA	APPD	6/3/16	
FP	16-086	3/24/16	Sheldon Development final plat for Hilltop View Estates @ Persimmon; 7205 SE Hogan Rd.	NA			Final Plat in review – pending approval
PD/SD/ TR	16-106	4/13/16	Renaissance Homes 9-lot Planned Development Subdivision with Tree Removal; 6925 SE Hogan	15-175			In planning review process. Hearings Officer hearing scheduled for Sept. 1
SUR3/ TR/MIS2VR3	16-188	6/21/16	City of Gresham develop Hogan Butte Nature Park Phase 1 including Tree Removal; end of Gabbert on top of Hogan Butte	15-332			In planning review process. Hearings Officer hearing scheduled for Sept. 8

RESOLUTION NO. 3213

A RESOLUTION FOR AN EXPEDITED ANNEXATION IN THE CITY OF GRESHAM

The City of Gresham Finds:

WHEREAS, D. Butch Pollard has submitted an application requesting expedited annexation of 10.58 acres of property located on SE 174th Avenue at the western terminus of SE 11th Street in unincorporated Multnomah County. The property is contiguous to the City boundary and is identified as State ID 1S3E18A 01500.

WHEREAS, an expedited annexation is authorized by Metro and City regulations and does not require a public hearing. The expedited annexation proposal is placed on the Council consent agenda, and the Council decision is considered the City's final decision on the proposed annexation.

WHEREAS, the proposed annexation is consistent with the applicable procedures and approval criteria of Gresham Community Development Code (GCDC) Sections A1.003, A1.004 and A1.006 and Metro Code 3.09.045 (a) to 3.09.045(e).

WHEREAS, Metro Code 3.09.045(b) provides that the City cannot approve the annexation without a public hearing if a necessary party gives written notice of its objection to the proposed annexation prior to the decision date, which is July 21, 2015. A necessary party is defined by Metro Code 3.09.020(j) as a service provider who provides an urban service to the area being annexed. The City has not received written notice from any necessary parties.

WHEREAS, GCDC Section A1.004(C) requires that 100% of the property owners of the affected territory and at least 50% of any electors residing in the affected territory must provide written consent to utilize the expedited annexation process. The annexation application was accompanied by written consent from all property owners of the territory. There are no electors within the territory.

WHEREAS, notice of the proposed expedited annexation must be provided to necessary parties a minimum of 20 days prior to the decision date. Notice was mailed on June 30, 2015, to all necessary parties. A notice was published in the Gresham *Outlook* newspaper on June 30, 2015. The mailed notice stated that the annexation is subject to the expedited process and included a map and description of the property. The date, time and location of the City Council meeting was included with information on how the Staff Report could be obtained.

WHEREAS, a Staff Report which addresses applicable annexation criteria was required to be available to the public at least seven days before the final decision date. The Staff Report was made available to the public on July 14, 2015.

WHEREAS, the annexation territory will be withdrawn from Multnomah County Rural Fire Protection District No. 10.

THE CITY OF GRESHAM RESOLVES:

1. The proposed expedited annexation meets the applicable Gresham Community Development Code and Metro Code procedural requirements and approval criteria as shown in the Staff Report on file with the City of Gresham.

2. The City Council hereby approves the annexation of the real property shown on the attached site map and described in the attached legal description (Exhibit 1), known as State ID 1S3E18A 01500.

3. The real property shown on the site maps and described in the legal descriptions (Exhibit 1) known as State ID 1S3E18A 01500 is withdrawn from Multnomah County Rural Fire Protection No. 10.

4. The real property being annexed is assigned the land use designation of General Industrial per the Multnomah County – City of Gresham Land Use Conversion Table.

5. The effective date of the annexation, as approved in this resolution, is the date Metro submits this resolution, the recorded map of the annexed area, and supporting materials to the Secretary of State, the City, and Multnomah County Assessor's and Election Office, per Metro Code 3.09.060 A.4.

Yes: Bemis, Hinton, Echols, French, Palmero, McCormick, Stegmann

No: None

Absent: None

Abstain: None

Passed by the Gresham City Council on July 21, 2015.

Erik Kvarsten
City Manager

Shane T. Bemis
Mayor

Approved as to form:

for David J. Ross
Senior Assistant City Attorney

All County Surveyors & Planners, Inc.

PO Box 955 • Sandy, Oregon 97055 • Phone: 503-668-3151 • Fax: 503-668-4730

Legal Description
Annexation

A tract of land located in the Northeast one-quarter of Section 18, Township 1 South, Range 3 East, Willamette Meridian, Multnomah County, Oregon and generally described as all of the land recorded as Fee No. 2014-124795 and the East One Half of SE 174th Avenue (having a half width of 25 feet) and further described as follows:

Beginning at the Northeast corner of that tract of land recorded in Fee No. 2014-124795, Multnomah County Records, thence along the East line of said Fee No. tract South, 470 feet more or less to an angel point on the West line of Highland Park Condominium, thence continuing along the Easterly line of said Fee No. tract East, 55 feet more or less to an angel point on the West line of Highland Park Condominium, thence continuing along said Easterly line of said Fee No. tract, South, 220 feet, more or less to the Southeast corner thereof, thence along the Southerly line of said Fee No. tract and it's Westerly extension, West, 695 feet, more or less to the centerline of SE 174th Avenue, thence along said centerline, North, 685 feet more or less to a point on the Westerly extension of the Northerly line of said Fee No. tract, thence along the Westerly extension of the Northerly line of said Fee No. tract and along the Northerly line of said Fee No. tract, East, 660 feet, more or less to the point of beginning.

With this annexation description there shall be no overlaps or gaps created between adjacent properties of street right of ways and there shall be no closure errors within the boundaries.

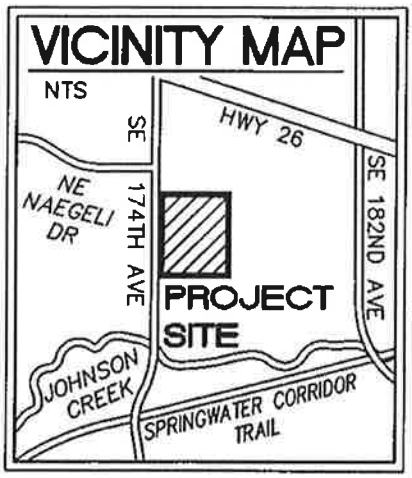
REGISTERED
PROFESSIONAL
LAND SURVEYOR

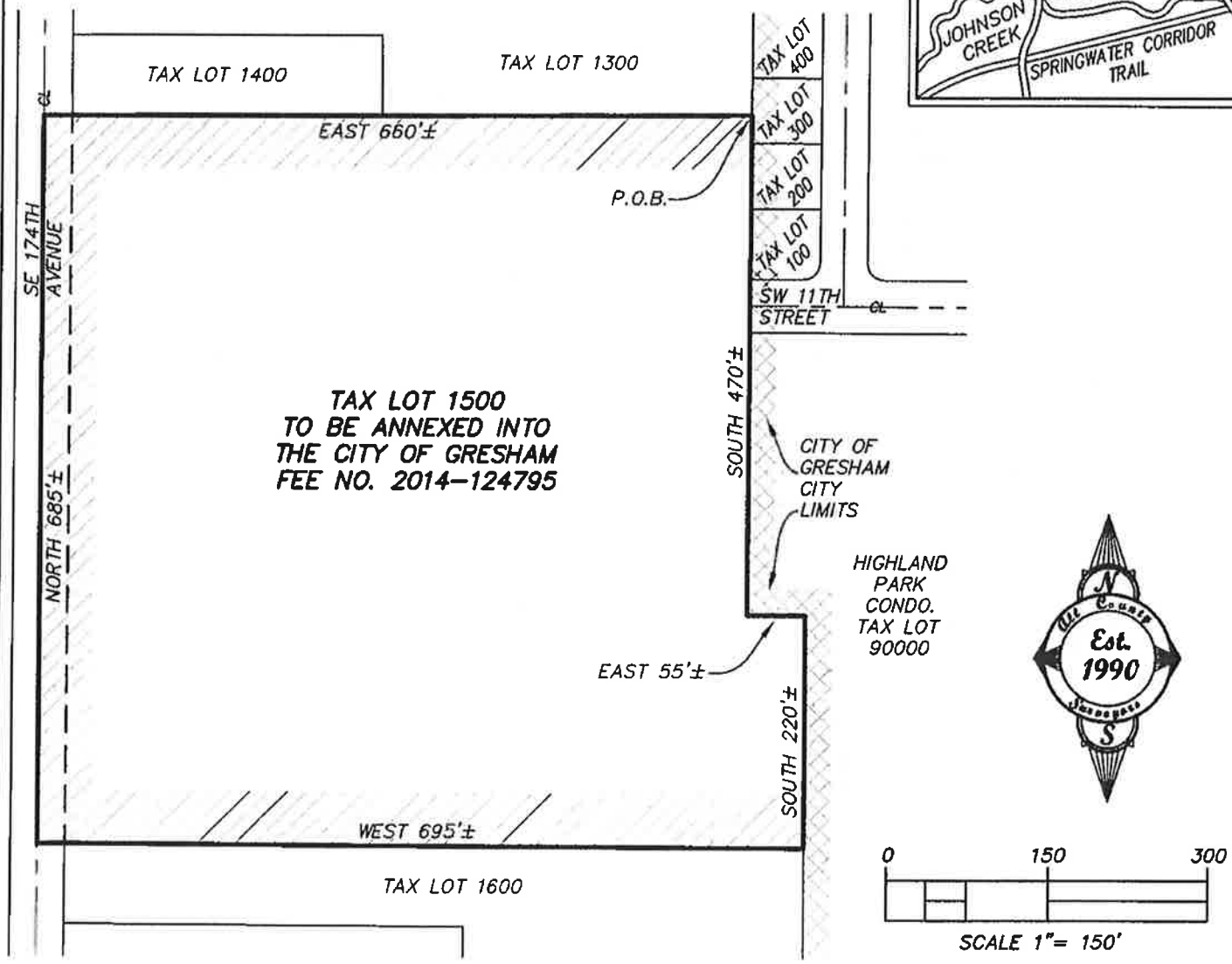
OREGON
JANUARY 23, 1990
DALE L. HULT
2427

RENEWS 01/01/17

ANNEXATION MAP

LOCATED IN THE NE 1/4 OF SECTION 18, TOWNSHIP 1 SOUTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, MULTNOMAH COUNTY, OREGON





REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JANUARY 23, 1990
DALE L. HULT
2427

RENEWS 07/01/17

OWNER
Butch Pollard
Supply Source
12402 SE Jennifer St., #190
Clackamas, OR 97015
(877) 978-0002

PLANNER / ENGINEER / SURVEYOR
ALL COUNTY SURVEYORS
AND PLANNERS, INC.
P.O. BOX 955
SANDY, OR 97055
503-668-3151

All County
Surveyors & Planners, Inc.
Surveying, Planning and Civil Engineering
P.O. Box 955 Sandy, OR 97055
Phone: (503) 668-3151
Fax: (503) 668-4730

14-218-ANNEXATION-8x11.DWG DATE OF PLOT: 4-22-15

Exhibit 1

Final Documents
for
Annexation to

Gresham

Metro proposal number: MU0116
Ordinance/Resolution: 3228
Annexation: AE 15-26000319
DOR: 26-689-2016

DOR 26-689-2016

Notice to Taxing Districts

ORS 308.225

OREGON DEPARTMENT OF REVENUE

Cadastral Information Systems Unit
PO Box 14380
Salem, OR 97309-5075
fax 503-945-8737
boundary.changes@oregon.gov

City of Gresham
Planning Dept.
1333 NW Eastman Parkway
Gresham OR 97030-3813

Description and Map Approved
January 25, 2016
As per ORS 308.225

✓ Description ✓ Map - Received from: Tammy Richardson
On: 1/22/2016

This is to notify you that your boundary change in Multnomah County for:
ANNEX TO CITY OF GRESHAM; WITHDRAW FROM MULTNOMAH CO. RFPD NO. 10 (Berg)

RES. #3228 (File AE 15-26000319)

has been: ✓ Approved 1/25/2016
Disapproved

Notes: Approved with the following comment:
--The "Iron Rose" label in TL 5500 should be moved over to TL 1500 to agrree with the plat..

Department of Revenue File Number: 26-689-2016
Reviewed by: Elise Bruch, 503-302-8353
Boundary: ✓ Change Proposed Change
The change is for:
Formation of a new district
✓ Annexation of a territory to a district
✓ Withdrawal of a territory from a district
Dissolution of a district
Transfer
Merge
Establishment of Tax Zone

If you have not already done so, the approved version of the map(s), legal descriptions(s) and signed ordinance must also be filed with the County Assessor and Secretary of State

CITY OF GRESHAM 1333 N.W. Eastman Parkway | Gresham, OR 97030

January 29, 2016

Zac Christensen
Metro
Research Dept. – Data Resource Center
600 NE Grand Avenue
Portland OR 97232

RE: Annexation into City of Gresham (Berg File AE 15-26000319)

Zac,

Enclosed please the following documents for an annexation/boundary change into the City of Gresham:

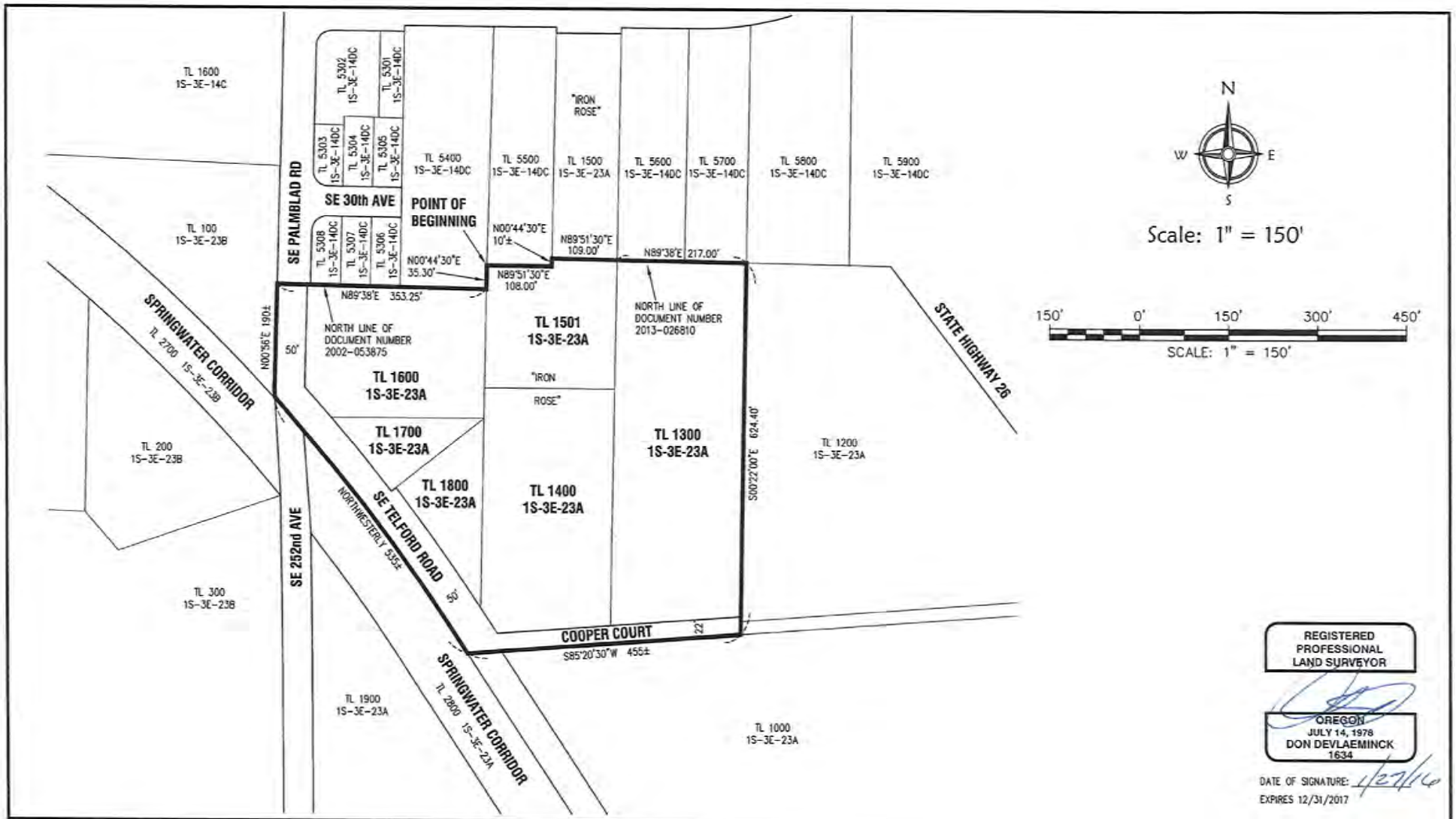
- Final Approval Letter from DOR dated Jan. 25, 2016 and revised final map
- City of Gresham Resolution No. 3228
- Staff Report with findings
- $300 payment to Metro

Please let me know if there is any additional information you may need. Your expedited filing with the Secretary of State would be greatly appreciated as we would like to have this effective prior to the March 31 taxing deadline.

Thank you,

Tammy J. Richardson

Tammy J. Richardson
Planning Technician II



REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JULY 14, 1978
DON DEVLAEMINCK
1634

DATE OF SIGNATURE: 1/27/16
EXPIRES 12/31/2017

DRAWN	MMM	CHECK	DD
SCALE	1" = 150'	DATE	SEPT., 2015
PLAN	7610 Exh.dwg		

COMPASS Land Surveyors
4107 SE International Way, Suite 705
Milwaukie, Oregon 97222 503-653-9093

LOCATED IN THE NE 1/4 SECTION 23
T.1S., R.3E., W.M.
MULTNOMAH COUNTY, OREGON

SITE MAP FOR ANNEXATION TO CITY OF GRESHAM

RESOLUTION NO. 3228

A RESOLUTION FOR AN EXPEDITED ANNEXATION IN THE CITY OF GRESHAM

The City of Gresham Finds:

WHEREAS, Howard and Judith Berg submitted an application to the City of Gresham requesting expedited annexation of 8.4 acres of properties located at the east corner of SE 252nd Avenue, SE Telford Road, and SE Cooper Court in unincorporated Multnomah County. The properties are contiguous to the City boundary and are identified as State ID Nos. 1S3E23A 01600, 01700, 01800, 01400, 01501, 01300.

WHEREAS, an expedited annexation is authorized by Metro and City regulations and does not require a public hearing. The expedited annexation proposal is placed on the Council consent agenda, and the Council decision is considered the City's final decision on the proposed annexation.

WHEREAS, the proposed annexation is consistent with the applicable procedures and approval criteria of Gresham Community Development Code (GCDC) Sections A1.003, A1.004 and A1.006 and Metro Code 3.09.045 (a) to 3.09045(e).

WHEREAS, Metro Code 3.09.045(b) provides that the City cannot approve the annexation without a public hearing if a necessary party gives written notice of its objection to the proposed annexation prior to the decision date, which is January 19, 2016. A necessary party is defined by Metro Code 3.09.020(j) as a service provider who provides an urban service to the area being annexed. The City has not received written notice from any necessary parties.

WHEREAS, GCDC Section A1.004(C) requires that 100% of the property owners of the affected territory and at least 50% of any electors residing in the affected territory must provide written consent to utilize the expedited annexation process. The annexation application was accompanied by written consent from all property owners of the territory. There are nine electors within the territory.

WHEREAS, notice of the proposed expedited annexation must be provided to necessary parties a minimum of 20 days prior to the decision date. Notice was mailed on December 29, 2015, to all necessary parties. A notice was published in the Gresham *Outlook* newspaper on December 29, 2015. The mailed notice stated that the annexation is subject to the expedited process and included a map and description of the property. The date, time and location of the City Council meeting was included with information on how the Staff Report could be obtained.

WHEREAS, a Staff Report which addresses applicable annexation criteria was required to be available to the public at least seven days before the final decision date. The Staff Report was made available to the public on January 12, 2016.

WHEREAS, the annexation territory will be withdrawn from Multnomah County Rural Fire Protection District No. 10.

THE CITY OF GRESHAM RESOLVES:

1. The proposed expedited annexation meets the applicable Gresham Community Development Code and Metro Code procedural requirements and approval criteria as shown in the Staff Report on file with the City of Gresham.

2. The City Council hereby approves the annexation of the real properties shown on the attached site map (Exhibit 1) and described in the attached legal description (Exhibit 2), known as State ID Nos. 1S3E23A 01600, 01700, 01800, 01400, 01501, 01300.

3. The real properties shown on the site map (Exhibit 1) and described in the legal description (Exhibit 2) known as State ID Nos. 1S3E23A 01600, 01700, 01800, 01400, 01501, 01300 are withdrawn from Multnomah County Rural Fire Protection No. 10.

4. The real properties being annexed are subject to the Springwater Plan District as shown on the attached Community Plan Map (Exhibit 3).

5. The effective date of the annexation, as approved in this resolution, is the date Metro submits this resolution, the recorded map of the annexed area, and supporting materials to the Secretary of State, the City, and Multnomah County Assessor's and Election Office, per Metro Code 3.09.060 A.4.

Yes: ECHOLS, FRENCH, HINTON, PALMERO, STEGMANN, WIDMARK

No: NONE

Absent: BEMIS

Abstain: NONE

Passed by the Gresham City Council on January 19, 2016.

Erik Kvarsten
City Manager

Shane T. Bemis
Mayor

Approved as to form:

David J. Ross
Senior Assistant City Attorney

Appendix C—City of Gresham Supporting Education & Outreach Program Documents

Backyard Habitat Certification Program

Plant Roots, Create a Habitat, Transform the World
One Backyard at a Time

In partnership with Columbia Land Trust, the Audubon Society of Portland is providing residents with great resources to support birds at home.

For just $35, receive a site assessment, expert advice, 10 native plants, a yard sign, garden sale access, and more.

Scholarships available. Call 503-618-2657.

Enroll Today!

To learn more and sign up, visit

backyardhabitats.org

Audubon Society of Portland
Founded in 1902

Columbia
LAND TRUST

Programa de certificación para hábitats en jardines

Plante raíces, cree un hábitat y transforme el mundo
Un jardín a la vez

En asociación con Columbia Land Trust, la Sociedad Audubon de Portland está proporcionando a los residentes importantes recursos para ayudar a las aves en sus hogares.

Por sólo $35, reciba una evaluación del sitio, asesoramiento de expertos, 10 plantas nativas, un letrero de jardín, acceso a las ventas de jardín, y mucho más.

Becas disponibles. Llame al 503-618-2657.

¡Inscríbase hoy!

Para obtener más información e inscribirse, visite
backyardhabitats.org

Audubon Society of Portland
Founded in 1902

Columbia
LAND TRUST

From: EcoBiz / Pacific Northwest Pollution Prevention Resource Center
To: Handaly, Keri
Subject: Free soil testing, fleet software, bees, and more!
Date: Thursday, July 28, 2016 10:28:33 AM

News and resources for Oregon landscaping firms to promote sustainability and pollution prevention in professional practice

July 2016

Free Soil Testing for Lead, Cadmium, Mercury, and Arsenic

There is heightened concern about heavy metals lately.

Clients with older homes, or buildings constructed on an old industrial/manufacturing or agricultural site, may benefit from knowing what's in their soils. You can test soil in Portland for free (or your client can). Here's how to prepare samples, here's where to go:

Lead Safe America
6637 SE Milwaukie Ave, Suite 203
Portland, OR 97202

Note: please text first to make sure someone is in the office: 415-609-3182.
Best walk-in hours: Tu/Th 10 am to 2 pm. Regular hours: 9:30 to 3:15, M-F.

Office is UPSTAIRS above RELISH restaurant. The door to the upstairs offices is on the side of the building on CLAYBOURNE Street.

Software for Landscapers: Saves Money, Increases Productivity

Software can do the following for your company. Most require a device in each truck:

1. **Route optimization and tracking**: reduce fuel, track maintenance, monitor employees and much more
2. **Track vehicle performance** and maintenance.

Track Your Truck - GPS-based route optimization, customer notification, equipment tracking (vehicles, mowers, etc.) idle time, fuel use, AC use, etc. Best for small (1-5) to midsize fleets (6-50). $19.99/month

Geotab - GPS-based all-in-one platform: route optimization, fuel use, monitor employees,schedule maintenance, etc. All size fleets from 1 -100+. Cost depends on fleet size.

Advantrack - GPS-based vehicle tracking, electronic time sheets, speed alerts, idling, employee monitoring, time spent on a job site. Person with ROI information was unavailable when I called.

Fleet Genius - Wireless-based tracking. maintenance, fuel use, idling, diagnostics to accounting etc. Price based on which option purchased: Basic, Pro and Export. Most savings for fleets over 25 vehicles.

MowerMeter - Landscaping equipment maintenance software. One-time purchase of software package: $300 or $600 depending on features. Person with ROI information was unavailable when I called.

Here's what one EcoBiz customer had to say about Landscaper Software

I can easily locate people in case they need to be sent somewhere, or they can call in for help ID'ing a better route around traffic using the software--starts and stops in heavy traffic are as bad as idling on engine performance, fuel costs, and pollution. Staff appreciate it and learn, and are more productive when they know they're being monitored. Overall, it's so much easier to spot any issues.

There are more software options out there that are worth looking into.
Usual disclaimer: PPRC is not connected with the firms listed here.

An App for Finding Safe Lawn & Garden Products

EcoBiz landscapers already know which brands are safe for employees and clients' property, and about the impacts of neonicotinoids on pollinators, but do you remember the chemical names?* What about your staff?

And what about your clients? Warn them!

Your clients may own more toxic products from a garden supply store than you normally use in a year. They may over-apply them, or apply them improperly.

Metro created this **free and easy to use app** listing safe products by brand. Download it and tell your clients about it too.

You are the most important educator and advocate for toxic-free landscapes!

*Acetamiprid, Clothianidin, Dinotefuran, Imidacloprid, Nitenpyram, Thiacloprid,Thiamethoxam

---

Help Our Pollinators

Did you know there are resources for these important insects?

Pollinator Stewardship Council
They advocate to the EPA and state legislatures to ban the use of

neonicotinoids. Their 2014 report to the Oregon Legislative Assembly is here.

PDF guide for reporting a bee kill

What happens: Oregon DEQ and EPA will inspect to determine the cause, and contact product manufacturer.

Scott's announced it will stop using neonicotinoids in its pesticides, April 14, 2016 -

Scott's is planning to work with the Pollinator Stewardship Council to help educate homeowners on the safe use of pesticides and to lobby for labeling that clearly marks pollinator-safe pesticides.

Got an idea for me to research?

Please send requests and suggestions: mpuckette@pprc.org

EcoBiz *is an environmental certification for Oregon landscapers managed by the Pacific Northwest Pollution Prevention Resource Center (PPRC). Pollution-prevention information for businesses and certification is free. We take a pro-business approach to support practices developed by landscaping businesses. EcoBiz-certified firms are recognized by local government agencies as exceeding environmental standards. PPRC also provides marketing and ongoing technical assistance.*

Margaret Puckette | PPRC | 503-737-9971 | mpuckette@pprc.org | www.ecobiz.org

Pacific Northwest Pollution Prevention Resource Center, 2101 Fourth Ave., Suite 1080, Seattle, WA 98121

SafeUnsubscribe™ keri.handaly@greshamoregon.gov

Forward this email | Update Profile | About our service provider

Sent by mpuckette@pprc.org in collaboration with

GREAT BUSINESSES

GRESHAM RESOURCE EFFICIENCY ASSISTANCE TO BUSINESSES

WINTER 2015 RECOGNITION LIST

Businesses certified for their leadership in recycling, saving energy and water, and preventing pollution.

Retail & Service

Accents of Elegance
Albertsons
Amiton Furniture
Apollo Drain & Rooter Service
Cantel Sweeping
Chase Me Again
Chatov Law, LLC
Country Financial
Cramer Fish Sciences
Edward Jones Investments - Christina J Price
Ernie Smith Insurance
Hair with Moxie
Kohler Meyers O'Halloran
Landmark Tax & Investment Service
Littlelamb and Ewe
MaidPerfectPDX
Mickleberry Gardens
Parr Lumber
Riverview Community Bank
Rockwood Solid Waste
Schedeen's Farms, Inc.
Second Nature Pet Food
Springwater Jewelers
Stegmann Farmers Insurance
Tax & Financial Solutions
The Broker Network
The Pool & Spa House
Thorp Construction
US Bank
Wal-Mart Neighborhood Markets
Zumiez

Restaurants and Hospitality

Abby's Legendary Pizza
Bella Cupcake
Boccelli's Ristorante
Burgerville
Cafe Delirium
Chartwells at MHCC
Origins's Coffee and Tea
Frenzi Frozen Yogurt
Four Points Hotel Sheraton
Holiday Inn
Hoppy Brewer
Liberated Baking
Local Cow
Olive Garden
Outback Steakhouse
Panda Express
Silk Espresso
Sunny Han's

Public Service

City of Gresham - Operations Facility, City Hall
City of Wood Village
Gresham Fire - Station 71
Gresham-Barlow Education Foundation
Gresham-Barlow School District – Facilities & Business Services office
Mt. Hood Community College
Multnomah County - Shop Annex
Oregon Department of Revenue - Gresham Office
Veolia Water North America

Manufacturing, Printing & Distribution

Accuprint
American Honda NW Regional Center
Frito-Lay
Fuji Film North America
Gresham Outlook & Sandy Post
Image Pressworks
Indepak, Inc.
Kinco International
Microchip Technology Inc.
ON Semiconductor
Organically Grown Company
Owens Corning - Gresham Facility
Pella Corporation
Rose City Printing & Packaging
Staples
Teeny Foods
Total Merchant Services

Non-Profit

Birch Community Services
Center for Family Success
Gresham Area Chamber of Commerce
Gresham History Museum
Human Solutions
Little Genius Montessori
Portland Lutheran School
SnowCap

Medical, Health & Fitness

Adventist Health - Gresham Imaging Center & Laboratory Services
Body of Wisdom - Natural Family Medicine
Calcagno Pediatrics
Center for Men's & Women's Urology
Columbia Equine Hospital
Dr. John C Anderson, MD
Dr. Raymond Onchi D.M.D
Dr. Robert W. Jones D.D.S
Elite Chiropractic
Epidavros Center for Wellbeing
Gresham Animal Hospital
Gresham Integrated Care
Gresham Woman's Healthcare
Mt. Hood Women's Health
Olympic Gym
Oregon Eye Specialists
Pediatric Therapy Services
Providence Medical Group
Therapeutic Associates - Gresham Physical Therapy

Automotive Services

3 C Automotive
All About Automotive
Gresham Ford
Gresham Tire Factory
HK Motors
Kadel's Auto Body
Mia's Xpress Car Wash

RECENTLY CERTIFIED

Chatov Law, LLC focuses on personal injury, simple estate planning, contract disputes, and other general civil litigation services. www.ChatovLaw.com

Gresham Tire Factory is an independent tire dealer stocking top brands at lower prices.

ECOBIZ

Gresham certified auto repair

3C Automotive Repair, Inc.
2208 NW Birdsdale Ave. #2 (503) 492-6425

All About Automotive
139 NW 2nd St. (503) 465-2926

Auto Repair Specialties
2533 NW Division St. (503) 667-8135

Firestone Complete Auto Care
2105 NE Burnside Rd. (503) 912-7308

HK Motor Sports Inc
823 SE 202nd Ave. (503) 618-0480

Weston Buick GMC
22555 SE Stark St. (503) 665-2166

Weston Kia
22309 SE Stark St. (503) 676-2100

CITY OF
GRESHAM

City of Gresham is proud to recognize businesses that protect our environment. To learn more, apply, or search for certified businesses, visit ***ECOBIZ.ORG*** *or call 503-618-2657*

Appendix D—Erosion Prevention Sediment Control Program Wet Weather Notice to Contractors

Attention Builders and Contractors

Wet Weather Construction Season is October 1st – May 31st

The City of Gresham conducts frequent inspections of construction sites during the wet weather season to verify that erosion protection and sediment control BMPs are installed and properly maintained. Contractors with failing erosion control BMPs are liable for civil penalties and costly corrective actions.

- Properly install & maintain perimeter control (silt fence or wattles) to keep soil on site.

- Protect stockpiles with plastic or mulch to minimize contact with rain water.

- Prevent sediment tracking into street with rocked construction entrance.

- Protect exposed soil with mulch, matting, or plastic to prevent runoff.

Thank you for building responsibly and helping to protect Gresham's water resources by minimizing erosion.

More information about erosion prevention and sediment control can be found online at:
http://greshamoregon.gov/publicworksstandards/

Questions about Gresham's erosion protection requirements?

Please call Karen Bromley at 503-618-2289 or email karen.bromley@greshamoregon.gov

Appendix E—City of Gresham TMDL Report

Table 4. TMDL Implementation Plan Commitments

NONPOINT SOURCE TMDL IMPLEMENTATION PLANS					Pollutant										Watershed					Regulatory Program				
Best Management Practice or Activity	**Commitment**	**Performance Measure**	**Status and Additional Goals, TMDL Year July 2015 through June 2016**	**Proposed Adaptive Management**	*Nutrient Related[a]*	*Bacteria*	*Temperature*	*DDT/DDE*	*Dieldrin*	*Dioxin*	*PAHs*	*Mercury*	*Lead*	*PCBs*	*Johnson Creek*	*Fairview Creek*	*Columbia Slough*	*Sandy River*	*Columbia River*	*NPDES–MS4*	*Nonpoint Source*	*UIC (drywell(s)*	*NPDES–WWTP*	*Limit 10*	*Goal 5/Title 13*
Private Sanitary Waste Systems																								
NPB-1 New and Redevelopment Requirement	**Program Commitment:** Ensure that new and redevelopment connect to the public sanitary system.	Number of new connections to the City system	City billing records currently show 24,155 active and inactive accounts, up from 24,104 in the previous year. Code requires new and redevelopment to hook up to the city system if a system exists within 300 feet.	None proposed.	*	*									✓	✓	✓	✓	✓		X				
NPB-2 Require Failed Systems to Connect to Public System	**Program Commitment:** Ensure that failing onsite systems are replaced by connection to City system, where City system is available.	Number of onsite properties that connect to public system	County sanitarian records show that 3 tanks were decommissioned in Gresham during 15-16.	None proposed.	*	*									✓	✓	✓	✓	✓		X				
NPB-3 Ensure Spills from Private Piped Systems are Resolved	**Program Commitment:** Respond to reports of private system spills to ensure prompt cleanup and repair	Number of failures reported, and outcome	Two relatively minor overflows were reported on private property and required the owner to clean. No threat to the city stormwater system. See Table 3-6 of the NPDES report for other types of spills that were investigated and resolved. Staff continue to conduct proper RV waste dumping education and outreach as a measure of prevention.	None proposed.	*	*									✓	✓	✓	✓	✓		X				
Temperature Management																								
NPT-1 Natural Resource CIP Implementation	**Program Commitment:** As CIP resources allow, implement Natural Resource Master Plan prioritized floodplain, wetland, stream and riparian projects, and strategically invest in land acquisition opportunities where there is an identified temperature benefit.	Land acquisition will be reported in new acres and linear stream feet holdings. Reporting will add detail on pre-project shade conditions and projected post-project shade targets, using OWEB stream shade classification categories of 1 (poor shade cover), 2 (moderate), or 3 (good shade cover).	Engaged Governor's Office (Regional Solutions Team) in Fairview Creek Wetland Mitigation Bank project to overcome permitting hurdles. Continuing to make progress towards implementation. Began planning for 12 acres of riparian improvements along Butler Creek (upstream of Bear Creek) that will focus on invasive control and enhancement of shade buffer. Invasive control begins Winter 2016. Initiated WRDA funding discussion with US Army Corps regarding possible removal/retrofit of Binford Lake on lower Butler Creek to remove significant heat sink. Expecting Army Corps to assess whether there's a federal interest (and funding) for the protject in the 2016-2017 reporting year. Began assessment of Pleasant Valley area restoration project potential for 2016-17 update of the Natural Resources Master Plan				*								✓	✓	✓	✓	✓		X				X
NPT-2 Riparian Planting	**Program Commitment:** Work with contractors, community, volunteers, and private landowners to install a native riparian canopy in identified shade target areas. Fast growing pioneer species may precede System Potential Vegetation species, depending on site conditions, in initial phases of restoration projects	Details will include number of sites, volunteer hours, acres or linear feet of stream where concentrated invasive weed treatment occurred, and number of plants installed. Planting stats will include any fast growing shade trees planted in advance of the System Potential Vegetation to be installed. Acreage will be provided of pre-project shade conditions **at individual sites** and **projected** post-project shade targets, using OWEB stream shade classification categories of 1 (poor shade cover), 2 (moderate), or 3 (good shade cover).	Installation of a native ground cover/shrubs/trees plants occurred at 10 sites covering 29 acres and utilized 1800 volunteer hours (which augmented contract crew and staff time) in the 2015-2016 reporting year. 12,915 total plants were installed (3,500 fast growing shade trees). In addition, the city's watersheds (Johnson, Kelly, and Fairview) were surveyed and treated for Japanese knotweed, English ivy, Himalayan blackberry, Garlic mustard, Lesser Celandine, Purple Loosestrife, Yellow Flag Iris, and other invasive species. Sites being treated for invasive weeds and/or subject to restoration planting efforts will be assessed regularly according to NPT-3. A total of 79 acres were treated with a combination of herbicides and mechanical means.				*								✓	✓	✓	✓	✓		X				X
NPT-3 Monitoring and Reporting	**Program Commitment:** Annually report on implementation of projects; every 10 years provide an analysis of change in shade conditions based on aerial photo analysis.	**Annually:** number, type, and size of implemented projects, as specified under Performance Measures for NPT-1 and NPT-2. **Every 10 years** conduct an aerial photo analysis to assess changes (from the 2008 baseline) in near stream canopy cover using OWEB stream shade classifications of 1 (poor shade cover), 2 (moderate), or 3 (good shade cover). These statistics will be presented for **city-wide riparian canopy cover**, AND for **individual planting project sites** reported on under NPT-1 and NPT-2 where planting efforts were started at least 5 years prior to this aerial photo analysis.	A total of 7 riparian restoration projects were implemented in the 2015-2016 reporting year, 6 of these sites were pre-existing and were expanded to include 1 new location on Johnson Creek. Work continued on permitting for 1 large-scale CIP (see NPT-1). On-the-ground measures included site delineations using GPS and photo monitoring stations, along with regular reporting of the ongoing restoration sites. Along with monitoring, the City started its inventory of wetlands. This work was a continuation of work completed 10-years prior as part of a Natural Resources inventory of the City. Each site was evaluated on the presence of natives vs. non-natives at each level of vegetation (herbaceous, shrub and tree) and cover. Results are used to prioritize restoration sites to maximize shade gains and to provide city staff areas to minimize and avoid impacts.				*								✓	✓	✓	✓	✓		X				X