Gresham and Fairview
NPDES Annual Report 2021
PERMIT YEAR 26
MS4 DISCHARGE PERMIT NO. 101315 EPA REF. NO. ORS 108013

Parking lot retrofit at Mount Hood Community College

CITY OF GRESHAM

November 2021

National Pollutant Discharge Elimination System
Permit No. 101315
EPA Reference No. ORS108013
Permit Year 26 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."

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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 and may not represent all activities that occur.

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 includes corresponding Tables and Figures 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 A through E for Gresham.

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.

The City of Gresham and Fairview's permits expired on December 29, 2015. DEQ staff initially focused on renewing the NPDES Phase II permits and placed the Phase I renewal on administrative extension. After the Phase II permits were completed, DEQ drafted a Phase I permit that the co-permittees reviewed and provided feedback on.
On October 1, 2021, DEQ renewed the Phase I Individual permit for Gresham and Fairview as co-permittees requiring each permittee to update its SWMP by November 1, 2022. While the permit language states that November 1, 2021 is the "1st year annual report" for this permit," the permittees note for the reader that monitoring program and SWMP implementation data are those described in the existing Monitoring and SWMP

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 **Tables and Figures.**

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.

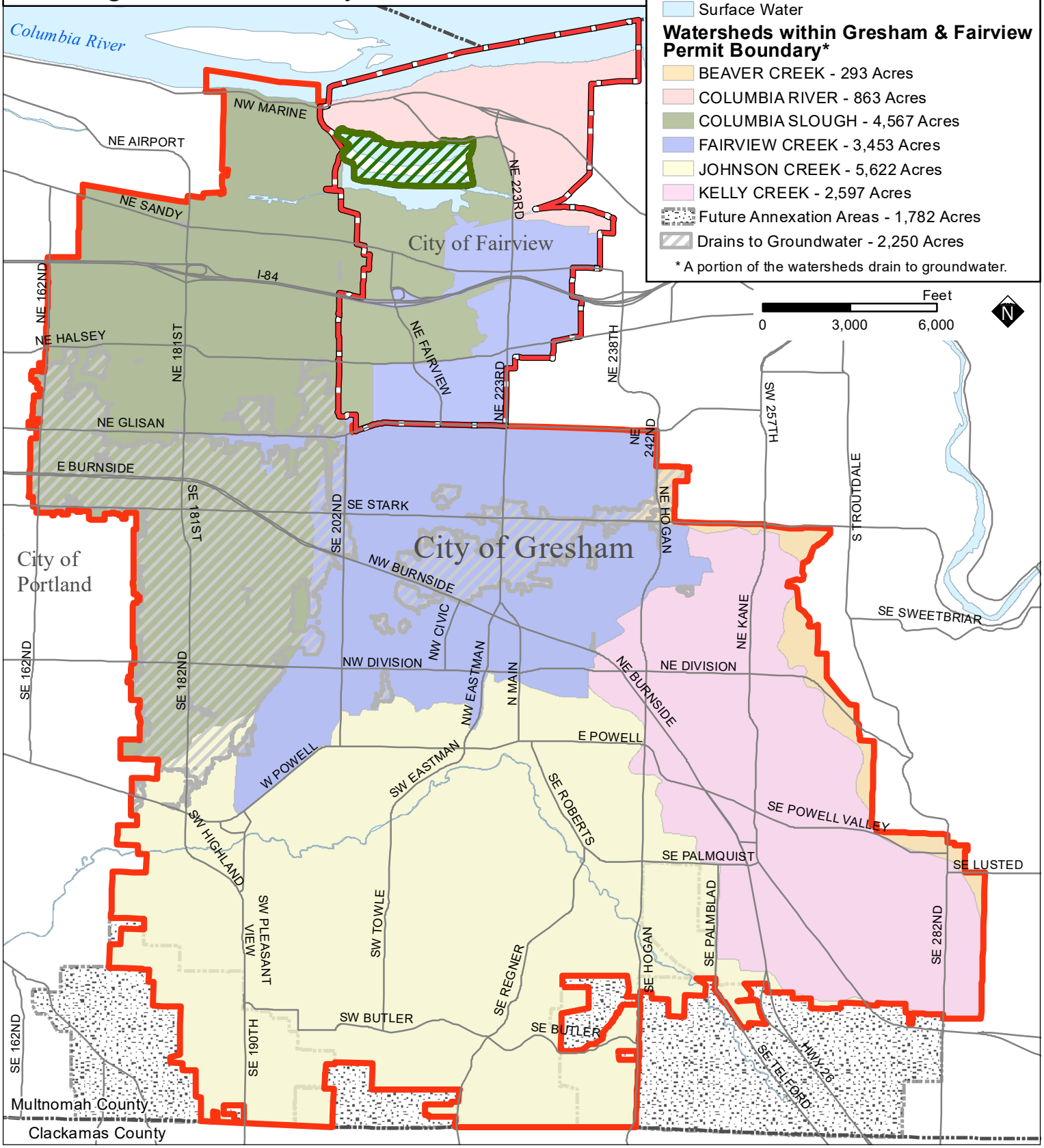
Legal Authority

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 of Gresham and Fairview and a map of the major watersheds within the permit area with associated acres. Minor errors in GIS calculations can cause acres to fluctuate and are not considered precise.

Figure I-I: Municipal Separate Storm Sewer Discharge Permit Boundary with Area Watersheds



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Section Two:

Cities of Gresham & Fairview Environmental Monitoring Program Annual Report

A. History

Background

The data reported in this Annual Report reflects the Cities of Gresham and Fairview's implementation of the Environmental Monitoring Plan that was approved by DEQ and became effective in August 2008. Revisions to the original plan were submitted to DEQ in August 2010, November 2011, October 2012, November 2015 and July 2016.

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 summarizes the Environmental Monitoring Plan implementation and permit requirements contained in the Stormwater permit. Schedule B) 5. states: 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 summarized below in **Table 2-1**. Elements required by the permit are *italicized* text.

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)	*Four (4) events/year*	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS, Chlorophyll-a (May-Oct); nutrients (nitrate, ammonia, Total P, ortho-phosporus); 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.
	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)			

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 10 random and spatially balanced stormwater locations.	*Three (3) events/year* Monitored 1 event at each location (totaling 10)	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS; nutrients (nitrate, ammonia, Total P, ortho-phosphorus); 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 10 data points (5 fixed sites and 5 randomly selected rotating sites).
Macro-Invertebrate Monitoring	*One (1) site in the Columbia Slough basin:* 1. Fairview Creek @ mobile estates (FCI0) 2. Fairview Creek @ Stark (FCI1)	One (1) event/year during summer/low flow conditions	*Macroinvertebrates*	Collected during same week as instream water quality data collection occurred in summer.
	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)			

Structural BMP Monitoring	One (1) site - inlet and outlet: 1. Brookside Regional Facility 2. West Gresham Elementary ditch 3. Operations Center swale One sample from all long-term in-stream monitoring locations	*Two (2) events/year through Dec. 31, 2013.* Monitored 1 event at 3 facilities, and 2 events at Kane Road	*DO, pH, temperature, conductivity, turbidity, E. coli, hardness, BOD, TSS; nutrients (nitrate, ammonia, Total P, ortho-phosphorus); Total recoverable and dissolved metals (copper, lead and zinc)*	

C. Summary of Monitoring Program Results

The raw data collected in PY 26 are described and illustrated in **Tables 2-1** through **2-6** and **Figures 2-1** through **2-4** of the monitoring report. The instream 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 (green infrastructure) Monitoring have not been compared to water quality standards because of the mixing that occurs in-stream. Unfortunately, some sites are missing dissolved oxygen readings during some events due to equipment malfunction and supply-chain issues for fixing the probe. The probe was replaced on June 21, 2021. Sampling locations are shown in **Figures 2-1** through **2-4**.

The raw data from the City's Illicit Discharge Detection and Elimination program monitoring is included in Table 3-5. A map showing the sampling site locations for fixed and rotating sites are shown Figure 3-6 and the discussion of the findings is included in Section 3 BMP ILL 2&3.

Instream Monitoring

Instream monitoring results are generally within expected ranges. There were some exceedances of water quality standards for pH, temperature, chlorophyll-a, total phosphorus, total Hg, total Cu, E. coli, and DDT. The greatest number of exceedances were for total Hg and stream temperature. The few results which were not within expected ranges were investigated and resampled and appear to have been fleeting.

Stream pH results were above the 8.5 standard at Fairview Lake during summer sampling and below the 6.5 standard in Fairview Creek during spring sampling. The high pH in Fairview Lake was likely related to photosynthesis from the abundant algae. The low pH reading may be related to recent rain events which delivered water with low pH into the streams (typical pH of rainwater ~5.6).

Stream temperature was above the 18 °C salmon rearing standard in most streams in the summer. The City continues to focus efforts on increasing shade along streams, identifying other sources of heat (such as inline ponds), and working to reduce the impacts from those sources. We work with the Johnson Creek Watershed Council to study and identify privately-owned inline ponds which contribute substantial heat loading to the streams. One site in Kelly Creek exceeded the 13 °C spawning standard in the spring sampling. This site is located downstream of a large inline pond on Mt. Hood Community College campus. The City has been working with partners on a retrofit project on the campus which includes the potential removal of this pond to reduce temperature loading.

Fairview Creek and Fairview Lake exceeded the Columbia Slough TMDL levels for chlorophyll-a and total phosphorus in the summer sampling, and the lake continued to exceed these levels in the fall sampling. High chlorophyll and phosphorus levels have been noted here before, particularly during the summer when planktonic algae is common throughout the water column in the Lake. Cyanobacteria (a.k.a. blue-green algae) has frequently been noted in the lake in mid to late summer when the presence of phosphorus and their ability to fix nitrogen allow them to thrive in the warm lake water. We continue efforts to educate the public on the effect of fertilizers on water quality.

All sites exceeded the new total Hg instream water quality target of 0.14 ng/L established by the December 2019 TMDL. Of the 52 samples, 29 were below a quantification limit of 1.67 ng/L and 13 more were below a quantification limit of 3.0 ng/L, which are both above the target. The major sources of Hg to streams in Gresham is thought to be atmospheric deposition carried to the streams in runoff. It is likely associated with suspended sediment. The City continues to prioritize stormwater treatment BMPs which remove suspended sediment and to implement erosion control programs.

One site on Fairview Creek exceeded the instream copper standard during the fall sampling. The levels of both total and dissolved Cu were uncharacteristically high at ~10-100x background. Follow-up sampling throughout the length of the creek did not reproduce the high levels and were at background levels throughout the creek. The sample with high levels was taken from within an active construction site. During investigation, construction garbage was discovered in and near the creek which is thought to have potentially caused the high levels. The construction company was made aware of the issue and cleaned up the garbage. The site has been monitored periodically to ensure construction garbage is kept away from the creek.

Three sites exceeded the E. coli 406 MPN/100ml standard for bacteria. Most of the exceedances were within typical ranges (470-790 MPN/100ml), but one site on Fairview Creek was far out of range at >24,000 MPN/100ml. This site had active beaver activity, and beaver feces were noted on the bottom of the stream at the sampling location. Follow-up sampling did not reproduce the high result. It is thought that beaver feces may have accidentally gotten directly into the sample bailer and skewed the sample.

Both Johnson Creek sites exceeded the chronic water quality criterion for DDT. This legacy pesticide is thought to enter the creek through erosion of contaminated soil and resuspend during disturbances such as storm events. The City continues to implement a rigorous Erosion Prevention and Sediment Control Program for development to reduce soil erosion. The levels of DDT and total suspended solids are generally higher in the long-term site upstream of Gresham than in the site downstream of Gresham, indicating that much of the sediment and DDT in the Creek is originating in the upper watershed where there is historic and ongoing farming that has been observed to cause sediment-laden runoff.

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. The locations are shown in **Figure 2-1**. Together with USGS, Multnomah County, and East Multnomah Soil and Water Conservation District, continuous temperature data was collected at 20 stream sites, representing Beaver, Kelly, Fairview, and Johnson Creek basins. **Table 2-3** and **Figure 2-1** show summaries of the number of days that the 7-day average of the maximum daily temperature (7DADM) at each site exceeded the salmon rearing temperature standard of 18 °C, as well as the highest 7DADM temperature reached at each site.

Three sites had no exceedances (highlighted in blue), while two sites exceeded the standard for more than 100 days (highlighted in red). The sites with no exceedances were in the forested headwaters of Butler and Chastain Creeks and on Fairview Creek upstream of Fujitsu Ponds. The sites with >100 days of exceedances were Fairview Creek downstream of Fujitsu Ponds and Kelly Creek downstream of an inline pond on Mt. Hood Community College campus. The City is aware of the impact in-line ponds can have on temperature - 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. The city produced a technical memorandum last permit year which analyzed the instream pond temperature data in the Johnson Creek basin over the past decade. The analysis demonstrated that most inline ponds added substantial heat to streams, generally warming them by several degrees C in the summer. The greatest effects were seen when ponds had large surface areas, were on cool streams, and had surface release structures.

Stormwater Monitoring

Stormwater raw data is included in Table 2-4 and site locations are shown in Figure 2-4. Similar to previous years, stormwater monitoring data revealed that higher traffic sites (>1000 vehicle trips per day) have higher pollutant concentrations for many pollutants in comparison to residential streets (<1000 trips/day), especially for heavy metals and PAHs. Also similar to previous years, relatively high levels of several heavy metals (including mercury, copper, and especially zinc) were found at several sites. Cars are likely a major source of these pollutants.

Structural BMP Monitoring

The structural BMP (green infrastructure) monitoring consisted of monitoring one storm at our long-term instream sites and one storm at each of three facilities: West Gresham Elementary ditch, Operations Yard swale, and Brookside Regional Water Quality Facility. See Figure 2-3 for locations.

The sampling at our **long-term instream** locations provided useful insight into pollutant levels in our streams during runoff events. Our typical long-term instream samples are collected on a set schedule and often miss runoff events. This sampling event produced generally higher levels of several pollutants when compared to background levels, especially TSS, zinc, and pentachlorophenol (a wood preservative used on power poles). This will help to add to our long-term dataset to assess the effect of stormwater BMPs on stream pollutant levels.

The **West Gresham Elementary ditch** is a location which has been selected as a high priority for a future water quality retrofit, and this sampling was the pre-project baseline. The ~100’ ditch currently conveys water directly to Johnson Creek from a large stormwater outfall which drains ~190 acres. The sampling event assessed any water quality benefits of the current ditch by pair samples at the beginning and end. The paired samples differed very little for any pollutant measured, indicating that the current ditch is not providing any water quality treatment. Additionally, the samples indicated that this outfall produces relatively high levels of pollutants and therefore should continue to be prioritized for retrofitting.

The Brookside Regional Water Quality Facility is a constructed stormwater wetland which treats stormwater from ~80 acres of residential land constructed in 2015. The results show that pollutant loads entering this facility are generally lower than we find in areas with higher car traffic. The facility generally reduces most pollutants of concern. It appears to remove pollutants more effectively during small storms when water can flow through the emergent vegetated than during large storms when the basin fills up like a bathtub. The facility has been noted to provide recreation value for residents who can view it from the nearby bike path as well as wildlife habitat for local wetland species. Surveys have shown that wildlife populations have continued to increase in the facility over the past five years, including red-legged frogs, a species of conservation concern in Oregon.

The City of Gresham's **Operations Yard swale** has a water quality swale which underwent a retrofit completed in June 2019. The pre-project swale collected water from only a small portion of the yard which flowed down a narrow V-shaped grass ditch to the outlet. The retrofit collects stormwater from the entire maintenance yard and filters it through bioretention media to an underdrain. The media is a high-flow media of sand and peat moss which is not typical for Gresham. This was the second storm monitoring the effectiveness. The media effectively reduced most stormwater pollutants to the extent expected for this type of BMP. It was especially effective at reducing TSS, heavy metals, and PAHs.

Macroinvertebrate Sampling

This permit year we began working with Shannon Hubler at DEQ to update the way that we assess macroinvertebrate communities. The raw data for this permit year was entered into the DEQ AWQMS database and is therefore not presented in **Table 2-6**. Instead, that table provides a data summary. In the past, we used a benthic index of biotic integrity (B-IBI). Starting with the summer of 2020, we submitted our data to DEQ through the call for data. This required different parameters than the B-IBI format, therefore, trends were not able to be examined. We are working with Shannon to submit all of our old data in this new form so that we can compare trends again in the future.

The new cores represent the comparison of observed communities vs. what would be expected at a particular site using an index provided by DEQ. Under this categorization, all but one of our long-term sites were categorized as "most disturbed". The exception was Kelley Creek headwaters (KI2) which was categorized as "least disturbed". This categorization of Kelley Creek headwaters is consistent with previous years' data, as this site generally has a diverse, sensitive community which we often use as a reference point. The categorization of other sites as "most disturbed" is difficult to compare with previous years because we were using different indicators. Future analysis is expected to be more detailed after our historic data is converted into the new system and entered into the AWQMS database.

D. Adaptive Management

We do not propose any adaptive management changes at this time.

Section 2 - Gresham and Fairview Program Raw Data

Table 2-1: Water Quality Monitoring Site Locations & Criteria

Instream-Longterm & Macroinvertebrate Site Locations (See Fig. 2-2)	
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)
Stormwater Monitoring Site Locations (See Fig. 2-4)	
Fixed locations	5 sites monitored every year
Panel 11	5 randomly selected rotating sites monitored in PY26

Structural BMP Evaluation Monitoring Locations (See Fig. 2-3)	
WGEDitchIn-1	West Gresham Elementary Ditch Inlet
WGEDitchOut-1	West Gresham Elementary Ditch Culvert
WGEDitchIn-2	West Gresham Elementary Ditch Inlet
WGEDitchOut-2	West Gresham Elementary Ditch Culvert
WGEDitchIn-3	West Gresham Elementary Ditch Inlet
WGEDitchOut-3	West Gresham Elementary Ditch Culvert
BRF1-1	Brookside Regional Facility Inlet
BRF2-1	Brookside Regional Facility Outlet
BRF1-2	Brookside Regional Facility Inlet
BRF2-2	Brookside Regional Facility Outlet
BRF1-3	Brookside Regional Facility Inlet
BRF2-3	Brookside Regional Facility Outlet
OpsCB	Operations Swale Catch Basin
OpsNin	Operations Swale North Inlet
OpsSin	Operations Swale South Inlet
OpsOut	Operations Swale Outlet

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	0.14 ng/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	0.14 ng/L

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*	15 mg/m^3
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	0.14 ng/L

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;

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

Dup = Duplicate Sample **MRL =** method reporting limits are included at the top of each data set where they are constant. For parameters were no

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)

Table 2-2 Longterm Instream Data

Sample ID	Site ID	Date	Time	Field Staff	Field Staff	24-hr Rainfall	Field DO	Field pH	Field Temp	Conductivity	Turbidity	BOD5	DOC	TSS	NH3-N	Chloro-phyll-a	NO3-N	O-PO4	TKN	Total-P	Hardness
						inches	mg/L		C	µS/cm	NTUs	mg/L	mg/L	mg/L	µg/L	mg/M3	µg/L	µg/L	µg/L	µg/L	mg CaCO3/L
Test Method				Lead	Second							SM 5210B	SM 5310B	SM 2540D	EPA 300.0	SM 10200H	EPA 300.0	EPA 365.1	EPA 351.2	EPA 365.4	SM 2340B CAL
Method Reporting Limit												2	1	2	20	2	100	20	20	30	1
W20G264-01	FCI0	7/28/2020	13:39	Holzer	Bromley	0.00	4.88	8.24	21.9	325.4	8.18	6	4.73	6	1060	21	800	342	12600	472	82.3
W20G264-02	FCI1	7/28/2020	13:59	Holzer	Bromley	0.00	7.52	7.76	15.3	140.2	6.84	**2**	**1**	**3**	**20**	**2**	2630	92	315	94	56.7
W20G264-03	JCI1	7/28/2020	8:57	Holzer	Bromley	0.00	5.3	7.12	21.4	137.8	4.66	**2**	3.98	**3**	86	2	300	65	539	91	48
W20G264-04	JCI2	7/28/2020	10:11	Holzer	Bromley	0.00	7.08	7.19	19.5	126.8	7.14	**2**	3.86	4	27	11	710	39	506	73	40.6
W20G264-05	KCI1	7/28/2020	11:53	Holzer	Bromley	0.00	5.4	7.23	19	225.4	7.6	**2**	4.12	8	**20**	2	160	24	696	59	74.9
W20G264-06	KCI3	7/28/2020	10:40	Holzer	Bromley	0.00	4.76	7.2	18.8	231	10.7	**2**	6.58	5	114	**2**	270	34	667	69	80
W20G264-07	KCI4	7/28/2020	10:57	Holzer	Bromley	0.00	7.01	7.41	18.2	175.6	8.97	**2**	5.01	80	27	20	850	48	469	115	70.1
W20G264-08	KI1	7/28/2020	9:20	Holzer	Bromley	0.00	5.1	7.03	17.3	169.8	12.7	**2**	6.75	8	222	7	100	151	857	258	70.63
W20G264-09	KI2	7/28/2020	9:42	Holzer	Bromley	0.00	12.42	7.46	14.7	168.9	33	**2**	1.89	44	**20**	**3**	220	26	246	176	86.1
W20G264-10	BCI1	7/28/2020	12:40	Holzer	Bromley	0.00	6.72	7.85	21.4	213	4.8	**2**	2.52	**3**	24	**2**	1160	73	306	77	80.8
W20G264-11	BCI2	7/28/2020	11:25	Holzer	Bromley	0.00	5.87	7.49	18.8	154.7	11	**2**	5.23	6	60	19	100	51	670	151	53.7
W20G265	FVL1	7/28/2020	13:10	Holzer	Bromley	0.00	5.35	10.47	28.8	224.3	86.4	27	7.42	43	44	140	**100**	193	4180	592	68.5
W20G264-12	FD-FVL1	7/28/2020		Holzer	Bromley	0.00						29	7.44	49	46	184	100	193	440	616	67.9
W20J261-01	FCI0	10/27/2020	13:13	Holzer	Bromley	0.00	NA	7.68	7.1	96.4	3.59	**2**	2.02	**3**	25	**2**	1430	**67**	220	78	78.9
W20J261-02	FCI1	10/27/2020	13:36	Holzer	Bromley	0.00	NA	6.78	12.9	92.2	1.96	2	1.04	11	**20**	**2**	2680	**91**	**200**	112	58.7
W20J261-03	JCI1	10/27/2020	8:25	Holzer	Bromley	0.00	NA	7.25	4.8	64	5.07	**2**	3.3	**3**	22	2.4	520	56	282	71	44.3
W20J261-04	JCI2	10/27/2020	9:42	Holzer	Bromley	0.00	NA	7.59	3.8	50.9	6.57	**2**	2.93	**3**	**20**	**2**	**840**	23	285	44	32.1
W20J261-05	KCI1	10/27/2020	11:45	Holzer	Bromley	0.00	NA	7.53	7.2	80.2	11.1	5	3.53	26	**20**	52.1	680	24	394	103	57
W20J261-06	KCI3	10/27/2020	10:09	Holzer	Bromley	0.00	NA	7.15	4.4	88.5	9.82	**2**	3.83	4	101	**2**	550	44	293	54	67.3
W20J261-07	KCI4	10/27/2020	10:25	Holzer	Bromley	0.00	NA	7.31	5	89.2	12.8	2	3.93	12	24	2.4	1310	21	259	63	67.6
W20J261-08	KI1	10/27/2020	8:49	Holzer	Bromley	0.00	NA	6.93	4.5	84.1	17.7	**2**	6.36	7	116	4	180	63	576	180	51
W20J261-09	KI2	10/27/2020	9:10	Holzer	Bromley	0.00	NA	7.4	3.8	96.8	11.9	**2**	1.73	8	**20**	3.2	120	24	**200**	25	81.4
W20J261-10	BCI1	10/27/2020	12:22	Holzer	Bromley	0.00	NA	7.69	8	95.9	3.08	**2**	2.43	4	**20**	2.4	1420	66	**200**	68	73.6
W20J261-11	BCI2	10/27/2020	10:48	Holzer	Bromley	0.00	NA	7.51	3.6	69	4.89	**2**	4.12	**3**	21	**2**	2400	60	355	83	47.4
W20J262-01	FVL1	10/27/2020	12:51	Holzer	Bromley	0.00	NA	7.73	6.9	85.5	18.2	7	3.91	20	289	54.7	**110**	47	1370	166	70.4
W20J261-12	FD-FCI1	10/27/2020		Holzer	Bromley	0.00						**2**	**1**	**3**	**20**	**2**	2670	89	**200**	84	57.8
W21A212-01	FCI0	1/25/2021	12:39	Holzer	Bromley	0.01	NA	7.82	7.5	112.8	NA	**2**	2.06	5	**20**		1300	39	**310**	115	48.5
W21A212-02	FCI1	1/25/2021	13:01	Holzer	Bromley	0.01	NA	6.97	10	124.3	NA	**2**	**1**	66	**20**		2200	61	**310**	80	46.4
W21A212-03	JCI1	1/25/2021	8:38	Holzer	Bromley	0.01	NA	7.7	5.4	64.5	NA	**2**	1.76	8	28		1900	**20**	**310**	43	26.4
W21A212-04	JCI2	1/25/2021	9:58	Holzer	Bromley	0.01	NA	7.41	5.6	58.9	NA	**2**	1.88	5	41		2490	**20**	**5110**	48	22.6
W21A212-05	KCI1	1/25/2021	11:06	Holzer	Bromley	0.01	NA	7.48	6.4	68	NA	**2**	2.29	5	58		1020	22	**310**	50	30.9
W21A212-06	KCI3	1/25/2021	10:21	Holzer	Bromley	0.01	NA	7.18	5.7	92.2	NA	**2**	2.24	**3**	41		2050	**20**	**310**	57	39.5
W21A212-07	KCI4	1/25/2021	10:36	Holzer	Bromley	0.01	NA	7.28	6.2	74.4	NA	**2**	2.09	4	40		2380	**20**	**310**	48	42.6
W21A212-08	KI1	1/25/2021	9:01	Holzer	Bromley	0.01	NA	7.4	5.4	80.3	NA	**2**	2.79	6	55		800	20	344	68	32.6
W21A212-09	KI2	1/25/2021	9:24	Holzer	Bromley	0.01	NA	7.62	6.4	72.9	NA	**2**	1.32	14	**20**		1350	**20**	**310**	26	30.6
W21A212-10	BCI1	1/25/2021	11:59	Holzer	Bromley	0.01	NA	7.72	6.1	86	NA	**2**	1.96	5	22		2230	22	**310**	66	36.1
W21A212-11	BCI2	1/25/2021	11:33	Holzer	Bromley	0.01	NA	7.4	5.6	76	NA	**2**	1.56	3	29		3180	**20**	354	48	30.2
W21A213-01	FVL1	1/25/2021	12:27	Holzer	Bromley	0.01	NA	7.51	5.7	159	NM	**2**	1.83	5	88		600	**20**	328	48	79.3
W21A212-12	FD-KI1	1/25/2021		Holzer	Bromley	0.01						**2**	2.85	6	57		810	23	343	67	33.1
W21D251-01	FCI0	4/27/2021	13:29	Holzer	Bromley	0.00	NA	7.26	14.2	81.9	5.91	**2**	1.82	6	48		1300	46	328	71	65.7
W21D251-02	FCI1	4/27/2021	13:52	Holzer	Bromley	0.00	NA	6.25	12.3	74.5	1.67	**2**	1.12	**3**	**20**		2660	82	223	85	58.9
W21D251-03	JCI1	4/27/2021	8:41	Holzer	Bromley	0.00	NA	7.08	11.7	56	9.84	**2**	2.92	10	39		680	**20**	480	48	40.3
W21D251-04	JCI2	4/27/2021	10:18	Holzer	Bromley	0.00	NA	7.48	11	46.3	8.33	**2**	2.68	**3**	24		1370	24	429	42	30.4
W21D251-05	KCI1	4/27/2021	12:07	Holzer	Bromley	0.00	NA	7.2	13.2	55.7	9.9	5	8.66	6	30		740	29	934	74	59.9
W21D251-06	KCI3	4/27/2021	10:33	Holzer	Bromley	0.00	NA	6.79	10.6	66.7	7.67	**2**	5.42	4	33		1020	40	551	101	56.9
W21D251-07	KCI4	4/27/2021	11:04	Holzer	Bromley	0.00	NA	7.04	11.1	61.3	8.87	**2**	4.14	4	**20**		1480	58	490	136	60.1
W21D251-08	KI1	4/27/2021	9:03	Holzer	Bromley	0.00	NA	7.02	10.7	75.4	12.4	**2**	3.84	12	72		110	44	549	77	57
W21D251-09	KI2	4/27/2021	9:28	Holzer	Bromley	0.00	NA	7.49	8.6	53.4	14.8	**2**	1.22	3	**20**		440	**20**	227	20	49.9
W21D251-10	BCI1	4/27/2021	12:42	Holzer	Bromley	0.00	NA	8.13	13.3	81.2	3.17	**2**	3.46	**3**	**20**		2400	26	612	40	65.6
W21D251-11	BCI2	4/27/2021	11:30	Holzer	Bromley	0.00	NA	7.13	11.5	70.2	6.39	**2**	3.5	**3**	29		6610	32	1140	69	52.4
W21D253-01	FVL1	4/27/2021	13:10	Holzer	Bromley	0.00	NA	7.93	16.6	115.6	8.63	3	3.21	6	21		**100**	**20**	798	84	93.5
W21D251-12	FD-KI2	4/27/2021		Holzer	Bromley	0.00						**2**	1.22	5	**20**		440	**20**	226	36	49.9

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**

Dup = Duplicate Sample

FD = Field Duplicate Sample

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)

Acute exceedance of metal (Table 30)

Exceedance of City WPCF Permit action level

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

Table 2-2 Longterm Instream Data

Sample ID	Site ID	Date	Hg-Total	Cu-Total	Pb-Total	Zn-Total	Cu-Diss	Pb-Diss	Zn-Diss	E. coli	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	Alpha-chlordane	beta-BHC	gamma-BHC	delta-BHC	Dieldrin
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	MPN/100ml	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Test Method			EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	SM 9223B	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081
Method Reporting Limit			0.001	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	1.0-various	0.5-various	0.5-various	0.5-various	0.5-various
W20G264-01	FCI0	7/28/2020	**0.00167**	4.65	0.225	11.7	3.91	**0.106**	7.72	>24000										
W20G264-02	FCI1	7/28/2020	**0.00167**	0.329	0.187	4.8	**0.221**	**0.106**	4.67	790										
W20G264-03	JCI1	7/28/2020	**0.00167**	1.39	0.182	3.7	1.02	**0.106**	1.92	470	**2**	1.1	**5.5**	**2**	**1**	**1**	**1**	**2**	**1**	2
W20G264-04	JCI2	7/28/2020	**0.00167**	1.35	0.167	2.0	1.05	**0.106**	0.712	85	**2**	2.7	**4.8**	**2**	**1**	**1**	**1**	**2**	**1**	3.1
W20G264-05	KCI1	7/28/2020	**0.00167**	1.72	0.259	15.5	1.08	**0.106**	3.57	**10**										
W20G264-06	KCI3	7/28/2020	**0.00167**	1.41	**0.111**	6.6	1.09	**0.106**	2.53	86										
W20G264-07	KCI4	7/28/2020	0.00228	2.84	0.308	17.5	1.91	**0.106**	5.26	120										
W20G264-08	KI1	7/28/2020	**0.00167**	0.825	0.17	2.5	0.554	**0.106**	1.39	31										
W20G264-09	KI2	7/28/2020	0.00574	2.14	1.24	44.6	0.273	**0.106**	0.878	130										
W20G264-10	BCI1	7/28/2020	**0.00167**	0.991	**0.111**	3.2	0.803	**0.106**	2.14	20										
W20G264-11	BCI2	7/28/2020	0.00198	2.48	0.222	2.2	2	**0.106**	0.74	140										
W20G265	FVL1	7/28/2020	**0.00167**	1.36	0.241	2.06	0.903	**0.11**	0.656	**10**										
W20G264-12	FD-FVL1	7/28/2020	**0.00167**	1.47	0.316	3.1	0.846	**0.106**	0.709	**10**										
W20J261-01	FCI0	10/27/2020	**0.00167**	0.662	**0.111**	4.8	0.516	**0.106**	3.57	210										
W20J261-02	FCI1	10/27/2020	**0.00167**	1.15	1.46	13.6	0.211	**0.106**	7.37	500										
W20J261-03	JCI1	10/27/2020	**0.00167**	0.918	0.153	3.4	0.811	**0.106**	2.57	52	**2**	**1.4**	**2**	**2**	**1**	**1**	**1**	**2**	**1**	1.4
W20J261-04	JCI2	10/27/2020	**0.00167**	0.808	0.131	1.4	0.716	**0.106**	1.43	20	**2**	**1.4**	**2**	**2**	**1**	**1**	**1**	**2**	**1**	2.3
W20J261-05	KCI1	10/27/2020	0.00229	2.25	0.794	30.4	1.13	**0.106**	5.4	**10**										
W20J261-06	KCI3	10/27/2020	**0.00167**	1.05	**0.111**	17.2	0.835	**0.106**	13	63										
W20J261-07	KCI4	10/27/2020	**0.00167**	1.91	0.206	16.0	1.54	**0.106**	10.2	75										
W20J261-08	KI1	10/27/2020	0.00257	1.62	0.56	8.5	0.948	**0.106**	3.63	240										
W20J261-09	KI2	10/27/2020	**0.00167**	0.431	**0.111**	3.8	0.263	**0.106**	0.904	41										
W20J261-10	BCI1	10/27/2020	**0.00167**	1.18	**0.111**	4.4	0.778	**0.106**	2.96	31										
W20J261-11	BCI2	10/27/2020	**0.00167**	66.6	0.136	8.0	63.9	**0.106**	5.89	340										
W20J262-01	FVL1	10/27/2020	0.00167	1.37	0.534	4.04	0.604	**0.11**	0.692	130										
W20J261-12	FD-FCI1	10/27/2020	**0.00167**	0.28	0.141	7.3	0.247	**0.106**	6.4	320										
W21A212-01	FCI0	1/25/2021	**0.003**	1.86	0.794	15	0.8	**0.106**	7.89	52										
W21A212-02	FCI1	1/25/2021	**0.003**	1.31	0.496	27.5	0.628	**0.106**	24.4	160										
W21A212-03	JCI1	1/25/2021	**0.003**	1.52	0.36	9.97	0.729	**0.106**	6.3	300	**4**	**2**	**4**	**4**	**2**	**2**	**2**	**4**	**2**	1.8
W21A212-04	JCI2	1/25/2021	**0.003**	1.45	0.331	4.57	0.777	**0.106**	3.29	170	**4**	**2**	**4**	**4**	**2**	**2**	**2**	**4**	**2**	1.7
W21A212-05	KCI1	1/25/2021	**0.003**	2.45	0.332	31.6	1.39	**0.106**	25.9	300										
W21A212-06	KCI3	1/25/2021	**0.003**	2.04	0.261	13.3	1.07	**0.106**	8.17	230										
W21A212-07	KCI4	1/25/2021	**0.003**	1.64	0.224	10.1	0.937	**0.106**	7.34	280										
W21A212-08	KI1	1/25/2021	**0.003**	2	0.382	6.33	1.01	**0.106**	5.83	120										
W21A212-09	KI2	1/25/2021	**0.003**	1.09	0.224	6.8	0.602	**0.106**	4.34	10										
W21A212-10	BCI1	1/25/2021	**0.003**	1.77	0.334	10.8	0.926	**0.106**	5.66	98										
W21A212-11	BCI2	1/25/2021	**0.003**	1.57	**0.2**	2.56	0.728	**0.106**	1.5	31										
W21A213-01	FVL1	1/25/2021	**0.003**	1.10	0.208	6.87	0.67	**0.11**	5.29	**10**										
W21A212-12	FD-KI1	1/25/2021	**0.003**	1.9	0.391	6.04	1.02	**0.106**	3.22	160										
W21D251-01	FCI0	4/27/2021	**0.00167**	1.43	0.345	9.04	1.01	**0.106**	4.76	75										
W21D251-02	FCI1	4/27/2021	**0.00167**	0.605	0.187	9.2	0.484	**0.106**	8.75	260										
W21D251-03	JCI1	4/27/2021	0.00204	1.93	0.343	7.76	1.42	**0.106**	4.13	85	**10**	**5**	**10**	**1**	**5**	**5**	**5**	**1**	**5**	**5**
W21D251-04	JCI2	4/27/2021	**0.00167**	1.48	0.141	1.95	1.14	**0.106**	1.03	97	**10**	**5**	**10**	**1**	**5**	**5**	2.6	**1**	**5**	2.3
W21D251-05	KCI1	4/27/2021	0.00202	7.14	0.487	43.8	6.31	**0.106**	26.3	63										
W21D251-06	KCI3	4/27/2021	**0.00167**	5.53	**0.111**	11.6	4.87	**0.106**	8.54	150										
W21D251-07	KCI4	4/27/2021	0.00175	5.72	0.206	9.17	4.53	**0.106**	6.16	120										
W21D251-08	KI1	4/27/2021	**0.00167**	1.34	0.282	4.41	1.02	**0.106**	2.49	63										
W21D251-09	KI2	4/27/2021	**0.00167**	0.523	0.152	7.65	0.272	**0.106**	1.48	**10**										
W21D251-10	BCI1	4/27/2021	**0.00167**	2.42	**0.111**	5.37	2	**0.106**	2.91	**10**										
W21D251-11	BCI2	4/27/2021	**0.00167**	3.54	**0.111**	3.8	3.26	**0.106**	3.05	260										
W21D253-01	FVL1	4/27/2021	**0.00167**	1.38	0.178	2.48	1.03	**0.11**	0.742	10										
W21D251-12	FD-KI2	4/27/2021	0.00196	0.724	0.275	12.5	0.26	**0.106**	1.54	**10**										

Analysis Coding for the Reported Data

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NM= not measured **ND= not detected**

Dup = Duplicate Sample

FD = Field Duplicate Sample

MRL = method report

For parameters where

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)

Acute exceedance of metal (Table 30)

Exceedance of City WPCF Permit action level

Table 2-2 Longterm Instream Data

Sample ID	Site ID	Date	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
			ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Test Method			EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081	EPA 8081
Method Reporting Limit			0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	0.5-various	1.0-various	0.5-various	1.0-various	0.5-various	50-various
W20G264-01	FCI0	7/28/2020											
W20G264-02	FCI1	7/28/2020											
W20G264-03	JCI1	7/28/2020	**1**	**7.9**	**1**	**1**	**1**	**2**	**2**	**2**	**1**	**2.1**	**100**
W20G264-04	JCI2	7/28/2020	**1**	**5.9**	1.4	**1**	**1**	**2**	**2**	**2**	**1**	**2.1**	**100**
W20G264-05	KCI1	7/28/2020											
W20G264-06	KCI3	7/28/2020											
W20G264-07	KCI4	7/28/2020											
W20G264-08	KI1	7/28/2020											
W20G264-09	KI2	7/28/2020											
W20G264-10	BCI1	7/28/2020											
W20G264-11	BCI2	7/28/2020											
W20G265	FVL1	7/28/2020											
W20G264-12	FD-FVL1	7/28/2020											
W20J261-01	FCI0	10/27/2020											
W20J261-02	FCI1	10/27/2020											
W20J261-03	JCI1	10/27/2020	**1.5**	**14**	**1**	**1**	**1**	**2**	**2**	**2**	**1**	**5.9**	**100**
W20J261-04	JCI2	10/27/2020	**1.5**	**14**	**1**	**1**	**1**	**2**	**2**	**2**	**1**	**5.9**	**100**
W20J261-05	KCI1	10/27/2020											
W20J261-06	KCI3	10/27/2020											
W20J261-07	KCI4	10/27/2020											
W20J261-08	KI1	10/27/2020											
W20J261-09	KI2	10/27/2020											
W20J261-10	BCI1	10/27/2020											
W20J261-11	BCI2	10/27/2020											
W20J262-01	FVL1	10/27/2020											
W20J261-12	FD-FCI1	10/27/2020											
W21A212-01	FCI0	1/25/2021											
W21A212-02	FCI1	1/25/2021											
W21A212-03	JCI1	1/25/2021	**2**	**2**	**2**	**2**	**2**	**2**	**4**	2.7	**2**	**4**	**200**
W21A212-04	JCI2	1/25/2021	**2**	**2**	**2**	**2**	**2**	**2**	**4**	**4.5**	**2**	**4**	**200**
W21A212-05	KCI1	1/25/2021											
W21A212-06	KCI3	1/25/2021											
W21A212-07	KCI4	1/25/2021											
W21A212-08	KI1	1/25/2021											
W21A212-09	KI2	1/25/2021											
W21A212-10	BCI1	1/25/2021											
W21A212-11	BCI2	1/25/2021											
W21A213-01	FVL1	1/25/2021											
W21A212-12	FD-KI1	1/25/2021											
W21D251-01	FCI0	4/27/2021											
W21D251-02	FCI1	4/27/2021											
W21D251-03	JCI1	4/27/2021	**5**	**5**	**5**	**5**	**5**	**10**	**10**	**10**	**5**	**10**	**500**
W21D251-04	JCI2	4/27/2021	**5**	**5**	**5**	**5**	**5**	**10**	**10**	4.9	**5**	**10**	**500**
W21D251-05	KCI1	4/27/2021											
W21D251-06	KCI3	4/27/2021											
W21D251-07	KCI4	4/27/2021											
W21D251-08	KI1	4/27/2021											
W21D251-09	KI2	4/27/2021											
W21D251-10	BCI1	4/27/2021											
W21D251-11	BCI2	4/27/2021											
W21D253-01	FVL1	4/27/2021											
W21D251-12	FD-KI2	4/27/2021											

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Dup = Duplicate Sample

FD = Field Duplicate Sample

MRL = method report
For parameters where

Exceedance of TMDL or other water quality criteria

Chronic exceedance of metal (Table 30)

Acute exceedance of metal (Table 30)

Exceedance of City WPCF Permit action level

Table 2-3 Continuous Temperature Monitoring

ID Number	Site	Basin	Stream	Max 7DADM (*C)	days 7DADM >18*C
1	FCI1 Fairview @ Conifer Park	Fairview	Fairview Creek	16.8	0
2	#990 Butler @ Towle	Johnson	Butler Creek	16.8	0
3	#993 Chastain US pond	Johnson	Chastain Creek	17.2	0
4	Kelly @ Tee Off Estates	Beaver	Kelly Creek	19.3	25
5	Burlingame @ culvert	Beaver	Burlingame Creek	19.5	48
6	Fairview @ Birdsdale	Fairview	Fairview Creek	21.1	54
7	BCI2 Beaver @ Triangle	Beaver	Beaver Creek	20.9	59
8	Burlingame @ Country Club Estates	Beaver	Burlingame Creek	21.2	68
9	JCI2 Johnson @ Palmblad	Johnson	Johnson Creek	22.6	71
10	#53 Johnson @ Ambleside	Johnson	Johnson Creek	23.0	72
11	#39 Johnson @Nechakokee	Johnson	Johnson Creek	23.2	74
12	Beaver US Kelley	Beaver	Beaver Creek	22.1	77
13	KCI2 Kelly US MHCC	Beaver	Kelly Creek	23.4	80
14	FCI0 Fairview @ Eastman	Fairview	Fairview Creek	21.4	83
15	Beaver DS Kelley	Beaver	Beaver Creek	23.1	83
16	#41 Johnson @ Highland	Johnson	Johnson Creek	23.8	84
17	JCI1 Johnson @ Jenne	Johnson	Johnson Creek	24.6	89
18	Burligame @ golf course	Beaver	Burlingame Creek	22.3	91
19	KCI1 Kelly DS MHCC	Beaver	Kelly Creek	24.2	103
20	Fairview @ Glisan	Fairview	Fairview Creek	27.1	169

Coding for Reported Data
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. The City has a temperature TMDL plan that restores public land in an effort to provide shade and reduce streams temperatures over time. These activities are reported in **Table 3-3.**

Figure 2-1 Stream Temperature Monitoring Site Locations

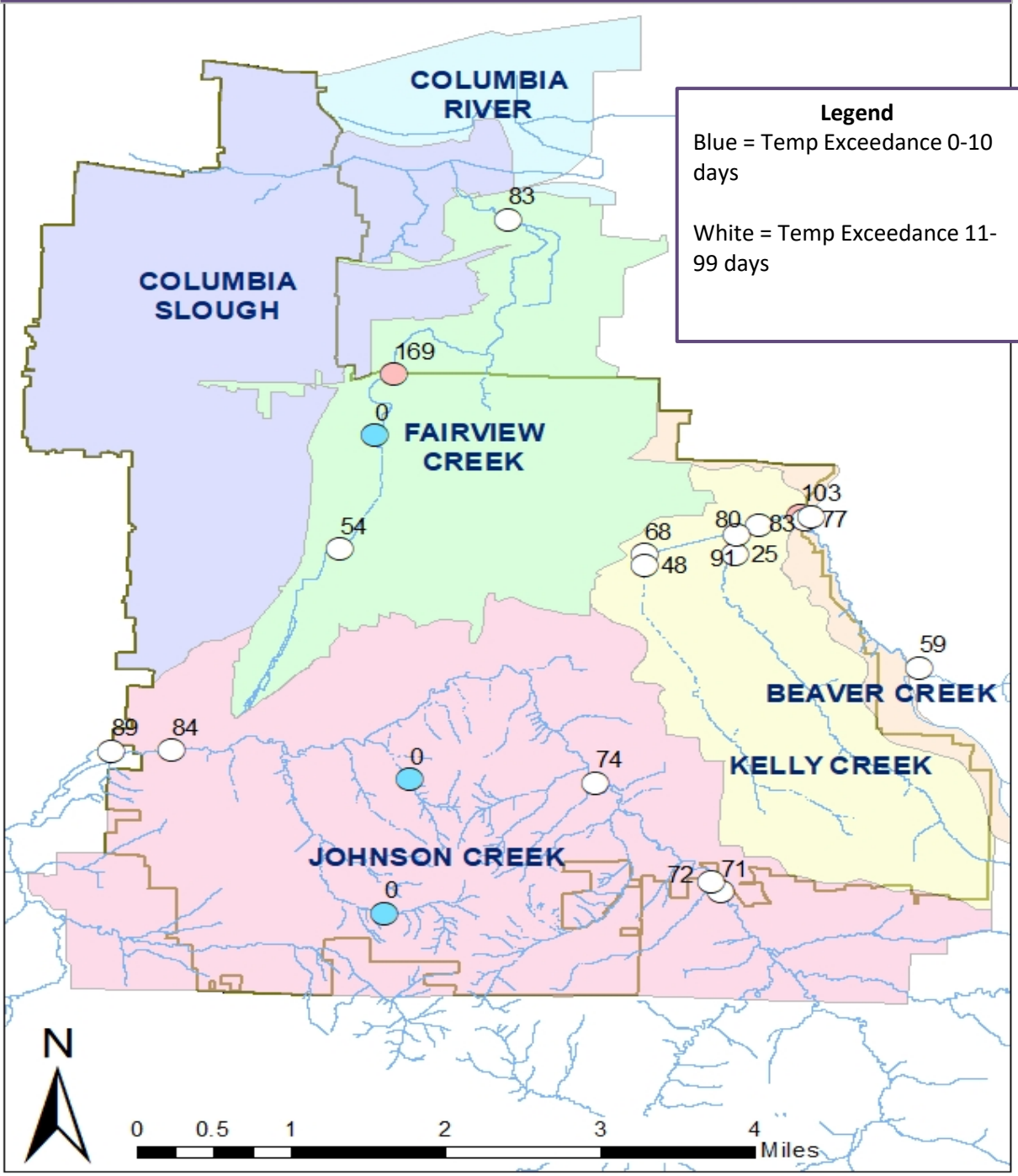

Table 2-4 Stormwater Sampling

Lab ID	System_ID	Trips per Day	Land Use	Functional Class	Date	Time	Rainfall Previous	DO	pH	Temp	Conduc-tivity	Turbi-dity	E. coli	BOD	DOC	TSS	Ammonia	Nitrate	ortho-P	Total Kjeldahl Nitrogen	T-Phos	Hardness	Total Antimony	Total Cadmium	Total Copper	Total Lead	Total Mercury	Total Zinc	Dissolved Copper	Dissolved Lead	Diss Zinc
Method Reporting Limit							inches/24 hrs	mg/l		°C	µS/cm	NTU	MPN /100 mL	2 mg/L	1 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	0.100 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
Analytical Method													SM 9223 B	SM 5210 B	SM 5310B	SM 2540D	EPA 300.0	EPA 300.0	EPA 365.1	EPA 351.2	EPA 365.4	SM 2340B CAL	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
W20K036-01	2950-W-067	<1000	RES	Residential	11/3/2020	12:08	0.27	NA	6.73	11.9	8.3	5.71	160	2	3.61	**3**	63	**100**	42	310	NA	5.7	0.130	**0.111**	3.12	0.358	0.00315	24.4	1.820	**0.106**	15.9
W20K036-02	3050-W-015	>1000	COM	Boulevard	11/3/2020	12:41	0.27	NA	6.68	12.2	13.1	48.2	170	5	5.96	28	466	140	33	868	NA	7.32	1.500	**0.111**	11.6	2.38	0.00567	69.6	4.710	0.191	28.1
W20K036-03	3148-W-014	>1000	RES	Community	11/3/2020	16:22	0.4	NA	6.77	12.3	14	52.9	410	6	9.71	12	116	140	30	637	NA	6.67	1.290	**0.111**	8.68	1.89	0.00791	47.6	5.680	0.324	30.9
W20K036-04	3150-F-030	<1000	RES	Residential	11/3/2020	16:06	0.4	NA	6.93	12.2	16.9	29.6	160	7	7.61	56	81	150	78	700	NA	11.1	0.245	**0.111**	26	0.898	0.0056	38.9	19.700	**0.106**	27.1
W20K036-05	3151-F-064	>1000	COM	Collector	11/3/2020	13:36	0.34	NA	6.68	12.1	54.1	159	7300	113	52.5	200	52	200	604	2120	NA	32.1	3.860	0.273	40.8	9.54	0.0346	280	11.100	0.509	53.5
W20K036-06	3153-F-022	>1000	COM	Minor Arteria	11/3/2020	11:45	0.14	NA	7.78	11	13	98	660	7	5.06	50	483	120	41	710	NA	10.4	2.070	**0.111**	21.6	2.71	0.00838	1.1	5.600	0.108	27.6
W20K036-07	3153-F-040	<1000	RES	Residential	11/3/2020	11:29	0.14	NA	9.01	11.2	128.7	7.65	30	5	6.5	4	78	**100**	83	457	NA	4.84	0.171	**0.111**	4.69	0.452	0.00486	11.2	3.710	**0.106**	5.29
W20K036-08	3251-F-013	<1000	RES	Residential	11/3/2020	13:15	0.34	NA	6.7	11.4	23.1	13.6	150	13	15.8	6	126	360	126	752	NA	8.03	0.241	**0.111**	15	0.171	0.00874	270	12.500	**0.106**	232
W20K036-09	3253-F-025	>1000	RES	Community	11/3/2020	11:15	0.14	NA	7.1	11.1	194.7	28	740	5	4.22	34	312	**100**	38	684	NA	7.42	0.661	**0.111**	6.5	2.41	0.00684	71	2.490	**0.106**	18.2
W20K036-10	3448-F-012	<1000	RES	Residential	11/3/2020	16:34	0.4	NA	6.65	13.1	19.2	8.38	150	4	7.13	4	20	**100**	352	485	NA	7.61	0.211	**0.111**	4.8	0.372	0.0054	34.5	3.860	**0.106**	27.2
W20K036-11	3050-F-012-FD												63	5	5.84	18	431	140	27	945	NA	6.55	1.110	**0.111**	8.86	1.55	0.00498	53.4	4.650	0.186	27.3

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FD = Field Duplicate Sample

Table 2-4 Stormwater Sampling

Lab ID	System_ID	Trips per Day	Land Use	Functional Class	Date	Time	Rainfall Previous	Acenaph-thene	Acenaph thylene	Anthr acene	Benzo-(a)-anthra cene	Benzo-(a)-pyrene	Benzo(b)-fluoran-thene	Benzo(ghi)-perylene	Benzo(k) fluoran-thene	Chrysene	Dibenzo (a,h)ant hracene	Fluoran thene	Fluore ne	Indeno-(1,2,3-cd)pyrene	Naphthalene	Phenan-threne	Pyrene	Butyl benzyl phthalate	Di-n-butyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-octyl phthalate
Method Reporting Limit							inches/24 hrs	ug/L	MPN/100ml	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Analytical Method								EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM
W20K036-01	2950-W-067	<1000	RES	Residential	11/3/2020	12:08	0.27	**0.020**	**0.020**	**0.020**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.100**	**0.010**	**0.010**	**0.020**	**0.010**	**0.040**	**0.020**	0.014	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
W20K036-02	3050-W-015	>1000	COM	Boulevard	11/3/2020	12:41	0.27	**0.020**	0.075	**0.020**	**0.010**	0.018	0.022	0.086	**0.010**	0.017	**0.010**	0.073	0.026	0.021	0.220	0.087	0.130	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
W20K036-03	3148-W-014	>1000	RES	Community	11/3/2020	16:22	0.4	**0.020**	**0.020**	**0.020**	0.011	0.012	0.020	0.036	**0.010**	0.017	**0.010**	0.041	**0.020**	0.010	0.049	0.044	0.076	**1.0**	**1.0**	**1.0**	**1.0**	0.5
W20K036-04	3150-F-030	<1000	RES	Residential	11/3/2020	16:06	0.4	**0.020**	**0.020**	**0.020**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.100**	**0.010**	0.010	**0.020**	**0.010**	**0.040**	**0.020**	0.015	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
W20K036-05	3151-F-064	>1000	COM	Collector	11/3/2020	13:36	0.34	0.021	0.024	**0.020**	0.011	0.014	0.023	0.046	**0.010**	0.020	**0.010**	0.055	0.025	0.013	0.052	0.061	0.110	**1.0**	**1.0**	**1.0**	**1.0**	1.0
W20K036-06	3153-F-022	>1000	COM	Minor Arteria	11/3/2020	11:45	0.14	**0.020**	0.023	0.021	0.018	0.028	0.042	0.110	0.013	0.037	**0.010**	0.085	0.026	0.025	0.061	0.110	0.180	**1.0**	**1.0**	**1.0**	**1.0**	0.6
W20K036-07	3153-F-040	<1000	RES	Residential	11/3/2020	11:29	0.14	**0.020**	**0.020**	**0.020**	0.013	0.013	0.020	0.017	0.031	0.015	**0.010**	0.023	**0.020**	**0.010**	**0.040**	0.024	0.038	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
W20K036-08	3251-F-013	<1000	RES	Residential	11/3/2020	13:15	0.34	**0.020**	**0.020**	**0.020**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.100**	**0.010**	**0.010**	**0.020**	**0.010**	**0.040**	**0.020**	0.015	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
W20K036-09	3253-F-025	>1000	RES	Community	11/3/2020	11:15	0.14	**0.020**	0.021	**0.020**	**0.010**	0.018	0.029	0.064	**0.010**	0.026	**0.010**	0.046	0.046	0.016	0.053	0.081	0.160	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
W20K036-10	3448-F-012	<1000	RES	Residential	11/3/2020	16:34	0.4	**0.020**	**0.020**	**0.020**	**0.010**	**0.010**	**0.010**	**0.010**	**0.010**	**0.100**	**0.010**	**0.010**	**0.020**	**0.010**	**0.040**	**0.020**	0.012	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
W20K036-11	3050-F-012-FD							**0.020**	0.049	**0.020**	**0.010**	0.017	0.022	0.079	**0.010**	0.017	**0.010**	0.077	0.033	0.019	0.120	0.082	0.140	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**

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FD = Field Duplicate Sample

Table 2-4 Stormwater Sampling

Lab ID	System_ID	Trips per Day	Land Use	Functional Class	Date	Time	Rainfall Previous	Di-(2-ethylhexyl)-phthalate
Method Reporting Limit							inches/24 hrs	ug/L
Analytical Method								EPA 8270-SIM
W20K036-01	2950-W-067	<1000	RES	Residential	11/3/2020	12:08	0.27	**1.0**
W20K036-02	3050-W-015	>1000	COM	Boulevard	11/3/2020	12:41	0.27	3.5
W20K036-03	3148-W-014	>1000	RES	Community	11/3/2020	16:22	0.4	2.6
W20K036-04	3150-F-030	<1000	RES	Residential	11/3/2020	16:06	0.4	0.5
W20K036-05	3151-F-064	>1000	COM	Collector	11/3/2020	13:36	0.34	4.1
W20K036-06	3153-F-022	>1000	COM	Minor Arteria	11/3/2020	11:45	0.14	3.9
W20K036-07	3153-F-040	<1000	RES	Residential	11/3/2020	11:29	0.14	0.6
W20K036-08	3251-F-013	<1000	RES	Residential	11/3/2020	13:15	0.34	**1.0**
W20K036-09	3253-F-025	>1000	RES	Community	11/3/2020	11:15	0.14	2.5
W20K036-10	3448-F-012	<1000	RES	Residential	11/3/2020	16:34	0.4	**1.0**
W20K036-11	3050-F-012-FD							7.0

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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, such as conductivity. Results below the MRL are estimates of detections as reported by the laboratory.
FD = Field Duplicate Sample

Table 2-4 Stormwater Sampling — Stormwater Sampling

Lab ID	System_ID	Trips per Day	Land Use	Functional Class	Date	Time	Rainfall Previous	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	2,4-DB	Acifluorfen	Bentazon	3,5-Dichlorobenzoic acid	Dicamba	Dichlorprop	Dinoseb	Pentachlo-rophenol	Picloram
Method Reporting Limit							**inches/24 hrs**	**0.040 ug/L**	**0.040 ug/L**	**0.040 ug/L**	**0.040 ug/L**	**0.040 ug/L**	**0.040 ug/L**	**0.200 ug/L**	**0.040 ug/L**	**0.040 ug/L**	**0.040 ug/L**	**0.040 ug/L**	**.040 ug/L**
Analytical Method								**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**	**EPA 515.4 mod**
W20K036-01	2950-W-067	<1000	RES	Residential	11/3/2020	12:08	0.27	**0.1**	**0.1**	1.5	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.061	**0.2**
W20K036-02	3050-W-015	>1000	COM	Boulevard	11/3/2020	12:41	0.27	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.864	**0.2**
W20K036-03	3148-W-014	>1000	RES	Community	11/3/2020	16:22	0.4	**0.1**	**0.1**	0.3	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.178	**0.2**
W20K036-04	3150-F-030	<1000	RES	Residential	11/3/2020	16:06	0.4	**0.1**	**0.1**	0.3	**0.4**	**0.2**	**0.4**	0.1	**0.2**	**0.4**	**0.4**	0.073	**0.2**
W20K036-05	3151-F-064	>1000	COM	Collector	11/3/2020	13:36	0.34	**0.1**	**0.1**	0.6	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.282	**0.2**
W20K036-06	3153-F-022	>1000	COM	Minor Arteria	11/3/2020	11:45	0.14	**0.1**	**0.1**	0.6	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	2.930	**0.2**
W20K036-07	3153-F-040	<1000	RES	Residential	11/3/2020	11:29	0.14	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.047	**0.2**
W20K036-08	3251-F-013	<1000	RES	Residential	11/3/2020	13:15	0.34	**0.1**	**0.1**	0.2	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.063	**0.2**
W20K036-09	3253-F-025	>1000	RES	Community	11/3/2020	11:15	0.14	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.683	**0.2**
W20K036-10	3448-F-012	<1000	RES	Residential	11/3/2020	16:34	0.4	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.112	**0.2**
W20K036-11	3050-F-012-FD							**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	0.838	**0.2**

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
Dup = Duplicate Sample

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, such as conductivity. Results below the MRL are estimates of detections as reported by the laboratory.
FD = Field Duplicate Sample

Table 2-5 Stormwater BMP Monitoring Data

Sample ID	Site ID	Point Code	Inlet/outlet	Date	Time	Storm	24-hr Rainfal	Field DO	Field pH	Field Temp	Conduc-tivity	Turbi-dity	NH3-N	BOD5	NO3-N	O-PO4	TKN	Total-P	TSS	Hardne ss	Ca	Mg	Hg-Total	DOC	Cu-Dissolved	Pb-Dissolved	Zn-Dissolved	Cu-Total
							inches	mg/L		C	uS/cm	NTUs	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg CaCO3 /L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
													EPA 300.0	SM 5210B	EPA 300.0	EPA 365.1	EPA 351.2	EPA 365.4	SM 2540D	SM 2340B CAL	EPA 200.7	EPA 200.7	EPA 200.8	SM 5310B	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
												0.01	**20**	**2**	**100**	**20**	**100**	**25**	**2**	**1**	**0.5**	**0.5**	**0.001**	**1**	**0.2**	**0.1**	**0.5**	**0.2**
W20K068-01	West Gresham Elementary Ditch Inlet	WGEDitchIn-1	inlet	11/5/2020	12:35	1	0.51	NA	6.65	13.7	44.3	98.3	73	20	220	212	1140	404	56	24.2	7.52	1.32	0.0147	20.4	11.8	0.476	132	24.7
W20K068-02	West Gresham Elementary Ditch Culvert	WGEDitchOut-1	outlet	11/5/2020	12:50	1	0.51	NA	6.75	13.4	34.6	92.8	45	18	150	185	824	368	60	18.1	5.5	1.06	0.0142	18	8.1	0.471	82.5	24.1
W20K068-03	West Gresham Elementary Ditch Inlet	WGEDitchIn-2	inlet	11/5/2020	14:37	1	0.51	NA	6.99	12.4	9.8	25.5	38	4	**100**	69	**310**	132	13	4.97	1.58	1.06	0.0059	4.57	1.6	**0.106**	36.9	4.74
W20K068-04	West Gresham Elementary Ditch Culvert	WGEDitchOut-2	outlet	11/5/2020	14:52	1	0.51	NA	6.38	12.2	9.5	21.9	37	4	**100**	67	**310**	119	16	4.58	1.44	0.252	0.00447	4.4	1.6	**0.106**	40	3.93
W20K068-05	West Gresham Elementary Ditch Inlet	WGEDitchIn-3	inlet	11/5/2020	16:24	1	0.51	NA	6.83	12	11.8	14.6	33	4	**100**	71	**310**	111	6	5	1.58	0.236	**0.003**	5.02	1.83	0.114	50.7	2.97
W20K068-06	West Gresham Elementary Ditch Culvert	WGEDitchOut-3	outlet	11/5/2020	16:39	1	0.51	NA	6.51	12.1	12	18.8	25	4	**100**	70	**310**	115	7	5.37	1.67	0.29	**0.003**	4.76	1.77	0.11	51.3	3.02
W20K134-01	Ops yard CB	OpsCB-1	inlet	11/12/2020	20:38	2	0.98	NA	6.51	7.5	150.6	19.5	442	8	140	59	922	144	21	72.9	10.3	11.4	0.00681	11.1	7.87	**0.106**	145	10.7
W20K134-02	Ops swale N inlet	OpsNin-1	inlet	11/12/2020	20:44	2	0.98	NA	7.04	8.9	95.6	23.2	235	5	160	34	499	82	15	40.4	5.66	6.38	0.0038	6.04	4.44	**0.106**	83.5	6.63
W20K134-03	Ops swale S inlet	OpsSin-1	inlet	11/12/2020	21:09	2	0.98	NA	6.72	10	266.2	63.7	**20**	14	**100**	141	434	310	31	127	15.6	21.5	0.00402	11.5	3.2	**0.106**	60.8	5.89
W20K134-04	Ops swale outlet	OpsOut-1	outlet	11/12/2020	22:08	2	0.98	NA	6.38	10.5	202.2	45.9	**20**	2	670	24	**310**	126	93	92.9	21.2	9.7	0.00561	3.45	1.68	**0.106**	17.5	5.4
W20K134-05	Ops yard CB	OpsCB-2	inlet	11/12/2020	22:36	2	0.98	NA	7.14	6.6	57.2	167	79	9	**10**	64	461	304	53	34.5	5.11	5.27	0.0101	7.29	3.26	**0.106**	8.59	11.2
W20K134-06	Ops swale N inlet	OpsNin-2	inlet	11/12/2020	22:45	2	0.98	NA	6.98	7.5	31.3	14.1	111	3	**100**	33	371	67	6	14	2.05	2.16	0.00449	3.7	3.34	**0.106**	41.1	4.89
W20K134-07	Ops swale S inlet	OpsSin-2	inlet	11/12/2020	23:00	2	0.98	NA	6.54	8.3	117.7	47.6	**20**	8	**100**	219	382	353	26	57.3	7.6	9.3	0.00499	7.96	3.46	**0.106**	43	5.58
W20K134-08	Ops swale outlet	OpsOut-2	outlet	11/12/2020	23:20	2	0.98	NA	6.44	10	196.2	15.3	**20**	**2**	570	25	**310**	44	6	93.1	22.6	8.9	0.003	3.56	1.78	**0.106**	5.16	2.42
W20K134-09	Ops yard CB	OpsCB-3	inlet	11/13/2020	7:41	2	0.98	NA	7.09	8.6	9.3	9.82	**20**	3	**100**	**20**	**310**	72	28	2.82	3.98	7.69	0.00334	1.55	1.56	**0.106**	14.1	5.34
W20K134-10	Ops swale N inlet	OpsNin-3	inlet	11/13/2020	7:48	2	0.98	NA	6.86	8.5	6.6	25	23	2	**100**	**20**	**310**	67	24	3.98	0.85	0.451	0.00371	1.39	1.29	**0.106**	15.5	5.22
W20K134-11	Ops swale S inlet	OpsSin-3	inlet	11/13/2020	8:02	2	0.98	NA	6.61	8.2	12.2	63.5	**20**	5	**100**	88	**310**	210	39	7.69	1.37	1.04	0.00538	3.24	1.5	**0.106**	11.4	5.2
W20K134-12	Ops swale outlet	OpsOut-3	outlet	11/13/2020	8:31	2	0.98	NA	6.4	8.2	20.2	14.1	**20**	**2**	210	38	**310**	65	7	9.06	2.14	0.904	**0.003**	1.98	1.31	**0.106**	1.99	1.84
W20K271-01	Fairview at 223rd	FCI1	stream	11/30/2020	5:04	1	0.2	NA	6.9	8.2	78.6	11.8	47	2	980	59	386	75	8	31.7	8.41	2.59	**0.003**	2.7	1.56	**0.106**	1340	2.87
W20K271-02	Beaver at footbridge	BCI2	stream	11/30/2020	5:39	1	0.2	NA	7.36	6.2	88.1	12.9	31	**2**	4940	26	1000	50	7	35.6	8.61	3.43	**0.003**	1.99	1.76	**0.106**	2.45	2.23
W20K271-03	Kelly US detention pond	KCI4	stream	11/30/2020	6:00	1	0.2	NA	7.18	7.1	89.1	29.3	44	3	3340	27	671	80	12	41.4	10.3	3.82	**0.003**	3.85	1.21	**0.106**	16	2.23
W20K271-04	Kelly DS detention pond	KCI3	stream	11/30/2020	6:26	1	0.2	NA	7.17	7	92.9	11.1	50	3	3250	25	765	46	6	41.8	10.5	3.81	**0.003**	3.83	1.23	**0.106**	16.5	2.2
W20K271-05	Johnson at Jenne	JCI2	stream	11/30/2020	6:57	1	0.2	NA	7.33	6.7	64.4	9.16	36	**2**	3970	33	1600	50	4	29	7.23	2.67	**0.003**	2.59	0.816	**0.106**	19.8	1.73
W20K271-06	Kelley at Foster	KI2	stream	11/30/2020	7:44	1	0.2	NA	7.68	7.7	90.5	18.8	24	**2**	1240	**20**	360	37	11	36.9	9.87	2.97	**0.003**	2.45	0.471	**0.106**	1.49	1.33
W20K271-07	Johnson at Palmblad	JCI1	stream	11/30/2020	8:37	1	0.2	NA	7.29	6.5	72	17	25	**2**	2080	21	502	44	8	27.2	6.56	2.63	**0.003**	2.27	0.909	**0.106**	57.9	2.42
W20K271-08	Kelly DS MHCC pond	KCI1	stream	11/30/2020	9:24	1	0.2	NA	7.64	7.8	118.6	6.83	71	**2**	2520	29	605	44	4	48.5	12.4	4.28	**0.003**	3.35	1.21	**0.106**	28.8	1.97
W20K271-09	Kelley at Rodlun	KI1	stream	11/30/2020	8:10	1	0.2	NA	7.3	6.8	103.1	15.4	53	**2**	1120	39	478	70	6	41.6	10.4	3.83	**0.003**	3.4	1.03	**0.106**	3.5	1.75
W20K271-10	Beaver at Division	BCI1	stream	11/30/2020	10:07	1	0.2	NA	7.87	7.6	124	9.73	28	**2**	3320	35	659	50	3	49.4	12.3	4.56	**0.003**	2.69	1.27	**0.106**	11.7	1.83
W20K271-11	Fairview at Stark	FCI0	stream	11/30/2020	10:53	1	0.2	NA	7.72	8.3	94.5	6.09	22	**2**	620	56	366	73	4	39.8	9.67	3.8	**0.003**	3.28	1.18	**0.106**	32.1	1.75
W20K271-12	Fairview Lake	FVL1	lake	11/30/2020	11:11	1	0.2	NA	7.7	7	133.8	7.13	102	**2**	560	36	518	59	6	57.8	13.4	5.91	**0.003**	2.55	0.903	**0.106**	3.26	1.58
W21B186-01	Brookside Regional Facility Inlet	BRF1-1	inlet	2/18/2021	13:15	5	0.27	NA	6.97	5.5	78.1	16.2	32	**2**	860	**27**	**310**	56	6	33.5	9.66	2.27	**0.003**	2.44	2.57	**0.106**	6.91	3.9
W21B186-02	Brookside Regional Facility Outlet	BRF2-1	outlet	2/18/2021	13:30	5	0.27	NA	6.85	5.6	78.5	12.4	20	**2**	850	24	**310**	51	4	32.4	9.38	2.18	**0.003**	2.56	2.36	**0.106**	5.47	3.83
W21B186-03	Brookside Regional Facility Inlet	BRF1-2	inlet	2/18/2021	14:20	5	0.27	NA	6.72	5.1	71.5	15.3	32	**2**	780	33	**310**	58	4	31.2	8.83	2.24	**0.003**	2.57	2.33	**0.106**	5.66	3.45
W21B186-04	Brookside Regional Facility Outlet	BRF2-2	outlet	2/18/2021	14:36	5	0.27	NA	6.63	5.5	73.8	11.7	20	**2**	800	28	**310**	50	10	32.2	9.14	2.28	**0.003**	2.41	2.24	**0.106**	5.91	3.17
W21B186-05	Brookside Regional Facility Inlet	BRF1-3	inlet	2/18/2021	16:48	5	0.27	NA	7.48	6.3	92.7	18.6	34	**2**	1070	48	317	75	**3**	39	11	2.81	**0.003**	3.18	2.57	**0.106**	5.8	3.35
W21B186-06	Brookside Regional Facility Outlet	BRF2-3	outlet	2/18/2021	17:01	5	0.27	NA	7.42	5.8	82	15.2	21	**2**	890	35	**310**	59	**3**	34.1	9.57	2.48	**0.003**	2.92	2.26	**0.106**	6.04	2.88

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
Dup = Duplicate Sample
FD = Field Duplicate Sample

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.

Table 2-5 Stormwater BMP Monitoring Data

Sample ID	Site ID	Pb-Total	Zn-Total	E. coli	2,4,5-T	2,4-D	2,4-DB	2,4,5-TP	Acifluor-fen	Bentazon	Dicamba	Picloram	Dichlorprop	Dinoseb	Pentachloro-phenol	3,5-Dichloro-benzoic acid	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthra	Benzo(a)pyrene	Benzo(b)fluor	Benzo(ghi)peryl	Benzo(k)fluor	Chrysene
		ug/L	ug/L	MPN/100ml	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		EPA 200.8	EPA 200.8	SM 9223B	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 515.3	EPA 8270-SIM	EPA 8270-SIM	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
		0.1	0.5	10	0.1	0.2	0.4	0.1	0.2	0.4	0.2	0.2	0.4	0.4	0.04	0.2	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
W20K068-01	West Gresham Elementary Ditch Inlet	3.57	212	7300	**0.1**	0.5	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	4	0.273	**0.2**	**0.02**	0.021	**0.02**	0.011	0.016	0.027	0.06	**0.01**	0.026
W20K068-02	West Gresham Elementary Ditch Culvert	3.81	174	9200	**0.1**	0.456	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	4	0.362	**0.2**	**0.02**	**0.02**	**0.02**	0.01	0.014	0.028	0.053	**0.01**	0.026
W20K068-03	West Gresham Elementary Ditch Inlet	1.07	67	2200	**0.1**	0.244	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	4	0.184	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	0.01	0.015	**0.01**	**0.01**
W20K068-04	West Gresham Elementary Ditch Culvert	1.08	65.4	2200	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	4	0.179	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	0.014	**0.01**	**0.01**
W20K068-05	West Gresham Elementary Ditch Inlet	0.489	63.4	3400	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	4	0.163	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K068-06	West Gresham Elementary Ditch Culvert	0.542	66.6	2900	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	4	0.146	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K134-01	Ops yard CB	1.2	173	63	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.125	**0.2**	**0.02**	0.02	**0.02**	**0.01**	**0.01**	0.015	0.014	**0.01**	0.011
W20K134-02	Ops swale N inlet	0.871	103	10	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.041	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K134-03	Ops swale S inlet	1.12	74.6	52	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.028	**0.2**	**0.02**	0.028	**0.02**	0.012	0.023	0.023	0.03	**0.01**	0.017
W20K134-04	Ops swale outlet	1.81	32.8	10	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	0.015	0.023	0.02	0.011	0.016
W20K134-05	Ops yard CB	3.34	45.4	63	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	0.046	0.031	0.034	0.073	0.068	0.09	0.022	0.044
W20K134-06	Ops swale N inlet	0.51	48.7	75	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.054	**0.2**	**0.02**	0.024	**0.02**	**0.01**	**0.01**	**0.01**	0.011	**0.01**	**0.01**
W20K134-07	Ops swale S inlet	0.935	52.7	10	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	0.026	**0.02**	0.01	0.019	0.023	0.028	**0.01**	0.015
W20K134-08	Ops swale outlet	0.225	7.66	10	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K134-09	Ops yard CB	1.33	34.9	63	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	0.013	**0.01**	**0.01**
W20K134-10	Ops swale N inlet	1.52	40.6	140	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.075	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	0.011	0.018	**0.01**	**0.01**
W20K134-11	Ops swale S inlet	1.65	32.7	120	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.047	**0.2**	**0.02**	0.022	**0.02**	0.012	0.024	0.024	0.037	0.011	0.018
W20K134-12	Ops swale outlet	0.263	3.5	86	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-01	Fairview at 223rd	0.749	1530	110	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.122	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-02	Beaver at footbridge	0.232	4.69	20	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.075	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-03	Kelly US detention pond	0.276	23.4	370	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.049	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-04	Kelly DS detention pond	**0.2**	20.6	160	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.044	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-05	Johnson at Jenne	0.202	20.4	650	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-06	Kelley at Foster	0.344	8.56	52	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.057	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-07	Johnson at Palmblad	0.399	68.7	280	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-08	Kelly DS MHCC pond	0.266	33.5	280	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.047	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-09	Kelley at Rodlun	0.308	5.78	63	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.045	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-10	Beaver at Division	**0.2**	16.2	170	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.052	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-11	Fairview at Stark	0.252	37.7	86	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	0.08	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W20K271-12	Fairview Lake	0.26	6.24	30	**0.1**	**0.2**	**0.4**	**0.1**	NM	**0.4**	**0.2**	**0.2**	**0.4**	4	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W21B186-01	Brookside Regional Facility Inlet	0.31	11.7	360	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W21B186-02	Brookside Regional Facility Outlet	0.224	10.4	110	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W21B186-03	Brookside Regional Facility Inlet	0.289	9.72	680	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W21B186-04	Brookside Regional Facility Outlet	0.241	8.72	400	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W21B186-05	Brookside Regional Facility Inlet	0.281	9.07	890	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
W21B186-06	Brookside Regional Facility Outlet	0.238	8.45	900	**0.1**	**0.2**	**0.4**	**0.1**	**0.2**	**0.4**	**0.2**	**0.2**	**0.4**	**0.4**	**0.04**	**0.2**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**

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
Dup = Duplicate Sample
FD = Field Duplicate Sample

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.

Table 2-5 Stormwater BMP Monitoring Data

Sample ID	Site ID	Dibenzo(a,h)a	Fluoranthene	Fluorene	Indeno(1,2,3-	Naphthalene	Phenanthrene	Pyrene	Butyl benzyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Diethyl phthalate	Dimethyl phthalate	Bis(2-ethylhexyl) phthalate
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
		EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM	EPA 8270-SIM
		0.01	0.01	0.02	0.01	0.04	0.02	0.01	1	1	1	1	1	1
W20K068-01	West Gresham Elementary Ditch Inlet	0.012	0.05	0.027	0.015	0.042	0.05	0.11	**1**	**1**	**1**	**1**	**1**	2.6
W20K068-02	West Gresham Elementary Ditch Culvert	**0.01**	0.042	0.025	0.014	**0.04**	0.045	0.092	**1**	**1**	**1**	**1**	**1**	2
W20K068-03	West Gresham Elementary Ditch Inlet	**0.01**	0.016	**0.02**	**0.01**	**0.04**	0.021	0.03	**1**	**1**	**1**	**1**	**1**	**1**
W20K068-04	West Gresham Elementary Ditch Culvert	**0.01**	0.013	**0.02**	**0.01**	**0.04**	0.02	0.026	**1**	**1**	**1**	**1**	**1**	**1**
W20K068-05	West Gresham Elementary Ditch Inlet	**0.01**	0.011	**0.02**	**0.01**	**0.04**	**0.02**	0.023	**1**	**1**	**1**	**1**	**1**	**1**
W20K068-06	West Gresham Elementary Ditch Culvert	**0.01**	0.011	**0.02**	**0.01**	**0.04**	**0.02**	0.023	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-01	Ops yard CB	**0.01**	0.015	0.031	**0.01**	0.13	0.039	0.038	**1**	**1**	**1**	**1**	**1**	1.2
W20K134-02	Ops swale N inlet	**0.01**	**0.01**	0.022	**0.01**	0.053	0.023	0.014	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-03	Ops swale S inlet	**0.01**	0.033	0.022	0.018	**0.04**	0.032	0.057	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-04	Ops swale outlet	**0.01**	0.023	**0.02**	0.014	**0.04**	**0.02**	0.033	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-05	Ops yard CB	0.01	0.083	0.033	0.055	**0.04**	0.063	0.13	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-06	Ops swale N inlet	**0.01**	0.013	0.031	**0.01**	0.048	0.03	0.027	**1**	**1**	**1**	**1**	**1**	1.4
W20K134-07	Ops swale S inlet	**0.01**	0.027	0.026	0.017	**0.04**	0.029	0.047	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-08	Ops swale outlet	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-09	Ops yard CB	**0.01**	0.018	**0.02**	**0.01**	**0.04**	0.024	0.027	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-10	Ops swale N inlet	**0.01**	0.017	**0.02**	**0.01**	**0.04**	0.042	0.045	**1**	**1**	**1**	**1**	**1**	1
W20K134-11	Ops swale S inlet	**0.01**	0.037	**0.02**	0.018	**0.04**	0.034	0.068	**1**	**1**	**1**	**1**	**1**	**1**
W20K134-12	Ops swale outlet	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-01	Fairview at 223rd	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-02	Beaver at footbridge	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-03	Kelly US detention pond	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-04	Kelly DS detention pond	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-05	Johnson at Jenne	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-06	Kelley at Foster	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-07	Johnson at Palmblad	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-08	Kelly DS MHCC pond	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-09	Kelley at Rodlun	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-10	Beaver at Division	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-11	Fairview at Stark	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W20K271-12	Fairview Lake	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W21B186-01	Brookside Regional Facility Inlet	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	0.011	**1**	**1**	**1**	**1**	**1**	**1**
W21B186-02	Brookside Regional Facility Outlet	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W21B186-03	Brookside Regional Facility Inlet	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	0.01	**1**	**1**	**1**	**1**	**1**	**1**
W21B186-04	Brookside Regional Facility Outlet	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W21B186-05	Brookside Regional Facility Inlet	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**
W21B186-06	Brookside Regional Facility Outlet	**0.01**	**0.01**	**0.02**	**0.01**	**0.04**	**0.02**	**0.01**	**1**	**1**	**1**	**1**	**1**	**1**

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Table 2-6 Macroinvertebrate Sampling

Site	Observed	Expected	O/E	Condition	Richness	Coleoptera	Diptera	Ephemeroptera	Plecoptera	Trichoptera	Baetidae	Chironomidae	Hydropsychidae
BCI1	10	20.52	0.49	Most disturbed	43	0	23	3	0	6	2	16	1
BCI2_LD	8	20.52	0.39	Most disturbed	26	0	14	2	0	3	1	10	1
BCI2	8	20.52	0.39	Most disturbed	21	0	11	2	0	1	1	8	1
FCI0	8	20.49	0.39	Most disturbed	42	2	23	1	0	4	1	18	1
FCI1	8	20.48	0.39	Most disturbed	33	1	21	1	0	2	1	16	0
JCI1	8	20.48	0.39	Most disturbed	37	0	20	4	0	4	3	18	2
JCI2_FD	13	20.52	0.63	Most disturbed	45	3	23	5	3	2	4	16	2
JCI2	11	20.52	0.54	Most disturbed	38	5	16	4	1	3	3	13	1
KCI1	7	20.51	0.34	Most disturbed	28	0	18	1	0	2	1	13	1
KCI4	7	20.52	0.34	Most disturbed	41	0	25	1	0	2	1	20	1
KI1	10	20.46	0.49	Most disturbed	36	1	22	2	1	3	1	16	1
KI2	21	20.5	1.02	Least disturbed	67	4	23	8	9	13	2	11	2

Legend:

Observed/Expected Index references provided by DEQ.

Richness Total number of taxa.

Column G thru N Number of taxa in the listed family.

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Figure 2-2 Long-term Instream Monitoring Site Locations

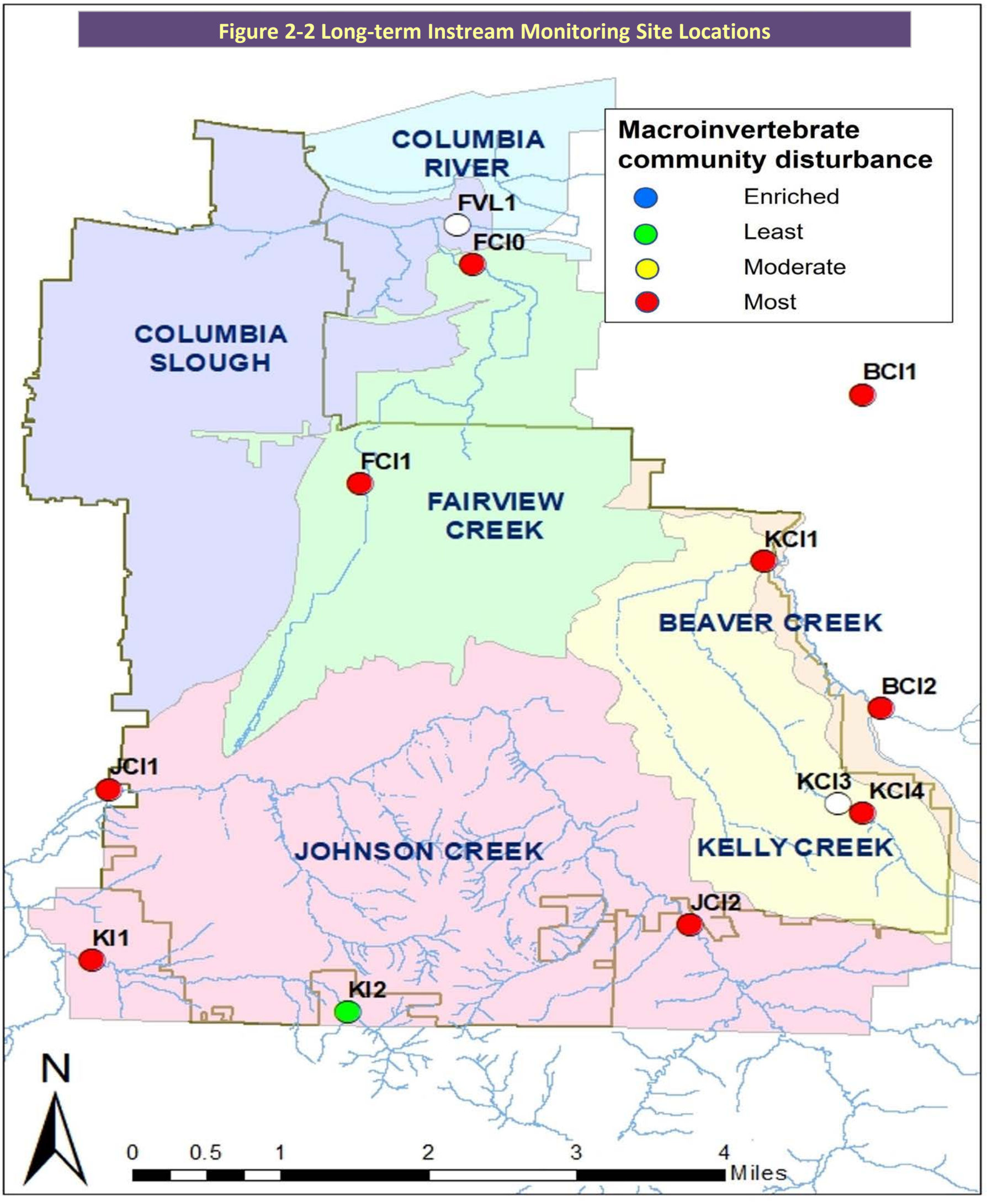


Figure 2.3 Stormwater Facility (BMP) Monitoring Site Locations

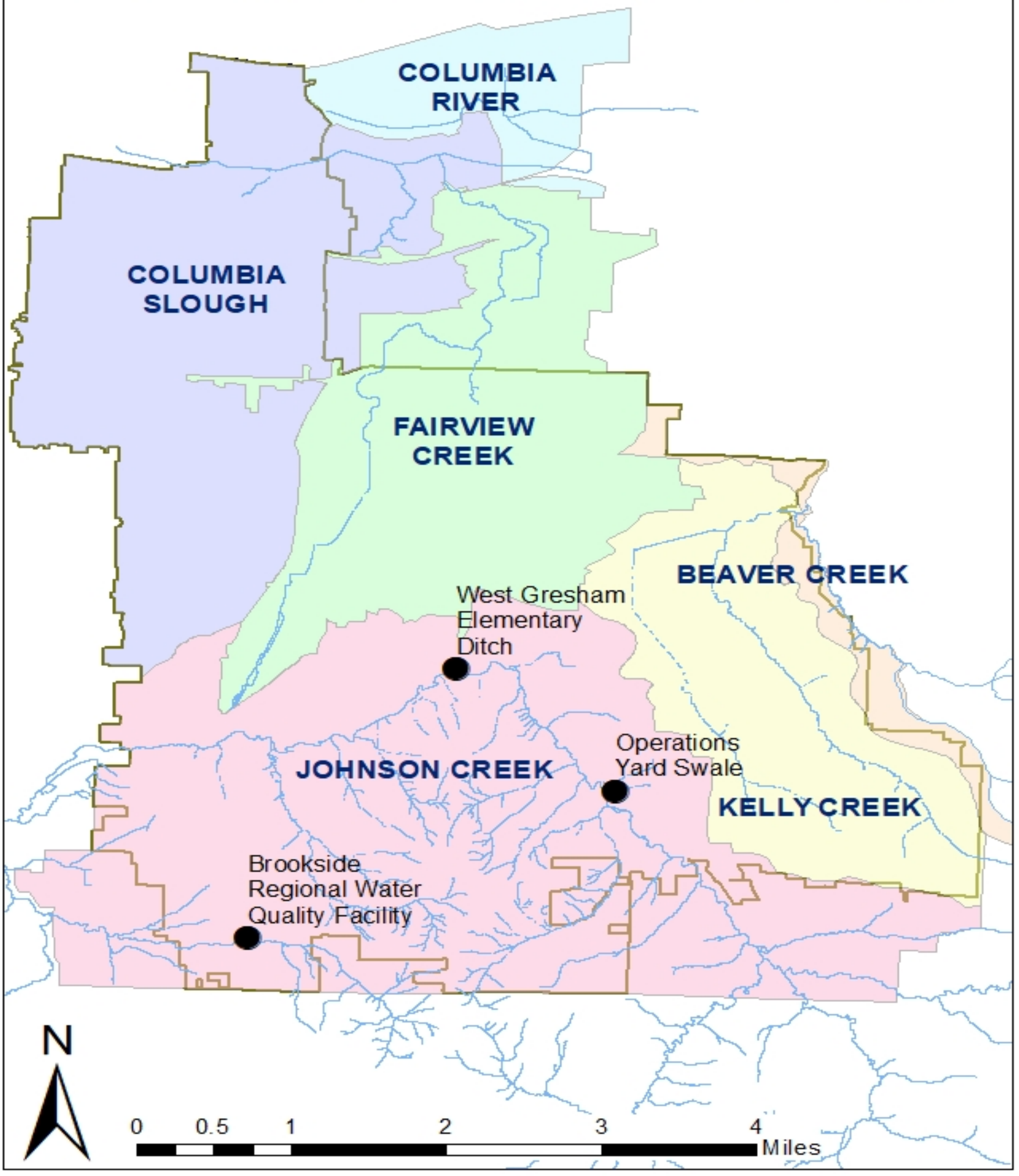
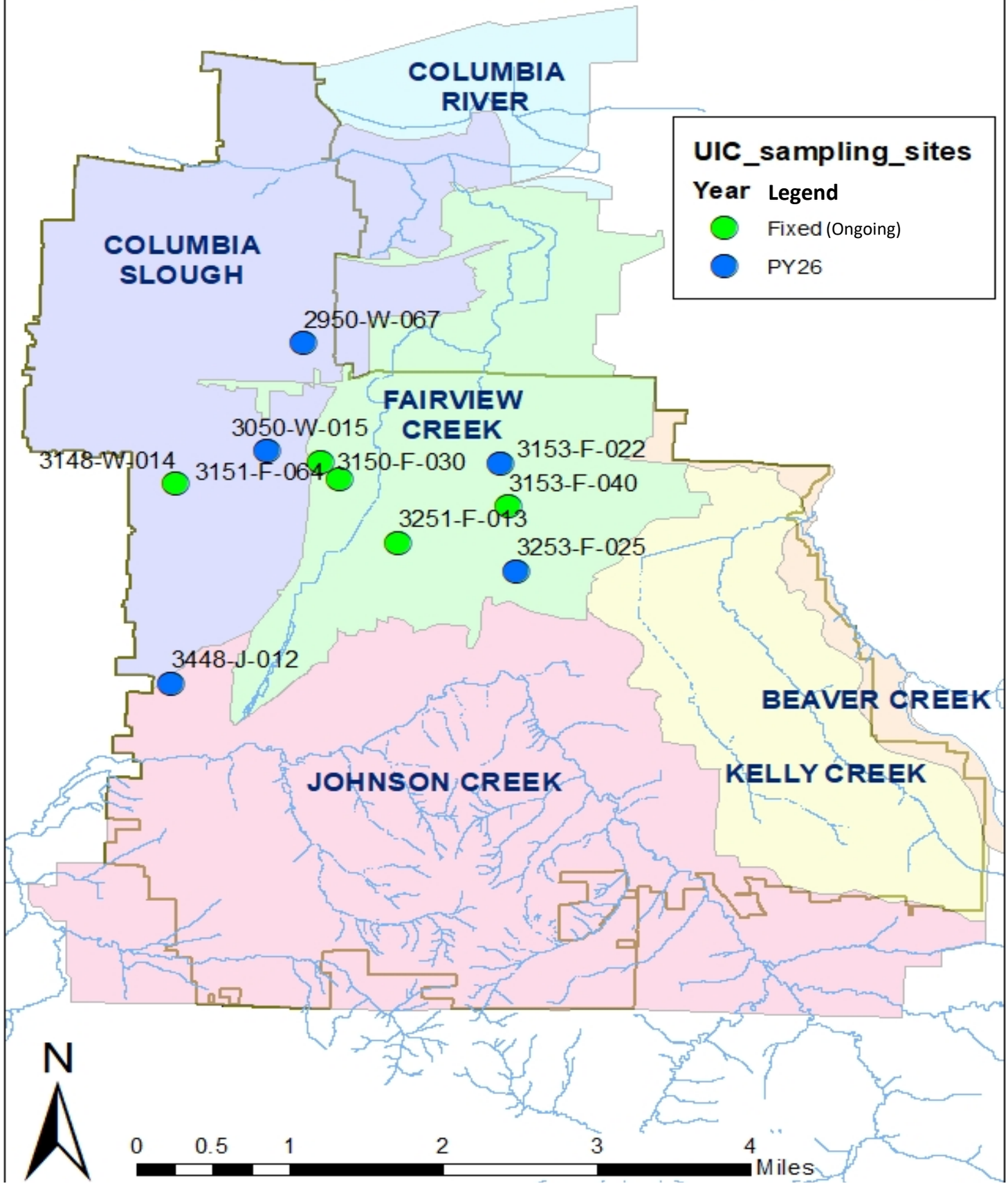


Fig 2.4 Stormwater Fixed and Rotating Monitoring Site Locations



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	2020-2021	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.	Stormwater O&M staff inspected 12.8 miles of pipe for routine and new development connections, plus cleaned 3.9 miles of pipe. During inspections we look for root intrusion, illicit connections, staining from illegal dumping, etc. This approach is more effective and environmentally sustainable because it uses less fuel, produces less emissions and releases less potable water. 2 yds of debris were removed.	The City of Gresham received it's reissued permit on Sept. 15, 2021 and effective on October 1, 2021. Changes to any activities listed in this plan will be evaluated and written into an updated SWMP that is due November 1, 2022.
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.	6,232 residential cbs cleaned*. 109 cy of debris removed. 1,418 arterial cbs cleaned. 56 cy of debris removed. 4319 hours of staff time utilized for cleaning cbs, pipes, manholes, proprietary devices (all grey infrastructure in the right of way) There is a slightly higher ratio of debris removal per basin for arterial streets, consistent with our monitoring program findings that higher traffic roads generate more pollutants and sediment. *Numbers cleaned vary each year because of parked cars. Additionally, the city has begun adding more sedimentation manholes to attempt to capture more sediment, so the total cb inventory has decreased slightly.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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.	Inspected 545 ROW rain gardens and 60 publicly maintained detention ponds and swales. Routine maintenance was completed at all ROW rain gardens and at 46 publicly maintained detention ponds and swales using a combination of landscape contractors and O&M staff. 6.75 cy of debris removed from rain gardens and swales. 57 cy of debris removed from ditches during reshaping. Additional maintenance (sediment removal and improvements to structures) was completed at 5 publicly maintained detention ponds and swales with a total of 330 cubic yards of sediment and debris removed. ~8,000 hours were utilized to maintain the vegetated types of stormwater structures Publicly owned proprietary systems, inspected 133 units, replaced 312 water quality cartridges, removing 12 cy of debris 68 structures. Privately owned devices that are publicly maintained: Inspected all 31 units' inlets, manholes, vaults, and pipes. No cleaning was required this fiscal year. Maintenance challenges from woody debris clogging facility outlets or culverts that originates from beavers was studied and in FY 20-21, an expert Beaver scientist was hired to retrofit several areas that prevent clogging and allow beavers to remain in their preferred locations. Studies have shown that beaver dams benefit water quality via clarification and lowering temperature.	None
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.	~13,500 hours were allocated for the following activities: utility locates, CCTV of pipe (new and investigative), GIS updates, shop clean & equipment repair, post rain event inspections of structures, emergency response to flooding/spills, planning/training/reporting, customer response, new development inspections, and repairs to grey infrastructure.	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.	Sedimentation manholes were inspected (500 units) removing 51.5 cy of debris from 60 structures. Flow control manholes were inspected (212 units) removing 21.3 cy of debris from 35 structures. Detention line cleaning were inspected (231 units) removing 3.7 cy of debris from 7 lines. Detention manholes were inspected (204 units) removing 4.4 cy from 7 manholes.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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.	Debris collected by the City during street sweeping and stormwater facility maintenance is currently being temporarily stored at a City transfer facility prior to being hauled to an appropriate landfill. Because the debris does not qualify as clean fill, the city has to haul this debris to landfills that can accept special waste. The City developed plans for a new waste storage facility that is expected to be constructed in the next year. Beyond drying and composting stored waste prior to disposal, the City is also exploring beneficial use options – both being ways to minimize costs, as well as reducing the environmental footprint associated with hauling and disposal.	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.	Keep records of annual maintenance locations and cleaning activities. Reporting not part of the MS4 Annual Report requirements. Staff inspected 15 UICs and cleaned five, removing 8.9 cy of material.	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.	The City adopted the Stormwater Management Manual (SWMM) and updated related portions of code – both went into effect on January 1, 2019. Based on input from City staff that work on interpreting requirements in the SWMM, clarifications and minor revisions have been made annually, with the latest revisions scheduled to go into effect on January 1, 2022. The SWMM provides guidance on facility design, ensures that on-site stormwater management prioritizes green infrastructure, and requires source control to prevent illicit discharges from high risk businesses – examples include vehicle repair and maintenance facilities, fueling stations, and waste storage for food related businesses. The SWMM also includes conveyance requirements for sites where water cannot be fully retained on site, and is where the City's updated Erosion Prevention and Sediment Control Manual is located. The requirements in the SWMM will be evaluated against the re-issued MS4 permit requirements to determine if major revisions (which require review and approval by City Council) may be required.	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	2020-2021	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 256* private stormwater facilities located on commercial properties or neighborhood developments that are subject to inspections. Some locations have multiple owners, and some have multiple facility types. Currently, there are 168 vegetated stormwater facilities and 88 locations with proprietary underground devices located on private property. City's code is utilized to ensure that private owners have legal responsibility for maintaining their facilities and are educated and assisted regarding facility maintenance. Staff inspects 23 high priority stormwater facilities and 10-20 medium priority facility locations annually and works with owners to ensure they are properly maintained. Priority is determined based on potential of negative impact to public stormwater system due to failure of a private facility. *Last year the City reported 309 facilities, however, that figure included some facilities that were not part of the inspection program, so this figure was updated to reflect 256 reported above. Additionally, there are newly constructed lot-level stormwater management facilities located on private single-family residential lots in new developments. Stormwater management facilities are intended to manage roof runoff from single family residential homes and include rain gardens, drywells, and infiltration vaults. These facilities are inspected when constructed and staff also conduct ongoing outreach & technical assistance to the residents to ensure understanding of proper care, maintenance and function of the facilities. During PY26, staff collected 29 maintenance reports from private single-owner commercial vault owners for proof of maintenance required for proprietary filter maintenance. Notifications are sent out biennially to private single-owner commercial vault owners.	Adjusted medium priority facilities conducted annually from 20-30 to 10-20 due to resource complexities caused by COVID-19.
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.	The Master Plan is in the process of being finalized and will be approved and posted to the City's website during FY 21-22.	None.

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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.	Green Gresham Healthy Gresham grant allowed the County plant ~70 trees in the least tree'd areas of Gresham. Inventoried trees at ~550 residences. ~800 new street tree sites mapped by interns. See example outreach plan in **Appendix C.** Gresham recertified as a Tree City USA for the 13th year. Urban Forestry Subcommittee will engage the public in a stakeholder survey on what neighborhoods would like to see in their urban canopy and ideas for planting, pruning, and other maintenance. The City is working with an expert related to tree planning and mapping to develop a canopy mapping tool planned for beta release in spring 2022. This tool will help Gresham plan for shade to reduce the urban heat index over time.	None
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.	A total of 7.5 residential sweeps and 12 arterial sweeps were conducted (~850 hours). 4,988 miles swept 1,642 cy of debris disposed by Deitrich trucking ~550 hours utilized for fall leaf sweeping. Leaves are stored and decomposed. In fall 2019, 208 tons were disposed and in fall 2020, 331 tons were disposed at Wasco landfill. The leaves have been tested and are too high in metals to be composted and resold.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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.	2,100 gallons of Magnesium Chloride applied to high priority roads. ~ 100 cy of sand applied. Sand is swept after storms. Miles for deicing were unable to be tracked because of implementation of a new system. Estimates can be made based on map priorities upon request.	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						

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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.	None
RC 6 Reduce Pollutants from Pesticides, Herbicides and Fertilizers						
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.	1.4 million gallons of water flushed and dechlorinated.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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.	Staff inspected 31 sites: 8 fixed high-priority sites and 23 new rotating sites. The rotating sites were all 18" pipes. **See Figure 3-5**. The 8 fixed sites were selected based on size and land use of contributing area, and on past illicit discharge issues. The 23 new sites are selected based on size of outfall, starting with the largest. Two sites had pH outside of the normal range, two sites had conductivity above the action levels, and five sites had turbidity above the action levels. Most of these sites had elevated turbidity due to sediment on the bottom of the pipe which was scraped during sampling. Follow-up investigations did not produce any illicit discharges from these sites. Raw data and specific note on investigations can be found in **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. All CCTV activity is tracked as one number, i.e., in total miles. The amount, in miles, of new development pipe is not specifically known, but is a fraction (~1-2 miles) of the total ~13 miles, as reported in the pipe cleaning BMP.	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 3-7**.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	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: (2) 55 gal drum (Thermo Fluids) Used oil: 1,022 gal (Thermo Fluids) Used Antifreeze: 150 gal Used Tires: 409 collected by Superior Tire Used batteries are returned to the vendor for recycling to Battery Systems, Advance Auto Parts, Auto Value, O' Reilly and Napa Auto Parts. All other recyclable commodities are recycled. To reduce its impacts from vehicles via atmospheric deposition, the city has added 24 hybrid and 3 electric vehicles to its fleet.	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 3-8**.	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 (now called GREEN) 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.	No Earth Day event this year due to COVID-19. 56 tons of used oil was collected from the residential sector by waste haulers	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
ILL. 7 Limit Sanitary Sewer Discharges						
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.	The wastewater O&M program and CIP were responsible for reducing impacts to stormwater from influx of wastewater in the ground by CCTV inspecting 720 lines which equates to ~19 miles of pipe inspected, ~43 miles of pipe cleaned on 1,284 lines. Additionally 262 manholes repaired, 31 pipe patch repaires, 24 open trench repair	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.	During PY 26, fewer than usual inspections were conducted due to Covid-19. Staff completed 67 auto related business visits, of which 23 had mostly minor corrections to make and were brought back into compliance. 72 food related businesses were inspected by FOG staff, no stormwater violations were noted. PY 26 goals are 180 stormwater compliance reviews of Auto, Wellfield, or other Manufacturing/Industry, and Restaurants, presuming no future shut downs due to Covid-19. Staff conducted 19 visits to manufacturing and auto related businesses in the wellfield protection area, 15 of which were for the City of Fairview. None had stormwater concerns noted. Staff collaborated on improvements to the City's SwiftComply database template for inspections and business tracking. During PY 26, the City's main software system was upgraded to EnerGov which allows for digital submissions of plans and forms to be reviewed across departments. The merge from the previous database to the new database created some errors and duplicates and are still being QA/QC'd. Staff are waiting for a training on the new system which has been slowed due to Covid-19.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	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 is further investigating several new firms and will notify DEQ in fall 2021, as applicable. See **Table 3-10** for a list of 1200Z permits within the city and associated inspections or known violations from DEQ.	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 (now called GREEN) business program environmental audits and certification annually. (Reported in Public Education--**Table 3-8**).	During FY 2021-22, staff will meet with other departments to review and train on the intake and routing process for new businesses and their classifications to further aid the technical assistance efforts to new businesses. Staff will also examine new permit requirements with respect to stormwater management plan updates needed by fall 2022. PY 26 goals are 180 stormwater compliance reviews of Auto, Wellfield, or other Manufacturing/Industry, and Restaurants, presuming no future shut downs due to Covid-19. Staff will continue to collaborate with DEQ on 1200-Z inspections. Staff inspected 15 pretreatment program industries a total of 21 times and found no issues needing to be referred to stormwater.	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.	Based upon a review of city records and correspondence with DEQ, there are currently 19 permitted facilities within Gresham's jurisdiction. DEQ staff inspected Trimet's Operations at Ruby Junction and Shamrock Foods. DEQ found violations at Shamrock, but uncertainty over the private side system draining to stormwater or groundwater is currently being investigated. Due to Covid-19, Gresham staff inspected fewer sites this year than is typical and did not accompany DEQ. Staff inspected one 1200Z site for wellfield compliance and had no stormwater corrections. Staff coordinated with DEQ regarding an ON Semiconductor request for a No Exposure permit. 1200-Z Industries are listed in **Table 3-10.**	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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.	No significant changes were made to the Erosion Manual.	None
CON. 3 Construction Site Inspection & Enforcement						
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 management that result, if applicable.	A total of 348 erosion control inspections were completed. City staff complete a series of 3 erosion control inspections for projects. There were 35 disapproved inspections requiring corrections for deficiencies such as installing/maintaining perimeter control, providing adequate cover for denuded soil, protecting stockpiles, improving construction entrances, 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

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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: ACWA webinars, Center for Watershed Protection Conference, NASSCO certification training, Confined Space Entry, APWA-MUTDC traffic control, Vactor equipment use, safety, maintenance, new employee safety training, Transportation safety re: filling tanks, application rate testing, spill response protocols. OSHA Pesticide applicator training and inspection. Improvements to storage and mixing areas were made. Staff will wear mixing chaps from this point forward.	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 3-9**. Education priorities for programs implemented by the City of Gresham include a continued focus on reduction of yard and garden chemical use. This effort is conducted by partnering with Audubon and Columbia Land Trust to deliver the Backyard Habitat Certification Program in Gresham (and Fairview via IGA). Staff also support watershed councils within our boundaries and help conduct invasive removal, native plant restorations, demonstration gardens, litter clean ups, and storm drain marking by community groups. Gresham also funds the Columbia Slough "Slough School" program which serves schools in the Gresham/Fairview area. During fall 2020, staff mentored four BIPOC interns related to green career exposure and restoration work in the City. This is part of the City's "Pathways to Employment" in public service and staffs' commitment to diversity, equity, and inclusion by focusing on those historically excluded. Due to Covid-19, much of the programs and partner activities were curtailed in FY 20-21. However, staff collaborated with regional watershed councils who led a Facebook effort called "Together for Watersheds" where various partners took turns creating educational videos that were shared across organizations, including the Regional Coalition for Clean Rivers and Stream's social media and website that serves the Tri-County region and includes Gresham and Fairview as partners. See **Appendix C** for RCCRS Report.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
					Staff also sits on the Clean Rivers Coalition steering committee to develop a statewide water health campaign. During the past year, staff assisted with coordination of a statewide behavior change workshop for Phase I & II permittees as well as TMDL agencies, watershed council and SWCD staff. The workshop was funded by EPA. Staff also acted as project manager for research and development of water health campaign information for the LatinX community. All CRC products are free to Phase I and II communities and can be found at: https://cleanriverscoalition.com/	
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 3-9**. Due to Covid-19, disproportionate impacts to communities of color, staff focused time on assiting the LatinX grocers with information about green cleaners and EPA's "List N" ingredients shown to be effective against the covid virus, but also less harmful to human health regarding skin, eyes, and lungs. Further, products are safer for water health. We were uncertain as to whether businesses would participate in the SCAP program due to economic impacts, but the program was strong in FY 20-21.	None
Program Management & Monitoring						
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;	This year's Annual Report included a public comment period from October 14-27, 2021. Notices will run 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 emailed to the local active Watershed Councils and East Multnomah Soil and Water Conservation District.	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
				*a summary of total stormwater program expenditures and funding sources over the reporting fiscal year and those anticipated in the next fiscal year	A summary of the Environmental Monitoring Plan implementation for Gresham and Fairview is included as **Section 2** of this report that includes **Tables and Figures 2-1 thru 2-6** of maps & raw data collected during PY 26.	None
				*proposed changes to SWMP elements designed to reduce TMDL pollutants to the MEP;	A summary of the Illicit Discharge Detection & Elimination Program (Dry Weather Screening and Spill Response) may be found in **Tables 3-5 and Figure 3-6**. 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	2020-2021	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.	*a summary of total stormwater program expenditures and funding sources over the reporting fiscal year and those anticipated in the next fiscal year	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 included: *Ongoing entry of all stormwater system assets and privately owned facilities * GIS layers reviewed and updated to support Stormwater Master Plan project * Dry weather screening site location map and assistance with source tracing * Operations and Maintenance system inspection and cleaning route maps * UIC maps for WPCF permit reporting *Update of city annexation into boundaries and associated watershed maps *Stormdrain marking maps for volunteers	None

BMP Name	Compliance Date	BMP Description	Measurable Goals	Reporting Elements	2020-2021	Summary and Date of Any Proposed Adaptive Management Modifications
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 109,000 (U.S. Census Quick Facts 2019). The Oregonian daily readership in the Portland-Metro area is about 200,000, and Oregonlive.com receives 9M unique visitors annually. The City's Website Home Page was visited ~135,000 times. The City's DES and Water Resources Division web pages, where public comment documents are housed electronically, receives ~1,500 and ~750 views annually, respectively. City Newsletter mailed quarterly to 50,000 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's reissued permit became effective on Oct 1, 2021. The City plans to begin working during fall 2021 to fall 2022 on analysis and update of its Monitoring program and Stormwater Management Best Practices and include stakeholder feedback to optimize its program to prevent, reduce or eliminate stormwater pollutants and monitor its program elements to the maximum extent practicable. All documents are located at GreshamOregon.gov/water-resources-division/	None

Table 3-1: Total New and Redevelopment Acreage

Project Name	Land Use Type	Development Type	Location	WQ Treatment	Owner-ship*	Drainage	Project Size/Area Treated (acres)	Construction Disturbance (acres)	Percent Impervious
Ankeny SFR	Low Density Residential	Single Family Residential	21408 SE Ankeny St	Stormwater Planter & Rain Garden	Public and Private	Fairview Ck	0.22	0.34	64%
Bartels Partition	Residential	Single Family Residential	2051 SE 176th Ave	Stormwater Planter & Drywells	Public and Private	Fairview Ck	0.23	0.65	36%
Baseline Apartments	Corridor Multi-family	Multi-family residential	20711 SE Stark St	Ecoroofs & Vegetated Swales	Private	Fairview Ck	3.78	5.69	66%
Brookside Phase 4, 5 & 190th	Low, Medium, and High Density Residential	Residential	7400 SE 190th Dr	Stormwater Planters & Detention Pond	Public	Johnson Ck	18.2	33.0	55%
Chick-Fil-A	Community Commercial	Commercial	2506 SE Burnside Rd	Vegetated Swale & Stormwater Filters	Private	Kelly Ck	1.15	1.66	69%
Civic Station Apartments	Civic Neighbor-hood Transit High Density	High density residential & commercial uses	1493 NW Civic Dr	Rain Gardens & Drywells	Private	Fairview Ck	5.62	7.40	76%
Hood Apartments	Moderate Density Residential	Multi-family residential	540 SE Hogan Ave	Stormwater Planters & Vegetated Swales	Public and Private	Johnson Ck	1.68	2.74	61%
Imperial Cabinets	General Industrial	Industrial	4800 NE 185th Ave	StormTech Infiltrators & StormTech Filters	Private	Columbia Slough	4.63	6.77	68%
MNOP Cardlock Fueling Center	Moderate Commercial	Commercial	150 NE Hogan Rd	Vegetated Swale	Private	Kelly Ck	0.91	1.02	89%
My Place Hotel	Moderate Commercial	Commercial	2384 NE 178th Ave	Vegetated Swale	Private	Columbia Slough	0.80	1.19	67%
Prasada Care Facility	Corridor Multi-family	Multi-family residential	19751 SE Stark St	Vegetated Swales & Drywells	Private	Fairview Ck	0.65	0.88	74%
Robbins Terrace Subdivision	Low Density Residential	Single Family Residential	1300 SW 21st Terrace	Stormwater Filter Vault & Vegetated Swale	Public and Private	Johnson Ck	2.00	2.80	71%
Sandy Lot 3	General Industrial	Industrial	19379 NE Sandy Blvd	Columbia Slough Regional Stormwater Facility	Public	Columbia Slough	4.28	5.48	78%
Silver View Subdivision	Residential	Single Family Residential	1728 SW Pleasant View Dr	Stormwater Planters	Public	Johnson Ck	0.97	1.81	54%
Welch Acres Subdivision	Transition Residential	Residential	SE Orient Dr & SE Welch Rd	Detention Pond	Public	Kelly Ck	3.97	5.88	68%
Total Disturbed Acreage								**77**	

*Public ownership is City of Gresham only, Private refers to all projects owned by entities other than City of Gresham.

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 The City's Capital Projects Plan for Stormwater is located at: https://greshamoregon.gov/Capital-Improvement-Program/				
McKinley Trunk Line Project	Kelley Creek	Construction was completed in Fall 2019. Site is in its 2nd year (of 5 year plan) of vegetation restoration that includes wetland restoration, streamside riparian buffer shade enhancement, and forest revegetation.	Reduces possibility of overflow discharge of sewage to Jenne Creek headwater wetland and associated stream.	Wastewater CIP
Kane Road Culvert Repair	Kelly Creek	Construction was completed in Fall 2018. Site is in its 3rd year (of 5 year plan) of vegetation restoration targeting stream side shading of the riparian buffer.	Replaced road and 12' wide non-fish passable culvert with a 34' wide fish passable culvert and natural stream bed. Introduced treatment to .86 acres of previously untreated arterial roadway surface.	Watershed CIP fund and FHWA emergency grant
Palmquist Road Culvert Repair	Burlingame Creek	Construction was completed in Fall 2020. Site is in its 1st year (of 5 year plan) of vegetation restoration targeting stream side shading of the riparian buffer.	Replaced road and 4' wide non-fish passable culvert with a 12' wide fish passable culvert and natural stream bed and stormwater facility. Introduced treatment to .35 acres of previously untreated arterial roadway surface.	Watershed CIP fund and FHWA emergency grant
Mt. Hood Community College Salmon Safe Campus	Kelly Creek	Designed and bid. Construction of rain gardens to be completed during the next reporting year. Additional projects have been identified to pursue over a five-year period.	During FY 20-21, Gresham continued to partner with the Sandy River Watershed Council and EMSWCD on designing and funding construction of stormwater retrofit projects on the MHCC campus. Gresham staff designed, developed technical drawings, bid documents and provided technical support for a stormwater facility to treat parking lot Q near the sports center. About 32,000 sf of existing parking lot and driveways is now treated by 5,500 sf of landscape area that was converted to a stormwater facility. In addition to technical staff support, Gresham provided $75,000 towards construction and planting, as well as project oversight and outreach provided by SRWC.	Watershed Operating Fund
Wetland Restoration	Burlingame Creek	Restoration of a 2 acre wetland/stormwater detention facility. Work includes the removal of invasives and replanting of native plants to enhance the wetland and amphibian population.	The City partnered with Wetland Conservancy who received a EMSWCD grant and matching funds from the City to improve water quality and habitat function by the reduction of invasive plants and installation of native plants.	Natural Resource matching funds to the Wetland Conservancy EMSWCD grant
Riparian and Upland planting	Fairview Creek, Johnson Creek, Kelly Creek, Butler Creek.	Restoration is occurring along Johnson Creek main stem (5 sites), Jenne Creek (1 site), Kelly Creek (1 site), Butler Creek (1 site), and Fairview Creek (2 sites). Each of these sites are under active management for invasive species control and vegetation enhancement. A subset of these sites will be selected for additional native plantings including Johnson Creek (5 sites), Jenne Creek (1 site), and Kelly Creek (2 sites).	Water quality, stream shade, invasive control, forest health, stream function, wetland function, and habitat improvements.	Natural Resources Operating Funds

Forest Restoration	Johnson Creek Basin	Restoration using the City Tree Fund to facility forest stand succession the City planted 4 sites on Gresham Butte over 80 acres with a total of 12,000 trees.	Help out headwater stream conditions and butte slope stability.	Tree Fund generated by City approved Development.
Invasive Weed Survey & Control	All	Active, ongoing invasive control. EDRR weeds are addressed as they are reported, anywhere in the city. Routine riparian weed treatment areas are detailed in Table 3.3. Where manual methods aren't used, only licensed herbicide applicators are used for chemical treatment.	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	Project Design update being done as part of the 2021 Natural Resources Master Plan update	Water quality, stream function, wetland function, and habitat improvements.	Watershed CIP
Environmental Overlay Project (ongoing)	All	In partnership with Planning and Development Engineering, completed buffer code update to simplify and clarify code requirements, improve mitigation standards, and update floodplain rules to enhance compliance and improve performance over existing code which has been found to be extremely complex in interpreting and applying. Was reviewed by DLCD and Metro to ensure compliance with Goal 5 & 7 and Metro Title 3 and 13, and involved comprehensive public outreach and update of City's Comprehensive Plan. City Council approval December 2020. Code and improved resource maps were effective as of January 2021.	Water quality, tree preservation, stream shade, bank stabilization, and erosion control	Natural Resources CIP funding and Urban Design and Planning funding
Slope stabilization projects	1st and 2nd order streams on east buttes	Working with environmental engineers, geomorphologists and modelers to identify and rank at-risk drainages where we have most significant signs of likely bank instability. This will result in new CIP project where we will address proactively (ideally, prior to failure) the prioritized list of bank stabilization needs. Field work and reporting completed by end of reporting year. Resulting stream improvement and associated stormwater detention needs have been scoped into new set of CIP projects that will be approved as part of the 2021 Natural Resources Master Plan update, to be approved by City Council by December 2021. One project within this Butte Drainage Projects CIP is Nechacokee stabilization (2nd order stream; Johnson Creek tributary). Design and permitting was completed in 2021 and will be implemented in Summer 2022, followed by 5 years of maintenance and planting	Water quality, riparian function erosion control	Watershed CIP funding for Butte Drainage Study and Risk Assessment. Wastewater CIP funding for Nechacokee stabilization
Local Roads Repair	All	The Transportation Division has embarked upon a deferred street maintenance repair project that will last several years. In response planning, utilities are collaborating to ensure pipes are inspected and repaired, if needed, prior to repaving work. Stormwater repairs include 1020 LF of pipe and 22 replaced catch basins, as well as 3,900 LF of Cured in Place Pipe.	Priority is given to repairs having the highest likelihood of failure on a ten year projection based on NASSCO PACP standards. No illicit connections were found.	Stormwater CIP funding

Table 3-3: Restoration Activities

Project Site	Creek Name	NR Master Plan Project	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Linear Stream (feet)	Plants Installed	Notes
Willamette River Basin									
SW 14th/Gresham Woods Site	Johnson Creek	NRMP - JC04	Private Contractor, JCWC volunteers	45	15.0	2.0	1225.0	500	SW 14th site (south bank of Johnson Creek) - Fifth year of restoration at this location. Invasive weed control this past year within 100 feet of Johnson Creek was completed by the City for Yellow-flag iris, reed canary grass, lesser celandine, Himalayan blackberry, and Japanese knotweed. Gresham Woods - 10 acre stand enhancement of previously planted forested areas to improve plant spacing and growth. Treated all 10 acres of stand enhancement for invasive weeds, including holly, reed canary grass, and Himalayan blackberry. JCWC Trash Clean-up Event - 15 volunteers picked up garbage within the Gresham Woods area. Picked up 20 bags of garbage and other refuse in the 24 total acres.
SW 14th Street East (Johnson Creek)	Johnson Creek	NRMP - JC04	JCWC	0	2.0	2.0	415.0	500	JCWC in partnership with City of Gresham continued the previous work of FOTs on this site. They used a grant from EMSWCD and a City match to complete the work on the site (Year 3 of 3). Planting of the site was completed on 1.0 acres in winter 2020. Intensive weed management focused on reed canary grass, Himalayan blackberry, and yellow-flag iris.
Ochioto Site	Johnson Creek	CIP 913900; NRMP - JC14/15	Private Contractor	0	12.5	2.5	1720.0	2,450	Multiple sites within the area are under active restoration over different periods of time (1-10 years of restoration activities). A total of 3 sites were planted with a mix of shrubs and trees and live stakes. Site was planted in winter 2021. Intensive weed removal via hand pulling and spraying occurred throughout the project site with a focus on jewel weed, Himalayan blackberry, reed canary grass, Japanese knotweed, garlic mustard, and other weedy species. All work completed by contractors.
Wisteria Site at Dowsett Lane	Johnson Creek	CIP 913400; NRMP JC12/13	Private Contractor	0	1.2	1.2	370.0	450	Fourth year restoration site along Johnson Creek. Site was previously a wisteria and Himalayan blackberry monoculture. Planted winter 2021 with replacement plantings. Intensive weed treatment included wisteria, Himalayan blackberry, English ivy, holly, and reed canary grass. All work completed by contractors.
7th Street Bridge Site	Johnson Creek	CIP 913200; NRMP JC08/JC09	Private Contractor, JCWC volunteers	36	6.0	4.0	1475.0	3,950	Third year restoration site along Johnson Creek. Site is a monoculture of blackberry. Expanded area into three separate restoration sites under different years of planting. Planted multiples areas within site in winter 2021. Site was planted with a mixture of bare root trees/shrubs and live staking's along the bank of Johnson Creek and floodplain. Site was used for Watershed Wide with JCWC and other citizen events. Volunteers helped weed and plant the site. Private contractor helped plant the site and provide pesticide application for invasive weeds.

Project Site	Creek Name	NR Master Plan Project	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Linear Stream (feet)	Plants Installed	Notes
Main City Park Site	Johnson Creek	CIP 9JC009; NRMP JC09	Private Contractors, JCWC Volunteers, and Play, Grow, Learn Volunteers	100	3.0	3.0	1155.0	2,400	Second year restoration site along Johnson Creek at Main City Park. Site had reed canary grass monoculture and a lack of tree and shrubs in the riparian area. Planted winter 2021 with bare root shrubs/trees, live stakes of willow, and wetland herbaceous plants. Site was used for Watershed Wide with JCWC. They helped plant wetland plants. Play, Grow, Learn helped mulch the plants for better survival this summer. Private contractor helped plant the site and provide pesticide application for invasive weeds.
Miller Creek Site	Miller Creek (Tributary to Johnson Creek)	NRMP - MIL01	Private Contractor	0	5.0	5.0	1005.0	1,100	Miller Creek restoration begun in fall 2018 and was planted in winter 2021. Plantings in 2021 consisted of evergreen trees. Invasive weed treatments focused on Himalayan blackberry, ivy, and reed canary grass. Site in good shape but required underplanting of conifers in the riparian area and illegal clear cut area. funding consisted of tree fund and general operation budget.
McKinley Trunk Project Site; Jenne Creek headwaters	Jenne Creek (Tributary to Kelley Creek)	CIP PVJE01; NRMP - JE01	Private Contractor	0	12.0	4.0	1170.0	3,050	Two different site restoration. Greater Jenne Creek headwater under active weed management after 5 years of planting activities. Site underwent infrastructure development in 2019-2020 with a wastewater pipeline being installed within the area. In second year of 5 year restoration plan. Planted in Winter 2021 with replacement plants. Site planting and herbicide treatments done by a contractor.
Brookside Development Site	Kelley Creek (Tributary of Johnson Creek)	CIP KCHKE07; NRMP - KE07	Private contractor	0	4.0	4.0	1150.0	850	This is the fourth year of work at this location, which includes invasive removal a through hand pulling and spraying and native plantings. Weed treatment focuses on Canada thistle, scotch broom, Himalayan blackberry, and other weedy species. Native plantings included a mix of shrubs and trees. Site herbicide treatments and plantings completed by a contractor.
Jenne Butte (Johnson Creek)	Johnson Creek	NRMP - JC01	Private contractor	0	31.0	0.0	0.0	0	Control of garlic mustard on Jenne Butte.
Gresham Butte	Non-named ephemeral Drainages/ Chastain Creek (Tributaries to Johnson Creek)	NRMP - CH05, CH03, GB-01	Private contractor	0	64.0	64.0	1635.0	3,500	Using funds provided by the City tree fund a large scale understory planting and invasive species control project starting in winter 2020. A total of 4 sites over 64 acres were planted. Site was planted with a mixture of evergreen species where recruitment of these species is low in predominantly deciduous forest. private contractor completed the planting work.
Hogan Butte Nature Park	Johnson Creek	NRMP - HO05, WFHO02	Private contractor	0	8.0	1.5	0.0	225	This nature park was completed in 2017. Restoration activities included invasive species removal via hand pulling and spraying. Invasive species include Himalayan blackberry, holly, reed canary grass, thistle, teasel, tree saplings and other species. Planted various locations on the butte with Pacific Madrone and Pacific yew. Spraying of the site provided by a private contractor.

Project Site	Creek Name	NR Master Plan Project	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Linear Stream (feet)	Plants Installed	Notes
Columbia Slough Water Quality Facility	Columbia Slough	NRMP - CS08	Private contractor	0	17.0	0.0	155.0	0	Site maintenance is ongoing on invasive weeds. Invasive weed control in facility will help water quality treatment and overall site conditions.
Columbia Slough Wastewater Parcel	Columbia Slough	NRMP - CS06	Private contractor, PGE volunteers	20	17.0	1.0	1090.0	200	Site maintenance is ongoing on invasive weeds to reduce mowing requirements. Site planted with 200 live stakes within 25 feet of Columbia Slough channel by PGE interns/volunteers.
Fairview Creek Water quality Facility	Fairview Creek	NRMP - FC05	Private contractor	0	9.0	0.0	0.0	0	Site maintenance is ongoing on invasive weeds. Invasive weed control in facility will help water quality treatment and overall site conditions.
Fairview Creek Wetland Mitigation on Birdsdale/202nd	Fairview Creek	NRMP - FC05	Private Contractor	0	8.5	0.0	1470.0	0	Site maintenance of invasive weeds on a compensatory wetland mitigation site. Species sprayed for include reed canary grass, Himalayan blackberry, Japanese knotweed, ivy, thistle species, teasel, and poison hemlock.
Fairview Creek Headwater Wetlands	Fairview Creek	CIP 9FC006; NRMP FC06	Private Contractor	0	4.0	1.5	735.0	1,200	Ongoing restoration site for reed canary grass control and restoration of headwater wetlands. Restoration has been going for 10 years. Site work consists of spreading mulch and live staking (1200 willow/dogwood/black cottonwood) through it to reduce reed canary grass growth. Herbicide applied in small areas to control reed canary grass and Himalayan blackberry.
Sandy River Basin									
Salquist Estates Sites	Kelly Creek	NRMP - KC15	Private contractor	0	2.1	2.1	865.0	1,400	General restoration site on Kelly Creek. Site is in its second year of restoration. Site was planted with shrubs and trees and live stakes. Invasive weeds included reed canary grass, Himalayan blackberry, holly and English ivy. Site planting and herbicide treatment completed by contractor.
Kane Road Site	Kelly Creek	NRMP - KC01	Private contractor	0	1.5	1.5	640.0	900	Restoration activity at this location resulted from a CIP transportation/stormwater project to completed the repair & restoration from an emergency road washout in 2015. Site is in its 3rd year of restoration. Site was planted with shrubs and trees and live stakes. Invasive weeds included reed canary grass, Himalayan blackberry, English ivy, and Scotch broom. Site planting and herbicide treatment completed by contractor.
Palmquist Culvert Site			Private contractor	0	1.0	1.0	685.0	900	Restoration activity at this location resulted from a CIP transportation/stormwater project to replace existing culvert in 2020. Site is in its 1st year of restoration. Site was planted with shrubs and trees and live stakes. Invasive weeds included reed canary grass, Himalayan blackberry, English ivy, and Scotch broom. Site planting and herbicide treatment completed by contractor.

Project Site	Creek Name	NR Master Plan Project	Project Partners	Volunteer Hours	Invasive Removal Acreage	Planting Acreage	Linear Stream (feet)	Plants Installed	Notes
Kelly Creek Water Quality Facility	Kelly Creek	NRMP - KC12	Private contractor	0	9.0	0.0	850.0	0	Site maintenance is ongoing on invasive weeds. Invasive weed control in facility will help water quality treatment and overall site conditions.
Meadowlands Wetland Preserve	Burlingame Creek		Wetland Conservancy, Wisdom of the Elders, Private contractor	140	2.0	2.0	0.0	1,100	Site done in partnership with Wetland Conservancy to restore wetland area. Wetland Conservancy received EMSWCD grant funds to do education, weed control, and planting on site. City provided matching funds. Second year of restoration at this location. Site planted winter 2021 with a mixture of upland and wetland plants. Intensive invasive weed removal and spraying this past year was completed by the City for reed canary grass and Himalayan blackberry.
Total				**341**	**235**	**102**	**17,810**	**24,675**	

CSWC =	Columbia Slough Watershed Council		
FOT =	Friends of Trees	STHS =	Springwater Trail High School
GHS =	Gresham High School	NYC =	Northwest Youth Corps
JCWC =	Johnson Creek Watershed Council	RLA =	Reynolds Learning Academy
AC =	AmeriCorps		

**All spraying was completed by a hired (licensed) City contractor and not included in volunteer hours.

Table 3-4 City of Gresham Pesticide/Fertilizer Applications		
Department	**Product Utilized**	**Quantity**
Facilities Maintenance		
	Ranger Pro (isopropylamine salt of glyphosate)	213.5 oz.
	Spray-Rite (water safe adjuvant)	22 oz.
	Snapshot (isoxaben, trifluralin)	65 lbs.
	Scythe (Pelargonic acid, parafinnic petroleum oil)	21 oz.
	Speedzone (2,4-D, Dicamba, MCPP)	16 oz.
	EcoMight W.O.W (Whack Out Weeds) marketed as organic, but found by CA Dept of Pesticide Reg to contain glyphosate, bifenthrin, permethrin and others) label: peppermint oil, potassium sorbate, sodium chloride, soap, potassium benzoate	928 oz.
	Pronto (glyphosate, imazapyr, trade secret)	30 oz.
	spray-wet	4 oz.
	Atrimmec plant growth regulator (dikegulac-sodium, trade secret)	120 oz.
	SP Ecogreen fertilizer	100 lbs
Transportation	Esplanade EZ (indaziflam, diquat dibromide, glyphosate isopropylamine salt)	106 oz.
	SureGuard (flumioxazin)	128 oz.
Wastewater	none	NA
Watershed	Rodeo (isopropylamine salt of glyphosate)	52 oz.
	Vastlan (triclopyr choline salt)	9.5 oz.
	Garlon 3A (triclopyr)	165 oz.
Natural Resource Program	Vastlan (triclopyr choline salt)	7,827 oz.
	Imitator (aquatic)	112 oz.
	Rodeo (isopropylamine salt of glyphosate)	1324 oz.
	Milestone VM Plus (Triclopyr)	24 oz.
	Garlon 3A (triclopyr)	724 oz.
Water	Roundup pro (isopropylamine salt of glyphosate and proprietary surfactant blend)	324 oz.
	Crossbow (2,4-D/Triclopyr, Kerosene)	76 oz.
	SureGuard (flumioxazin) & Roundup (glyphosate)	39 oz.
Parks	Roundup pro (isopropylamine salt of glyphosate and proprietary surfactant blend), Roundup Powermax (potassium salt of glyphosate, alcohols C 12-16-alkyl ethers, propoxylated, aminated, ethoxylated)	406 oz.
	Crossbow (2,4-D/Triclopyr, Kerosene)	200 oz.
	Signature Weed and Feed (2,4-D, Mecoprop-P, Dicamba, Fertilizer)	1,550 lbs.
	Casoron 4G (dichlobenil, kaolin, aluminum, magnesium, calcium, titanium oxides, quartz)	197 lbs.
	Garlon 3A (triclopyr)	14 oz.
	liquid totals	**100.28 gallons**
		(wo adjuvants or dye)
	dry totals	**1,912 lbs**

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

Basin	Site Code	Date	Flow	Odor	Color	Clarity	Float-ables	Deposits/ Stains	Veg Cond	Structural Cond	Biolo-gical	Last Rain	DO (mg/L)	pH	Temp (*C)	Conduc-tivity (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**	
Columbia Slough	2748-W-009	7/31/2020	No																	
Columbia Slough	2749-W-646	7/31/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	None	> 1 week	7.02	7.74	18.4	145.4	1.16	0	0	
Columbia Slough	2750-W-066	7/31/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	None	> 1 week	7.18	8.25	17.8	266.9	2.23	0	0	
Columbia Slough	3250-F-004	7/17/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	None	> 1 week	8.75	8.95	18	175.3	96	0.2	0.25	Results are similar to previous years where investigations demonstrated lawn watering and iron bacteria
Columbia Slough	3250-F-004	7/31/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	None	> 1 week	7.33	7.74	19	355.9	6.46	0	0	Investigated drainage area and did not find any illicit discharges
Johnson Creek	3353-J-601	7/16/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	Iron Bacter	> 1 week	9.86	7.45	16.8	176.1	4.32	0	0	
Johnson Creek	3451-J-685	7/17/2020	Yes	Musty	Orange	Moderate	Foam	None	Normal	Normal	Iron Bacter	> 1 week	10.54	7.31	15.4	176.9	108	0	0.25	Results are similar to previous years; likely leakage from old landfill
Johnson Creek	3453-J-621	7/16/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	Iron Bacter	> 1 week	8.58	7.28	19.8	311.3	13.1	0	0.25	Results are similar to previous years; likely leakage from old landfill
Johnson Creek	3453-J-698	7/16/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	None	> 1 week	9.9	7.38	19.5	124.3	17.3	0	0	Results are similar to previous years; likely leakage from old landfill
Columbia Slough	2952-F-607	7/16/2020	No																	
Kelly Creek	3255-K-609	7/16/2020	No																	
Kelly Creek	3255-K-622	7/17/2020	Yes	None	Clear	Pine needles an	None	None	Normal	Normal	None	> 1 week	8.08	7.4	18.2	198.3	96.1	0.4	0	Had to scrape sample from the bottom and stirred up some sediment; resampled and investigated - likely lawn watering
Kelly Creek	3256-K-641	7/16/2020	No																	
Johnson Creek	3452-J-613	7/17/2020	No																	
Johnson Creek	3452-J-643	7/17/2020	No																	
Johnson Creek	3452-J-688	7/17/2020	No																	
Johnson Creek	3550-J-604	7/17/2020	No																	
Johnson Creek	3550-J-614	7/17/2020	No																	
Johnson Creek	3554-J-603	7/17/2020	No																	
Kelly Creek	3556-K-604	7/16/2020	No																	
Johnson Creek	3650-J-604	7/17/2020	Yes	None	Clear	Clear	None	Dirt	Normal	Normal	None	> 1 week	8.92	7	20	194.2	10.8	0	0	
Johnson Creek	3650-J-606	7/17/2020	No																	
Johnson Creek	3650-J-608	7/17/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	None	> 1 week	8.62	7.29	17.4	133.4	2.34	0	0	
Johnson Creek	3654-J-630	7/16/2020	No																	
Johnson Creek	3655-J-654	7/16/2020	No																	
Kelly Creek	3656-K-607	7/16/2020	No																	
Kelly Creek	3657-K-604	7/16/2020	Yes	None	Clear	Clear	None	None	Normal	Normal	None	> 1 week	9.43	6.92	18.8	167	24.7	0	0	Investigated drainage area and did not observe any illicit discharges; likely from scaping the bottom
Kelly Creek	3657-K-751	7/16/2020	Yes	None	Clear	Clear	None	Clay/soil	Normal	Normal	None	> 1 week	9.21	6.48	18	156.6	5.55	0	0	Investigated drainage area and did not find any illicit discharges
Johnson Creek	3752-J-601	7/16/2020	No																	
Johnson Creek	3752-J-602	7/16/2020	No																	
Johnson Creek	3752-J-605	7/16/2020	No																	

Key: Shaded cells are above the action level and staff conducts additional upstream investigation.

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.

Figure 3-6 Dry Weather Screening Monitoring Site Locations

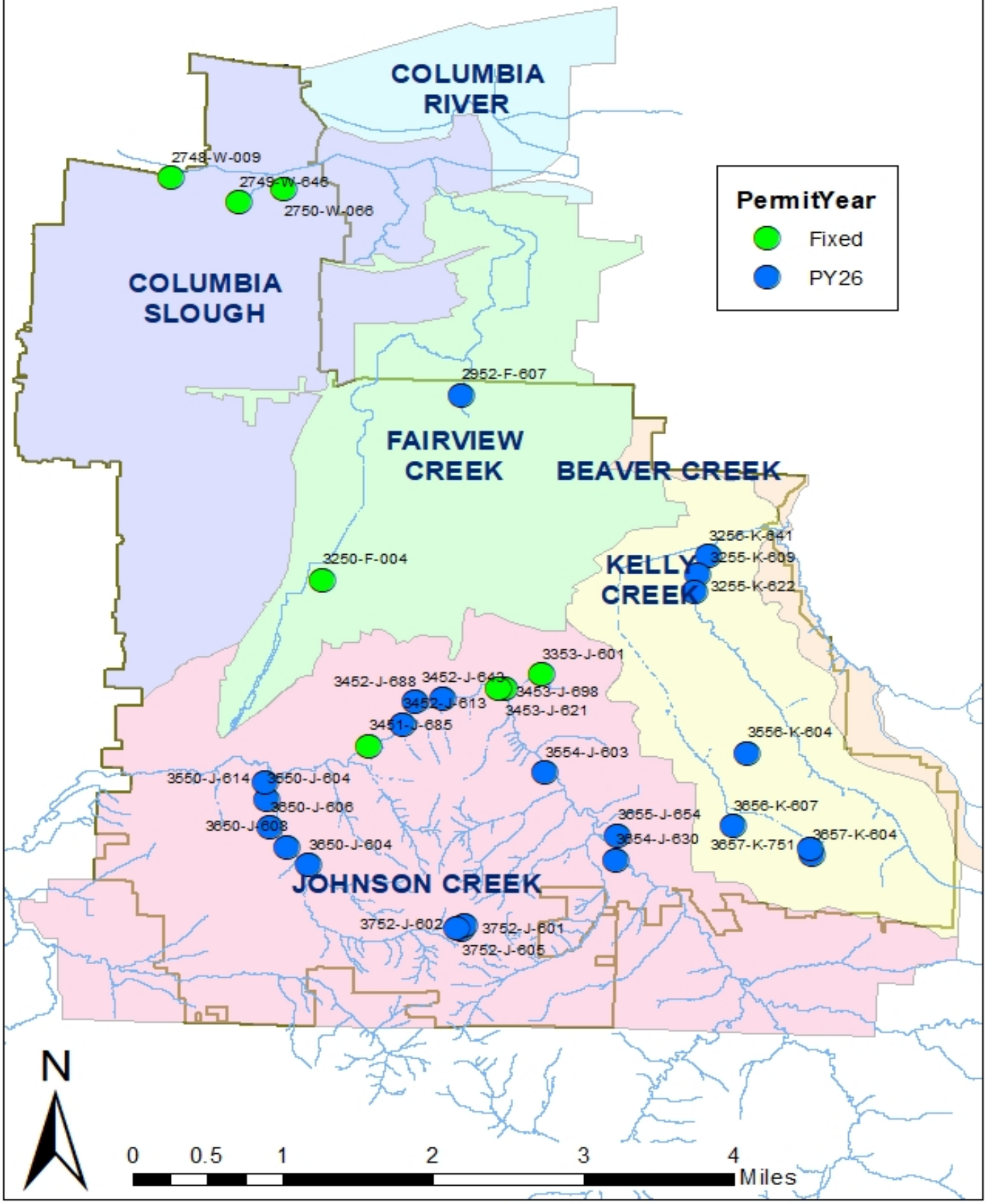


Table 3-7: Spill and Illicit Discharge Response					
Category	**Type**	**Watershed**	**Issue**	**Resolution**	**Outreach**
Misc. / Unknown	Unknown	Johnson Creek	Portland spill response passed along a report of hazardous chemicals being dumped into a wetland at Lumina Apts. Staff responded but was unable to find anything or contact the reporting party.	No spill found.	NA
Auto fluids	Unknown	Columbia Slough	Trans Ops responded to a report of fluid in travel lane. Less than 1/2 gallon found, absorbent placed. No apparent RP, no impact to storm system, no further action needed.	Substance identified as auto fluid. Cleanup completed.	NA
Hydraulic Fluid	Vehicle	Johnson Creek	US Ecology (Waste Mgmt. contractor) reported a hydraulic leak from a garbage truck. The leak was several days old but they inquired about cleanup procedures.	RP pressure washed and vactored the wash water for proper disposal.	Outreach to haulers was conducted by Solid Waste staff to remind them of spill reporting and clean up procedures.
Carpet cleaner	Business	Kelly Creek	Resident contacted DEQ to report Pacific Steam carpet cleaning van discharging wastewater to a storm drain on the side of the road. DEQ referred to the City. After an investigation by staff the City issued a civil penalty.	Civil penalty issued in the amount of $750, but was reduced to $375 because there were no photos and the defendant professed it was clean water that the investigation contradicted.	Staff contacted the firm and offered to waive the civil penalty if they would create a company procedure in writing and train staff, but they declined.
Paint	Residential	Johnson Creek	Received report of white substance entering Johnson Creek near SE 252nd & Telford. City staff identified a CB in front of 2894 SE Hale Way, where paint and drywall work was being done, as the source. A person leaving the residence told a City employee that someone in the house was responsible for dumping paint into the CB. City place booms and cleaned CB and downstream manhole.	Cleanup completed, Notice of Violation issued.	Staff discussed the issue with the RP who apologized and committed to proper disposal practices in the future.
Auto fluids	Vehicle	Kelly Creek	Staff responded to a report of an apparently abandoned vehicle leaking fluid into a catch basin. Booms and a CB insert were placed, the street was cleaned with absorbent, and the vehicle was towed.	Stormwater staff cleaned the CB and verified that the pipes and creek were not affected.	NA
Misc. / Unknown	Residential	Kelly Creek	Neighbor reported a foul-smelling discharge from a curb weephole. Tests found no indication of sewage. Source was unknown substances in a crawl space, exacerbated by a sump pump that stopped working. Homeowner agreed to mitigate.	Homeowner repaired.	NA
Hydraulic Fluid	Vehicle	Fairview Creek	Arrow Sanitary self-reported a hydraulic leak that released less than one gallon of fluid to a catch basin that drains to a UIC. Arrow had River City conduct cleanup within the hour.	Cleanup conducted by River City. No further action needed.	NA
Auto fluids	Vehicle	Fairview Creek	Diesel spill reported to the City. Staff cleaned up with absorbent, checked CB and stream. No evidence of contamination found.	Cleanup completed. Code contacted the property owner. No further action needed.	NA

Hydraulic Fluid	Business	Columbia Slough	Resident reported oil sheen on the street near their home, possibly a result of utility work in the area. Public Works inspectors contacted Quanta Telecom and the resident. Fluids were cleaned up with spill kit.	Utility cleaned up. No further action needed.	NA
Auto fluids	Vehicle	Kelly Creek	Resident reported abandoned vehicle leaking fluids. Owner removed the vehicles, Ops staff cleaned up oil with absorbent material, placed pads and booms, and confirmed stormwater basin, pipe, and outfall not affected.	Cleaned up by City staff. No further action needed.	NA
Auto fluids	Unknown	Johnson Creek	City received a report of oil in the street, possibly from a garbage truck. Ops staff cleaned up the spill and checked stormwater structures. Oil did not enter storm drains. No further cleanup needed.	Staff asked Waste Management to inspect their truck. Cleanup complete.	NA
Auto fluids	Vehicle	Johnson Creek	Neighbor reported oil in the street from a vehicle being worked on. Staff protected CBs and verified the public system was not impacted.	Notice to correct sent to RP. Follow-up inspection found no threat to stormwater; no further action at this time.	NA
Hydraulic Fluid	Vehicle	Johnson Creek	Stormwater staff noticed what appeared to be hydraulic fluid leaked on the street being spread by rain. They placed spill containment and cleaned up with absorbent.	Staff was not able to identify RP, but asked COG inspectors to remind contractors working in the area to check equipment for leaks.	NA
Oil spill	Unknown	Columbia Slough	OERS received a report of oil in Columbia Slough. Staff investigated and found a small container of what appeared to be oil in the slough. Follow-up on 5/4/21 found an oil sheen and identified the source as a private CB at Southshore Corporate Park. Private and public stormwater structures were affected.	NRC completed cleanup and the property owner was billed.	NA
Misc. / Unknown	Business	Fairview Creek	Vehicle struck a PGE pole, resulting in a small leak of mineral oil from the transformer. PGE cleaned the affected CB and UIC.	City staff confirmed cleanup. No further action needed.	NA
Auto fluids	Vehicle	Kelly Creek	Code compliance reported heavy oil staining, apparently from abandoned vehicles.	City staff placed absorbent booms in downstream catch basins as a precaution. No further action needed.	NA
Sediment	Business	Johnson Creek	The City received a report of turbidity in Johnson Creek at Main City Park and traced the source to a weephole at an unoccupied building where contractors were working. Construction sediment was being pumped into the public system by a sump placed in the basement to remove groundwater. Contractors were instructed to stop work and isolate construction dirt and Ops staff cleaned the affected pipes and manholes. City staff also responded to this location about eight years ago when laundry discharge was being drained to the basement sump.	City required property owner to install a permanent cover over the sumped area to prevent recurrence of this issue. Complete	NA

Table 3-8: Citizen Complaints*	
Issue and Resolution	
MyGresham App	An application that allows for phone, computer, or voice recorded complaints or concerns to come into the city and be tracked by topic. During 19-20 over 6,028 inquiries and follow ups were in the system. 36 were assigned as water, stormwater, sewer and drainage problems and 24 were followed up and resolved by stormwater or wastewater staff. These issues range from potential illegal dumping or spills, to minor home flooding, neighbor to neighbor drainage, street manhole lids ajar, etc. Other complaints addressed that protect stormwater include piling debris in the right of way, and various improper outdoor storage or garbage/refuse stockpiling.
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. 3 applications were processed in PY 26.
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	Staff assisted on 5 minor drainage issues. Three were investigated and resolved with private parties. Two were investigated and handled by Transportation via road maitenance and repairs.

*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 3-9 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	59 Gresham and 10 Fairview residences were given technical assistance. 7 sites in Gresham and 2 sites in FV were newly certified. 2 sites in Gresham were recertified. 4 birdhouse incentives for enrollment were redeemed.	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.
Presentations	All	90+ youth/teachers/adults	EcoCareers presentation with Portland Workforce Alliance Earth Day webinar "Wildlife Friendly Backyard & Raising Mason Bees" Play Grow Learn Youth "Birding 101" Play Grow Learn Youth "Propagating Live Stakes" Play Grow Learn Youth "Controlling Ivy, Holly, Blackberry" VOZ LatinX learners "Healthy Lawn Practices without Chemicals", "Pesticide Safety", Controlling Ivy, Holly, Blackberry" JCWC English y Spanish Nature walk virtual tour "El Portal al Boring Campo de Lava!"
JCWC E-bulletin, monthly	Johnson	JCWC e-list to over 700 Gresham contacts; list goes to over 6,000	Backyard Habitat Certification Program
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.
Johnson Creek Watershed Council Collaboration	Johnson	31 volunteers for Watershed Wide Event 30 volunteers at main city and 7th St. clean up/mulching events	Assisted city with 1.65 acres, 600 linear feet managed, 450 native trees and 2100 shrubs planted. Noxious species removed from about 20,000 sq. ft.

Table 3-9 Examples of Water Quality Education Efforts*

Program/Event and Partners	Watershed of Focus	Number of Contacts	Educational Focus
JCWC wildlife surveys	Johnson	40 volunteers were trained to survey for Salmon	salmon redds and lampreys were observed
Regional Coalition for Clean Rivers and Streams Metro area water health campaign	All	Winners of the 2019 contest were honored in the fall 2020 Hollywood Theatre Ecofilm fest seen by hundreds of viewers and was featured in KPTV social media that reached 26,000 people. The 2020 video contest entries were suppressed likely due to homeschool stress and apathy from Covid-19. Five awards were given, the videos were viewed 1500+ times. Facebook 1,600 followers	This work is primarily digital advertising that promotes the work of local watershed councils and community volunteer events as well as tips and news articles that inform the public about actions they can take to reduce pollution. The group is also beginning to look at the lens of the intersectionality of racial, social and environmental issues and the disproportionate impacts to historically marginalized populations.
City of Gresham and Regional partners with KPTV--"It's Our Water" campaign	All	Clean Water Partners Campaign: https://www.kptv.com/water/ Page was visited ~4,000 times Banner ads were clicked ~3,000 times 12 months of residential water protection messages that aired 857 times and resulted in 16 M adult 35+ impressions Facebook video views ~8,200 Total impressions from all TV, social media and website: 19.2 M	PSA topics: Car washing, lawn care without chemicals, clearing stormdrains and proper leaf disposal, sweep sidewalks and driveways, lawn care/watering Social Media topics: deicing safely, dog waste scooping, spring lawn care, aggressive weed control, slow release fertilizer, planting trees

Table 3-9 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: ~1220 monthly City news (print): 50,000 X quarterly Facebook: ~10,400 fans Instagram: ~2,143 Twitter: ~2,500 MyGresham: ~2,000 GoCart:~ 1000 (cancelled for PY 25) Entire city website: ~420,000 annually Web Watershed page: ~ 1,000 annually Utility bill stuffer 22,000 print Y.O.U. digital utility bill ~13,368 Next Door: ~16,561 DES webpage: -1,500 annually Water Resources webpage: ~700 annually	Pesticide and fertilizer reduction, naturescaping, recycling, sustainability, and private on lot stormwater management education information. Most popular Water Resources webpages by hits: Backyard Habitat Page (244 unique visits (uv)), Stormdrain Cleaning Program (432 uv), Stormwater Documents (700 uv), Natural Resources (313 uv) Report Spills (212 uv)
Interpretive panels and public rain gardens, COG Watershed Division	Johnson/Fairview/ Columbia Slough	Total contacts unknown	All residents: City oversees volunteer stewardship of public demonstration gardens at Vance Garden, Main City Park, Nadaka Park, Hollydale Elementary, St. Henry's Church, Covenant Baptist Church, West Gresham Elementary, Snowcap Charities and Gresham High School.
Rain garden education and outreach to Pleasant Valley on-lot rain garden owners	Johnson	Hand delivered ~30 flyers to new owners in the existing neighborhoods	Lot-level rain garden education

Table 3-9 Examples of Water Quality Education Efforts*

Program/Event and Partners	Watershed of Focus	Number of Contacts	Educational Focus
For Businesses			
City of Gresham GREAT Business E-Newsletter (Has changed name to GREEN Business Program this year)	All	~16 issues/yr. 1200+ subscribers	Stormdrain Cleaning Assistance Program, General Best Practices, Sustainability
City of Gresham Stormdrain Cleaning Assistance Program (SCAP)--offered to City of Fairview businesses as well (spring and fall)	All	474 Businesses, ~1,800 drains cleaned	Pollution prevention via removal of sediment and debris.
GREEN Business Coffee Hour Outreach	All	~6 Businesses represented	Staff coordinated only one Coffee Hour due to stresses on businesses from Covid-19. The topic was on disinfecting and cleaning for Covid-19 using less toxic products as identified in EPA's safer choice label, as well as impacts of chemicals on wastewater, stormwater and how the city works with watershed councils to protect our waterways.
EcoBiz program partnership	All	1 new certification (Bickmore Auto) 9 businesses supported for recertification process 9 new recommendation reports provided 34 new businesses were contacted Regional advertising conducted via Chinook Book to ~172K resulting in 347 website visits	Technical assistance in the areas of recycling, energy, waste reduction, and stormwater management for landscaping, automotive, and manufacturing businesses. Two businesses recertified. Coordination/training with new Ecobiz staff and Gresham staff. Ecobiz partners also helped run advertising of certified auto firms and landscaping firms in the Chinook Book.
City of Gresham GREAT Business technical assistance visits (Has changed name this year to GREEN Business Program)	All	~65 Outreach assistance provided related to stormwater/water/oil/grease concern	Due to COVID-19, technical assistance occurred almost entirely via phone. 50 stormdrain markers were installed at ON Semi in Gresham. Solidwaste and Stormwater staff also partnered to provide technical assistance to two LatinX grocers on the topic of greener cleaners and Covid-19 disinfection. They researched distribution networks and suppliers of EPA's "List N" active ingredients known to disrupt the Covid virus. Stores were able to contact suppliers to add safer cleaners on their shelf offerings. Staff continued to collaborate with Metro to add more information (forthcoming) to their Healthy Home webpages in English and Spanish.

Table 3-10
(1200-COLS & 1200-Z) in Gresham's Jurisdiction

Facility Legal Name	Street Address	City	Zip	DEQ WQ File Number	Permit Type	DEQ Permit Expiration Date	Gresham/DEQ Inspections
Arnprior Aerospace Portland	17383 NE Sacramento	Portland	97230	125726	Gen. 1200-COLS	Issued July 2018	DEQ cited for failure to monitor in FY 19-20.
Portland Specialty Baking	3423 NE 172nd Place	Portland	97230	125551	Gen. 1200-COLS	Issued Jan 2018	DEQ cited for failure to monitor in FY 19-20.
Albertsons (ABS OR-O DC LLC)	17505 NE San Rafael St	Portland	97230	104374	Gen. 1200-COLS	Issued Aug 2017	DEQ issued QC violation for sampling in FY 19-20
Denton Plastics Inc.	18811 NE San Rafael	Portland	97230	113915	Gen. 1200-COLS	Issued Aug 2017	NA
Pella Vinyl Northwest Inc.	18600 NE Wilkes Rd	Portland	97230	120478	Gen. 1200-COLS	Issued Aug 2017	NA
McDonald & Wetle Inc.	2020 NE 194th Ave	Portland	97230	119535	Gen. 1200-COLS	Issued Aug 2017	Staff inspected for wellfield compliance Nov 2020.
Owens Corning Foam Insulation, LLC	18456 NE Wilkes Rd	Portland	97230	113153	Gen. 1200-COLS	Issued Aug 2017	NA
Cascade Corporation	2201 NE 201st Ave	Fairview	97024	100491	Gen. 1200-COLS	Issued Aug 2017	NA
The Boeing Company	19000 NE Sandy Blvd.	Portland	97230	9269	Gen. 1200-COLS	Issued Aug 2017	NA
Rolling Frito Lay Sales LP	4300 NE 189th Ave	Portland	97230	113285	Gen. 1200-COLS	Issued Aug 2017	NA

Facility Legal Name	Street Address	City	Zip	DEQ WQ File Number	Permit Type	DEQ Permit Expiration Date	Gresham/DEQ Inspections
International Paper Company	1601 NE 192nd Ave	Portland	97230	107744	Gen. 1200-COLS	Issued Aug 2017	NA
Northwest Retreaders	19004 NE San Rafael	Portland	97230	111262	Gen. 1200-COLS	Issued Aug 2017	NA
First Student, Inc.	1625 SE Hogan Rd	Gresham	97080	112646	Gen. 1200Z	Issued Aug 2017	NA
Mutual Materials Company	2300 SE Hogan Rd	Gresham	97080	108092	Gen.1200Z	Issued Aug 2017	NA
Teeny Foods	NE 170th	Gresham	97080	126120	Gen 1200Z	Issued June 2019	NA
Pioneer Sheet Metal	19591 NE San Rafael St.	Portland	97230	120503	Gen. 1200-COLS	Issued Aug 2017	NA
Trimet Maintenance Facility (Ruby Junction)	2222 NW Eleven Mile Ave.	Gresham	97030	126099	Gen 1200Z	Issued 4/17/2019	Inspected by DEQ June 2021. In compliance.
Shamrock Foods	18332 NE San Rafael	Portland	97230	125465	Gen 1200Z	Issued 11/29/2018	Drainage is being confirmed with DEQ, may drain to groundwater and permit will be removed. Gresham staff inspected for wellfield compliance Nov 2020.
Wellfield Protection Program (WFPP)	Where noted, these businesses lie within the City's designated wellfield areas and have additional required pollution protection controls to protect future drinking water sources.						

Table 3-11: City of Gresham Water Resource Division--Stormwater Budget Allocation (including staff and operating)

Program Area	PY 25	PY 26 Budget
	FY 20-21 (actual)	FY 21-22 (projected) year four of a five year rate package
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	$ 943,220	$ 1,039,987
Natural Resources: Restoration Capital Improvements Master Plan Updates Invasive Species Control TMDL Compliance Green Space Acquisition	$ 513,329	$ 622,137
Engineering: Capital Improvements Minor Drainage/Flood Control Public Works Standards Stormwater Manual Oversight Master Plan updates Mapping Stormwater Assets Management Training	$506,836 $2.25M CIP	$549,790 $7.7M CIP
Operations & Maintenance: Systems Maintenance & Repair Equipment Repair & Replacement Spill Response Inspection IMP implementation Mapping Training	$ 2,970,591	$ 3,316,500
Infrastructure Development (Development Engineering, Surveying, Public Works Inspections, Commercial Erosion Control Inspections)	$ 294,819	$ 527,498
City Admin Support, GIS Support, Management, Overhead	$ 2,863,912	$ 3,039,554
Total	**$8.1M Operating/Salary $2.3M CIP***	**$9.1M Operating/Salary $7.7M CIP***

*Funds are budgeted over a multiyear projection for pipe repair and upsizing ($4M), wetland mitigation($5M) and regional facility enhancements ($400,000) and are not intended to reflect FY 19-20 solely. Kane Road repairs reflected $5.2M to date with another $1M still budgeted for future potential work needed.

Section Four – City of Fairview Summary of Program Monitoring

Municipal National Pollutant Discharge Elimination System Annual Report for Permit Year 26, Permit #101315, November 1, 2021

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) 26 Annual Report documents implementation activities from July 1, 2020 through June 30, 2021 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 BMPs and adaptive management are summarized in the table that follows. Table 4-2 (Prioritization Criteria) summarizes the time period July 1, 2020 to June 30, 2021 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 the SWMP.

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 26.

Stormwater Management Program Budget

City of Fairview Stormwater Management program costs for Permit Year 26 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 26 and provides the anticipated budget for Permit Year 27. The expenditures amounts were estimated for PY 26. The actual amount will be submitted next year.

Table 4-1	2020-2021	2021-2022
Program Area	PY 26 Expenditures	PY 27 Anticipated Budget
Stormwater Fund	$708,779	$817,691
Street Fund	$334,796	$807,837

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2020-2021 (PY 26)	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 was (1) total illicit discharge investigation, enforcement and clean up implemented this PY 26; are as follows: 1. 1425 NE Village Street The Enforcement details are as follows: 1. On February 4th, 2021 the City received a complaint and recorded video stills that showed a person dumping liquid into the storm drain. The City investigated the incident and sent the resident a letter detailing the evidence, Fairview's Code on "Discharge Prohibition an dEnforcement". Ultimately the responsible party was fined a total $250.00 penalty.	No modification	Civil Engineer Engineering Technician
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.	The City of Fairview has reviewed its outfall inventory and identified a total of 38 outfalls; 8 of which are categorized as high priority outfalls. Inspected 37 out of 38 outfalls (97%) this PY 26. The 1 outfall not inspected was inaccessible at the time of inspection and City is working to solve this issue. Records are maintained in paper and elctronic form. The City will continue to update its GIS map as needed.	No modification	Storm Lead Worker Engineering Technician
Illicit Discharge Investigation Procedures	Ongoing	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.	Annually review and update Illicit Discharge and Investigation Procedures related to mapping, enforcement response and pollutant parameter action levels. Respond to illicit discharges within 5 days of source identification..	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 (1) total of IDDE investigations conducted this PY 26, which resulted to enforcement actions. There were no samples taken from all the (1) incidents.	No modification	Civil Engineer

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BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2020-2021 (PY 26)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
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.	Coordinate witht the City of Gresham to conduct inspections once during the permit term of all businesses with regulated quantities of hazardous materials 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 a total of (18) total of regulated industrial/commercial facilities that were inspected during PY 26. 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, 2021 with January 31, 2017 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 8 inspected regulated facilities are as follows:	No modification	Civil Engineer Engineering Technician City of Gresham (IGA)
		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 South Shore Well Field Protection Program Committee meets quarterly to discuss any changes to code provisions and updates of the Wellhead Protection Program Reference Manual.		
		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.					

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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 or recorded spill incidents that took place during PY 25 within the City of Fairview's jurisdiction.	No modification	Gresham Fire Civil Engineer PW Superintendent
		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.		
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 6-month schedule.	Track status of municipal vehicle maintenance.	All City fleet vehicles (Public Works and Administration) were regularly miantained and serviced as scheduled (every 6 months) with auto service providers. No vehicular leaks were detected.	No modification	PW Superintendent
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	All lines flushed according to procedures. No chlorine detected.	No modification	Water Lead Worker

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SWMP Element #2- Industrial and Commercial Facilities				1200Z			
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 40 hours implementing commercial and industrial inspection procedures. Review and/or inspect all applicable facilities once during the permit term.	Track number of facility inspections and follow-up.	The City inspected four (4) regulated industrial/commercial facilities during this PY 26. 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. A total of 35 inspection hours (pre-documentation, inspection / photos, final documentation and follow up) were spent this PY 26. The City coordinated with a large development to have all of their swales maintained.	No modification	Civil Engineer Engineering Technician
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. There were no new developments requiring 1200-Z permits during this PY 26.	No modification	Civil Engineer Engineering Technician

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BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2020-2021 (PY 26)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
SWMP Element #3 - Construction Site Runoff Control				1200C			
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. Projects that disturb more than 500 ft^2 are required to obtain a City erosion control permit. 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 procedure for implementation of Erosion and Sediment Control Standards. A total of 2 1200-C Construction General NPDES Stormwater permits were issued by DEQ during PY 26 for sites disturbing more than 1 acre. No erosion and sediment control permits were issued for sites disturbing less than 1 acre. • AGP - 22860 NE Townsend Way, FV • Fairview Food Cart Pod - 22320 NE Halsey Street, FV	No modification	Permit Tech Civil Engineer
Erosion Control Program Training	Ongoing	The Erosion Prevention & Sediment Control 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 made available with the erosion control permit applications during the planning development review process.	No modification	Permit Tech Civil Engineer Engineering Technician
Construction Site Inspections	Ongoing	The City currently reviews plans and inspects construction sites required to meet the City's erosion control standards using the following procedures: 1. 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. Make the Erosion Prevention & Sediment Control (EPSC) manual available online. Annually review code provisons.	Track the number of sites that were permitted and inspected. Report the number and type of enforcement actions.	Four new Erosion Prevention & Sediment Control permits were issued and inspected during PY 25. All were in compliance with the City's Erosion Prevention & Sediment Control (EPSC) standards. No violations were noted this PY 25. A total of 60 EPSC inspections were performed on 15 sites with 1200-C permits in PY 25. Sites with active 1200-C Permits were inspected following 1/2" of precipitation. The municipal code is reviewed for complaince with stormwater requrements on an annual/ongoing basis.	No modification	Permit Tech Civil Engineer Engineering Technician

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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.	Large scale public education campaigns: 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 addressed best practices for: • Car Washing • Lawn Care wihtout Chemicals • Clearing Stormdrains and Leaf Disposals • Lawn Care/Watering • Sweep sidewalks and driveways Social Media topics: deicing safely, dog waste scooping, spring lawn care, aggressive weed control, slow release fertilizer, planting trees Local Outreach Effort: Columbia Slough Watershed Council: 34 30-miute Synchronous lessons at WOodland and Fairview elementary schools and 1 paddle with POIT/Reosemary Anderson HS crew and live stake harvesting from Salish Ponds City of Fairview is currently participating in the Storm drain Cleaning Assistance Program (SCAP) (schools, apartments, industrial/commercial facilities) and the Backyard Habitat Program hosted by the Audubon Society through the City of Gresham. Other agencies that are affiliated with this program are: City of Wood Village and City of Troutdale.	No modification	Civil Engineer Engineering Technician Development Analyst
					Educational Outreach Articles: The City of Fairview utilizes the local monthly newsletter "Fairview Point" to provide educational materials related to stormwater. There was no Fairview on the Green event due to Covid-19 pandemic. Applicable articles are as follows: 1. Levee Ready 2. Falling Leaces can Clog up Catch Basin		
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 1 citizens reported complaints this PY 26 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. The two complaints were resolved as it turned out to be natural bio-degradation causing sheen in Fairview Creek. The second was found to be a spring occurring. The third was concluded that their sewer lateral connection to the main showed I&I which will be resolved during the Interlachen Sewer Project now in PY 25.	No modification	Civil Engineer PW Superintendent Code Compliance

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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 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 information. The City's website posted contact information as well about reporting illegal dumping and illegal connections (BMP 4.3). Staff also track public complaints, reports, and inquiries regarding illegal dumping, connections. There were 3 news letter articles published during PY 26 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.		City of Fairview submitted "Public Education Effectiveness Evaluation" report (Schedule A.4, NPDES Permit Term 2010-2015) to DEQ on November 1, 2015.	No modification	Civil Engineer
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 and document the trainings received.	City of Fairview's engineering staff conducted (1) in-house training with seven (4) Public Works Operation & Maintenance staff during PY 25. Topics discussed included instruction on how to install a Catch Basin insert and what maintenance issues to look out for. The Civil Engineering Technician has attended 1 training during PY 26 (July 1, 2020 to June 30, 2021). 1. 11/17/2021 ACWA SW Meeting	No modification	Civil Engineer Civil Engineering Technician PW Superintendent Development Analyst
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 during PY 26.	No modification	Civil Engineer

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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 6 development reviews for private stormwater management facilities and no development reviews for public stormwater management facilities in PY 26. Private Stormwater Management Facilities: • Truck Depot (5.44 Acres) • Fairview Food Carts (1.53 Acres) • AGP (5.73 Acres) • Halsey Commons continued (0.37 Acres) • Fairview Village (1.76 Acres) • Vista Villa Sunbdivision (2.88 Acres) The City will continue to update its GIS mapping	No modification	Permit Tech Civil Engineer
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. Update the City's post-construction stormwater design standards and code language. Document the City's post-construction inspection and enforcement response procedures by January 1, 2014	Update the municipal code, design standards and enforcement procedures to eliminate barriers to LID and to implement stormwater management requirements.	Track progress related to the review of the City's code and development standards per provisions in the MS4 NPDES permit.	This requirement has been completed. The City continues to review and update its code and development standards as needed to meet the requirements of the permit.	No modification	Civil Engineer Senior Planner PW Director
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 following CIP stormwater related projects are identified in the project list of the Consolidated SW Master Plan (CSMP) and were designed/constructed this PY 25: • NE 7th St. (Cedar to Lincoln) Sidewalk Infill Improvement Project: Design was performed completed in-house and construction began on September 2020 PY 26 that consisted of 1 catch basin installation and connection to an existing storm main line in rhe Raintree Basin. • FV-1, Fairview Creek Between Halsey/I-84: City of Fairview has Cardno working on the design phase of this project this PY 26.	No modification	Civil Engineer Engineering Technician
SWMP Element #7 - Pollution Prevention for Municipal Operations							
O&M Plan	Ongoing	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	O&M Plan updated. Permit requirement met. No updates were made to the procedures in the O&M Plan in PY26.	No modification	Civil Engineer PW Superintendent Storm Lead Worker

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Right of way – O&M	Ongoing	The City contracts with Multnomah County for road maintenance that includes street sweeping, roadside mowing, 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.	N/A	City of Fairview maintains an IGA with Multnomah County for road maintenance activities. Road maintenance activities performed at county roads this PY 26, are as follows: • Catch basins cleaning - one time: October. • Roadside mowing - As needed • Route sweeping - 4 times: October 12,13, 14, 15, 29 April 28,29 May 4 and August 11, 13 • Misc. sweeping (snow gravel pick up) • Crack Sealing Pavement Preventive Maintenance - None this PY 26 • Pavement Marking Restoration - None this PY 26	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 3 street sweepings this PY 25. 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 was one de-icing events that took place during this PY26: • Once in December, 2020	No modification	PW Superintendent
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 were (1) dock and (1) riparian buffer permits issued.	No modification	Associate Planner
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.		Track City planting projects that incorporate native plants.	There are 27 City of Fairview neighborhood parks and recreation areas encomassing 443.56 acres that were treated with approved Portland Parks and Recreation pesticides, this PY 26. There are 4 Metro parks and 3 Reynolds School District parks in the City of Fairview. Most of these parks were only treated with a mixture of herbicides as needed for invasive or unwanted native vegetation and target spray practices were utillized. Native vegetation was also incorporated in the City planting projects and during maintenance activities. The City's Parks & Recreation Lead worker is a licensed applicator and. attends seminars and trainings related to Parks and Recreation Pest Management. Private stormwater facilities incorporated native plants this PY 26	No modification	Parks Lead Worker

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BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2020-2021 (PY 26)	Summary and Date of Proposed Adaptive Management Modifications	Responsible Party
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	The City of Fairview's Parks 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
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. Update SWPPPs for two municipal facilities and conduct annual inspections.	Annually inspect two municipal facilities (Crestwood and Public Works Shop)	N/A	Public Works crew regularly monitored our Corporation Yard Dumpster facility known as the Crestwood Shop. 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 by an Oil-Water separator / Concrete Structural Containment Vault (filter cartridges by Contech). Stockpiles of construction materials needed for maintenance activities are covered and bermed to protect against migration run-off and wind erosion. Thr Engineering technician will be taking on the role as the inspector for the Public Works Shop and Crestwood Shop as of PY 26	No modification	Civil Engineer Engineering Technician
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.	There are 43 litter receptacles that are maintained and collected once a week and after significant events. The 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.	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.	No sanitary sewer problems or projects were initiated during PY 26	No modification	Civil Engineer Engineering Technician
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. Update CSMP within one year of permit issuance.	Track the number, type and watershed location of projects that are completed.	The Consolidated Stormwater Master Plan (CSMP), CIP project list was updated by the City of Fairview and Brown and Caldwell in 2016. The following projects related Consolidated SW Master Plan (CSMP) and were designed/constructed this PY 26. • NE 7th St. (Cedar to Lincoln) Sidewalk Infill Improvement Project: Design was performed completed in-house and construction began on September 2020 PY 26 that consisted of 1 catch basin installation and connection to an existing storm main line in rhe Raintree Basin.	No modification	Civil Engineer PW Superintendent

Section Four: City of Fairview Stormwater Management Plan Summary

BMP Name	Compliance Date	BMP Description	Measurable Goals	Tracking Measures	Status 2020-2021 (PY 26)	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 catch basins are divided into 3 zones for maintenance purposes. Zone 1 (189 CBs), Zone 2 (176 CBs) and Zone 3 (125 CBs). One zone is inspected and maintained annually. Zone 2 was inspected by city staff and cleaned by Multnomah County crew, this PY 26. The 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. • Outfalls: 37 out of 38 total outfalls were insnpected (8 High Priority Outfalls) in PY26. • Underground Injection Control Facilities (UICs) / Sumps and Sedimentation Manholes: 3 total • Detention Ponds: 4 out of 4 detention ponds were inspected in PY26.	No modification	Civil Engineer Storm Lead Worker PW Superintendent Engineering Technician
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. Develop a private facility maintenance Standard Operating Procedure within one year of permit issuance.	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 and public agency development and re-development. The reporting staff manages review, comments and feedback on plans, specifications, stormwater reports and calculations during the review process. It is one of the requirements from the consultants and project owners to include submittal of an Operations and Maintenance Agreement, recorded with Multnomah County, for stormwater facility maintenance activities post-construction. A total of 7 private developments were inspected this PY 26. All (7) were conforming to maintenance of their faciliteis. All (2) are in progress of addressing their stormwater facilities. • Northbrook • Mistwood Apartments • AGC Heat • Environmental Works • Allwood Recyclers • Knight Transportation • Fairview Terrace	No modification	Civil Engineer Engineering Technician

Appendix A—Legal Authority

1333 NW Eastman Parkway
Gresham, OR 97030
503-618-2507
GreshamOregon.gov

October 1, 2021

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 Water Resources 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.

Sincerely,

on behalf of:

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 contain the **Discharge of Pollutants** and **Waste Disposal and General Discharge Prohibitions** Regulations which prohibit non-stormwater discharges except as exempted per the City's permit. Non-stormwater discharge is defined as *Any discharge to the public system not comprised entirely of stormwater.*
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 3.23.020 and GRC 3.24.030-040 contain the Discharge Regulations which prohibit **Illicit Connections and Illicit Discharges, Requirement to Eliminate, Remediate, and Monitor and Analyze.**
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 3.99.040 **Enforcement Tools,** Council Resolution No. 3041 **Establishing Civil Penalties** and Stormwater Pollution Prevention for Business Standard Operating Procedures and/or Stormwater Monitoring Plan
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 **Erosion Prevention** 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

Adequate Legal Authority		
Permit Reference	**Requirement**	**Code Authority**
		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** and GRC Article 3.28 **Erosion Prevention** and is described in the EPSC Manual and GRC 3.28.015 **Inspection**
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 3.23.025 **Waste Disposal Prohibitions** and GRC 3.22.020 **Stormwater Manuals** and is described in the EPSC Manual
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:** enforcement authority is described in the EPSC Manual. Enforcement procedures are described in the EPSC Standard Operating Procedure and utilize GRC 3.99.040 **Fines, Penalties and Other Enforcement Tools**, GRC 7.50.100 **Stop Work Order**, and GRC 7.50.200 **Abatement**.
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** and GRC 3.24.045 **Stormwater Treatment**
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	GRC 3.23.025(2) **Waste Disposal Prohibitions** and

Adequate Legal Authority		
Permit Reference	**Requirement**	**Code Authority**
	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 3.24.010 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 3.99.020 (1) The manager may enter any property, building, or premises… to ensure compliance with any provision of GRC Articles 3.20 to 3.60 GRC 3.20.035 **Policy**. Subsection (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 escribes **Private Responsibilities** for stormwater facility maintenance. GRC 3.24.050 **Design and Performance Criteria** provides the City's right to inspect and require maintenance. GRC 3.99.020 **Authority to Inspect**
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 3.23.025(2) **Waste**

Adequate Legal Authority		
Permit Reference	**Requirement**	**Code Authority**
		Disposal Prohibitions prohibits industrial washing/activities without sufficient BMPs. GRC Article 3.24 requires compliance with **NPDES Stormwater and WPCF Permits.** GRC 3.24.021 **Accidental Spill Prevention and Control and GRC 3.24.025 Notification of Spills and GRC 3.24.030-040 Remediation and Monitoring** requires the following: spill containment and kits, non-leaking disposal/recycling/product storage containers, spill prevention plans upon request, notification of spills, elimination of illicit connections, remediation of pollution and restoration of property and the monitoring, analysis, and reporting to demonstrate compliance.
(B)	Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer.	GRC 3.23.020 **Illicit Connections and Illicit Discharges** GRC 3.23.025 **Waste Disposal Prohibitions** GRC 3.23.030 **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 **Discharge of Pollutants** GRC 3.23.025 **Waste Disposal Prohibitions** GRC 3.23.030 **General Discharge Prohibitions.**
(D)	Control through interagency agreements among the co-permittees the contribution of	A cooperative monitoring and stormwater management

Adequate Legal Authority		
Permit Reference	**Requirement**	**Code Authority**
	pollutants form one portion of the municipal system to another portion of the municipal system.	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 **Enforcement** and GRC Article 7.50 **Stop Work Order and Abatement**
(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 3.24.040 **Requirement to Monitor and Analyze** GRC 3.24.010 **Compliance with Industrial NPDES Stormwater and WPCF Permits** GRC 3.24.050(5) provides authority to inspect private stormwater facilities **and GRC 3.28.015** provides authority to inspect construction sites GRC 3.99.020 **Authority to Inspect**

Beery Elsner & Hammond LLP

ATTORNEYS AT LAW

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 5, 2021

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 and subsequent renewals 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.

Attachment

Beery Elsner & Hammond LLP

ATTORNEYS AT LAW

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

July 2020 - June 2021 **Planning Permits**

Developed in the UGB annexed areas remained active as reported in Table 3-1. However, there was only one land use approval:

- Telford Subdivision (not yet platted) – 93 lots at 6842 SE Telford Rd. –Springwater Valley (approved 4/28/21)

7 acres were annexed and added to the city's boundary as of August 2020, updated in Figure 1-1.

Appendix C—City of Gresham Supporting Education and Outreach Documents

REGIONAL COALITION FOR CLEAN RIVERS AND STREAMS

FISCAL YEAR 2020-2021 ANNUAL REPORT

SEPTEMBER 20, 2021

PREPARED BY:

enviroissues

THE RIVER STARTS HERE

FY 2020-21 Overview

The Regional Coalition for Clean Rivers and Streams (Coalition) continued its work – initiated in the mid-1990s – of providing coordinated messaging about behaviors linked to stormwater pollution from residential sources across the Portland metropolitan region in Washington, Multnomah and Clackamas counties. According to 2020 Census data, Washington County has a population of 600,372. Multnomah County has a population of 815, 428 and the Clackamas County population is 421,401. The Coalition continues its brand recognition efforts by consistently using the previously developed *The River Starts Here* creative concept in its various materials. Other Coalition activities in the 2020-21 fiscal year included sponsoring and promoting the Coalition and its messages at community events.

Coalition participants include:

- Clackamas Water Environment Services
- Clean Water Services
- City of Gladstone
- City of Gresham
- City of Lake Oswego
- City of Milwaukie
- City of Oregon City
- City of Portland, Bureau of Environmental Services
- City of Troutdale
- City of West Linn
- City of Wilsonville
- Oak Lodge Water Services
- Multnomah County

This report covers July 1, 2020 - June 30, 2021.

Background

As identified in the 2013 Strategic Plan, the Coalition continues its mission of collaborating across the Portland metropolitan region to improve watershed health by changing household behaviors, reducing polluted runoff and connecting people with their local waterways. Coalition members leverage their collective resources to conduct outreach to communities across the region with common stormwater information and messages. Coalition activities complement individual agency efforts to raise awareness of stormwater runoff and affect behavior change to prevent pollution and protect regional surface water quality. Coalition activities support commitments relative to state permits under the federal Clean Water Act (administered by the Oregon Department of Environmental Quality), including Total Maximum Daily Load and National Pollution Discharge Elimination System Municipal Separate Storm Sewer System (MS4) programs, as well as compliance with the federal Endangered Species Act.

Participants in the Coalition represent agencies that serve diverse population sizes from very small (Troutdale) to very large (Clean Water Services). As such the ability to run programs specific to their community is limited by funding and staffing. The Coalition represents an efficient, effective method to

combine stormwater outreach funds. Coalition members continue to provide funding for the collaborative work each fiscal year based on the size of the respective community. The group shares funds with Multnomah County acting as the fiscal agent to purchase associated consulting services, advertising, materials and event sponsorships. By sharing resources, the group reaches many thousands of people in the region compared to what entities can typically achieve on their own.

The Coalition focuses on changing behaviors from residential sources linked to stormwater pollution prevention. Information and messages used by the Coalition are intended to reach those making purchasing and management decisions about yard care, pets and auto maintenance activities – some of the most likely sources of stormwater pollution from residents. Coalition activities address a range of surface water contaminants, including nutrients and toxics from fast-releasing synthetic fertilizers and pesticides applied to yards and lawns, pollutant loads from car washing soaps, metals and other toxics from vehicle maintenance (and unmaintained vehicles), *E. coli* from pet waste, turbidity from eroded soils and other contaminants from illicit discharges.

Key Messages

The Coalition's key messages focus on raising awareness about pollution from stormwater runoff and motivating actions to protect surface water quality through action at the household level. The key messages are:

- Stormwater runoff is now our number one source of water pollution. When it rains, pollutants from your home, car, and garden wash into our rivers and streams.
- Bacteria from uncollected dog waste washes into our rivers and streams. You can protect our water by picking up after your pets.
- Yard and garden products wash into our rivers and streams. You can protect our water by eliminating these products or using compost and slow-release fertilizer.
- Motor oil, solvents, and soaps wash into our rivers and streams. You can protect our water by keeping car-care chemicals out of storm drains, diverting wash water onto your landscaping, and going to a car wash.

FY 2020-21 Activities and Results

Activities during the reporting period focused on continuing to implement the Coalition's strategic plan with messaging and outreach using *The River Starts Here* creative concept, developed in FY 2014-15. This concept was informed by the research summary about stormwater behavior (DHM Research, Feb. 2014) used by Coalition members in partial fulfillment of the FY 2014-2015 MS4 permit requirement to evaluate the effectiveness of permittee's education and outreach program.

Strategic Plan Implementation

A strategic plan, adopted in 2013, continued to guide Coalition efforts during the fiscal year. The Coalition acted on strategic plan goals as summarized below:

Goal 1: Maintain a functioning Coalition

Each year, Coalition members prepare an updated cost-sharing approach and budget, which was implemented in 2020-21. Members of the Coalition share their knowledge with the broader regulated communities in Oregon via the Association of Clean Water Agencies (ACWA). Members have presented

on prioritizing public behaviors to maximize pollutant reduction success and on a water pollutant risk assessment database at the past two spring ACWA conferences.

Goal 2: Develop and adapt creative products to fulfill the Coalition's mission

The Coalition continued to use collateral materials developed with *The River Starts Here* creative concept through social media outreach and digital advertising, including messaging and news for the 2020 and 2021 Student Video Contests. Partners continued to message on individual social media channels as well as the Regional Coalition for Clean Rivers and Streams.

Goal 3: Practice adaptive management

The Coalition is committed to leveraging available resources to maximize impact while setting the stage for a future collaboration among agencies. Total member representation in the Coalition has increased in the past few years, bringing in more regional partners. During the 2020-2021 fiscal year, the Coalition relied more on ongoing social media outreach as most in-person outreach opportunities were cancelled or delayed due to the COVID-19 pandemic.

In spring 2020, the Coalition discussed the importance of acknowledging the intersectionality of the environmental and social justice movements. Independently, partner agencies had been in various stages of educating staff on the topics of diversity, equity and inclusion. Partners committed together to think about practices that could be implemented that would result in more inclusivity for historically marginalized and underserved populations. The partners agreed to broaden the content of their messages to include environmentally related social justice information, as well as to utilize its platform to amplify the voices of the Black, Indigenous, and People of Color (BIPOC) communities. Further, this resulted in the partners adding a specific category to the Student Video contest that recognized BIPOC filmmakers and ensure their voices are represented and heard.

Figure 1: Screenshot from Facebook post promoting donations for the Water for Warm Springs Fund.

The River Starts Here Messaging and Outreach

Community Events and Agency Collaboration

Representatives of member agencies promoted Coalition messages throughout the fiscal year using Facebook, Instagram, YouTube and Twitter. The Coalition continued to adapt to in-person event restrictions caused by COVID-19 by increasing social media posts and digital events. The primary focus of digital outreach was for the first and second annual Student Video Contests.

Student Video Contest

Students were honored at the fall 2020 Ecofilm Festival held at the Hollywood Theatre in Portland via a RSH sponsorship of the festival. The Ecofilm festival director launched a special day-of programming that focused solely on films made by young artists.

The contest videos were featured as part of the day's programming and the River Starts Here Partners created a segment interviewing the students about how they made their videos, got story ideas, etc., for the audience to virtually "meet and greet" the students after the show. As part of the sponsorship, the RSH social media links were included in the film festival e-newsletters that went out to 73,000 subscribers. The contest winners were also highlighted in social media posts from KPTV FOX 12 Oregon that reached 26,000 people.

2020 Student Video Contest Winners:

- **25-second Video Award:** Water Pollution From Cars by Ava Behunin, Art and Communication Magnet Academy, Beaverton
- **55-second Video Award:** Everyday Water Pollution Prevention by Liza Wadell and Serena Rothman, Lake Oswego High School, Lake Oswego
- **People's Choice Award:** Hazardous Materials and Recycling by Ekansh Gupta, ACCESS Academy, Portland

Figure 2: Screenshot from 2020 Student Video Contest winner in the 55-second video category

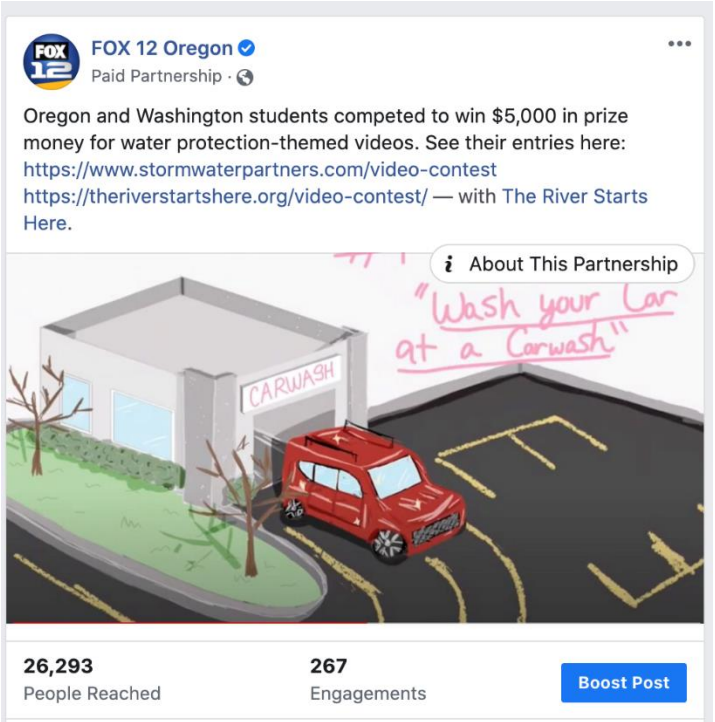


Figure 3: Screenshot of social media post by KPTV Fox 12 Oregon that reached 26,000 people.

Honorable Mentions:

- Stormwater Pollution Stop-motion by Charlie Johnson, Alliance Charter School, Oregon City
- Fishy by Jaden Winn, Wilson High School, Portland
- Walking with Trash by Charlie Abrams, Cleveland High School, Portland

Figure 4: Screenshot of 2020 Portland Ecofilm Festival Twitter posts

The second annual Student Video Contest was launched in Spring of 2021 with a deadline for video submission of June 6, 2021. 2021 Student Video Contest categories included people's choice, best BIPOC filmmaker, best community storytelling video and best clean water action in the following topics: Leave no Trace, Climate Change, Rivers are Also Drinking Water and Active Transportation. The team created factsheets to support student learning and video content accuracy on each topic.

The community storytelling topic area was new for 2021. The category was intended to highlight the work of community organizations – including watershed councils, Environmental Justice organizations, and environmental organizations – working for clean rivers and streams. Also new for 2021 was the best BIPOC filmmaker category. This prize category is intended to recognize the crucial perspectives and contributions of our Black, Indigenous, and People of Color (BIPOC) students in creating a more equitable and sustainable future. The Coalition also worked in fall and winter of 2020 to broaden the student video contest to include the Vancouver-Clark County area by sharing the model and materials with the SW Washington Stormwater Partners.

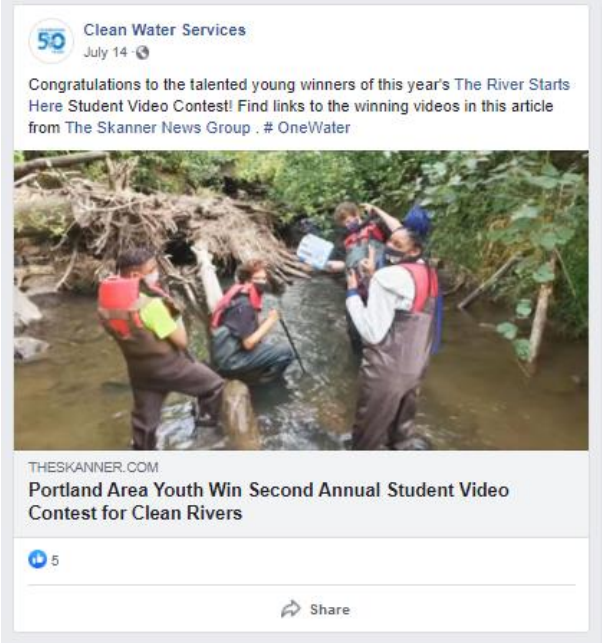


Figure 5: Screenshot of Clean Water Services Facebook post congratulating 2021 Student Video Contest winners

Changes to online learning in 2021 presented a challenge for spreading the word of the video contest. Overall, the Coalition received five entries in 2021, all entries were uploaded to the Coalition's YouTube site. Coalition partners such as Clean Water Services shared on their individual social media accounts and The Skanner picked up the press release announcing the winners. Over 1,754 community members watched student videos, which were viewed over 1,553 times. Viewers submitted over 254 likes and added hundreds of comments. Commenters shared their enthusiasm for these creative videos, and winners were announced in July 2021.

"Excellent video and program! Hoping this video inspires others across the globe as it has me; to help save our planet." – Anya Berube

"What a nice way to remind us of a way to easily make a difference. Good job!" – Anne MacDonald

2021 winners of the Student Video Contest will be reported in the 2021-2022 annual report.

Website: TheRiverStartsHere.org

TheRiverStartsHere.org launched in June 2015 featuring *The River Starts Here* creative assets. It features

an image slider highlighting Coalition messages and includes links to member websites and additional web resources.

Summary website analytics for the fiscal year are shown below. Statistics in parenthesis are the difference between last year's and this year's data. Positive changes are shown in green, negative changes are shown in red, and inconsequential changes are shown in lavender. New data points are presented in black.

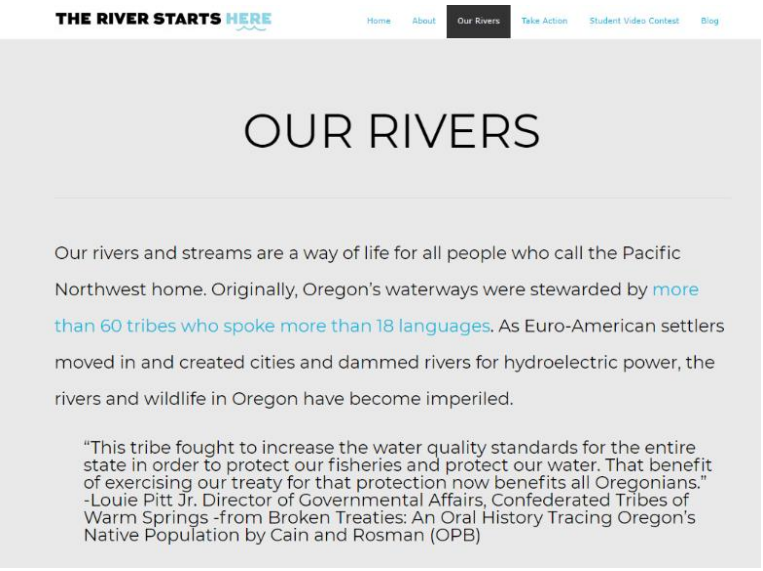


Figure 6: Screenshot from The River Starts Here website

Total sessions: 7,856 (▲214 %)

- **Users:** 5,855 (▲244%)
- **Traffic type**
  - Direct: 41% (▼21%)
  - Social: 20% (▼39%)
  - Organic (search engine): 25% (▲78%)
  - Referral: 13% (▲1200%)
- **Bounce rate:** 57% (▼25%)
- **Time on site:** 1:42 (▲2%)

During this fiscal year, web traffic has increased rapidly. In particular, total sessions and the number of users both increased by over 200%. This change is due in part to the hosting Student Video Contest content on the website.

The River Starts Here Blog

In May 2020, the Coalition began refreshing the website and added a blog. The blog created new opportunities for agency collaboration, event cross-promotion and driving traffic to partner resources.

During the fiscal year blog posts announced the winners of the 2020 Student Video contest and provided information on potential 2021 video topics. Blog posts also covered how to remove roof moss without harming rivers and streams, and announced the 2019-2020 annual report.

SOCIAL MEDIA

The Coalition continued posting to its social media channels with an increase in frequency compared to previous years. As in past years, the Coalition concentrated social media activity in spring and summer when residents have an increased interest in yard and garden activities relevant to surface water quality. Social media messages build on existing conversations and connect with organizations around the region. While spring and summer are also times for promoting events, this year presented a different challenge with the COVID-19 pandemic which resulted in no public events. The Coalition focused on promoting educational webinars and online events as opposed to in person events such as restorations and river cleanups. The Partners also collaborated with all regional watershed councils on how to encourage people to get outside and stay healthy, sane, and away from crowds using nature to find respite and joy. This group of watershed councils decided to create a Facebook group called "Together for Watersheds" where partners would take turns creating content, especially videos, to begin teaching the public about a variety of nature arts and crafts, scavenger hunt hikes with kids, creating a wildlife friendly outdoor space, identifying, and removing aggressive weeds and much more. The Coalition amplified these messages and also included some on the YouTube page.

Statistics in parenthesis are the difference between last year's and this year's data. Positive changes are shown in green, negative changes are shown in red, and inconsequential changes are shown in lavender.

Facebook page, The River Starts Here

A summary of Coalition Facebook account use during the fiscal and as of July 1, 2021, is as follows:

- **Followers ("likes"):** 1,676 (▲2)
- **Weekly organic reach:** 140 (▼153)
- **Posts:** 123 (▲34)

Facebook follower demographics breakdown:

Age	Female	Male	Total by Age
18-24	1%	1%	2%
25-34	10%	6%	16%
35-44	19%	8%	27%
45-54	17%	9%	26%
55-64	10%	4%	14%
65+	9%	4%	13%

Total by Gender	66%	32%	-

Table 1: Facebook followers by age range and gender. A large portion of the Coalition's Facebook audience is made up of women from age 35-54.

The Coalition's social media following is dominated by women. In particular, the Coalition Facebook mostly reaches women who are 35-54. The Coalition's Facebook following has also increased its reach to older people while reaching fewer young people.

Facebook ads, The River Starts Here

The Coalition continued to use low-cost social media advertising as part of its campaign in FY 2020-21. Continuing to focus on defined target audiences for messages (male v. female, age level for behavior, etc.) as well as targeting by ZIP code is a primary strategy. Most advertising was on Facebook.

A summary of Facebook ad engagement during the fiscal year is as follows:

- **Advertisements and boosted posts:** 10
- **Reach:** 141,189
- **Post engagements**: 2,477

Ads or Boosts during FY 20-21

Topic	Engagement	Reach
EPA Columbia River Basin Restoration Program	389	14,044
Gresham Tree Team	238	10,088
Website Visitors	N/A	14,376
Student Video Contest	501	2,938
Student Video Contest	308	3,739
Student Video Contest	0	63,013
Student Video Contest	287	1,882
The Chuush Fund: Water for Warm Springs	277	3,886
Backyard Habitat Certification Program	38	17,376
Car Washing Tips	439	9,847

Engagement is an interaction such as a like, comment, or click thru. **Reach** is the number of individuals who saw or interacted with the post.

*Some ads also ran on Instagram.

Twitter, @riverstartshere

A summary of use during the fiscal year is as follows:

- **Followers:** 1,441 (▲3)
- **Tweets:** 61 (▲8)

Instagram, @theriverstartshere

A summary of Coalition Instagram account use during the fiscal year is as follows:

- **Followers:** 364 (▲200)
- **Posts:** 31 (▲5)

Instagram follower demographics breakdown:

Age	Female	Male	Total by Age
13-17	0%	3%	3%
18-24	7%	6%	13%
25-34	30%	25%	55%
35-44	32%	31%	63%
45-54	24%	19%	43%
55-64	5%	5%	10%
65+	3%	12%	15%
Total by Gender	61%	40%	-

The Coalition's move in 2020-2021 to consolidate Instagram handles and grow its audience has had noticeable effects on the diversity of people reached. The Instagram audience is dominated by people ages 35-44. The Coalition can continue to build a following from youth by promoting YouTube and Instagram content while reaching older people through Facebook.

YouTube, The River Starts Here

A summary of the Coalition YouTube account during the fiscal year is as follows:

- **Subscribers:** 168 (▲159)
- **Videos added:** 42 (▲37)
- **Watch time (hours):** 132 (▲124)
- **Views:** 16.8K (▲+15K)

In 2019, the River Starts Here created a YouTube account for the Student Video Contest. The 2020-2021 annual report captures the large increase in viewers from the Student Video Contests.

Figure 7: Screenshot of YouTube video from The River Starts Here channel

FY 2020-21 EXPENDITURES

Category	Services	Investment
2020 Student Video Contest		
Participant awards		$1,650
Hollywood Theater	Honored Student Videos placement in the Portland EcoFilm Festival	$500
Hollywood Theater	Discounted tickets (15) for the EcoKids Film Showcase Show for student film-makers	$135
Advertisements		
Facebook	Facebook digital advertisements	$3,189.20
Coordination support		
EnviroIssues	Meeting support and member coordination, website maintenance, social media authoring	$18,000
	TOTAL	**$23,474.20**

OBSERVATIONS

The following observations are based on the results of FY 2020-21 activities and suggest future direction the Coalition may take in its mission of educating the public about the impact of stormwater runoff pollution on the health of our rivers and streams.

The FY 2020-21 efforts consisted of the Coalition continuing to use digital advertising, contracting with EnviroIssues to assist with continued social media posts, meeting coordination and data analytics, and maintaining a YouTube page and blog.

While the Coalition's online audience and its engagement continued to grow during the fiscal year due to the strategic investments into those types of content, the Student Video Contest outreach through schools continued to be challenging. The community capacity of schools, teachers and students to become involved during the ongoing COVID-19 pandemic, with disruption and uncertainty for our education system, was severely impacted.

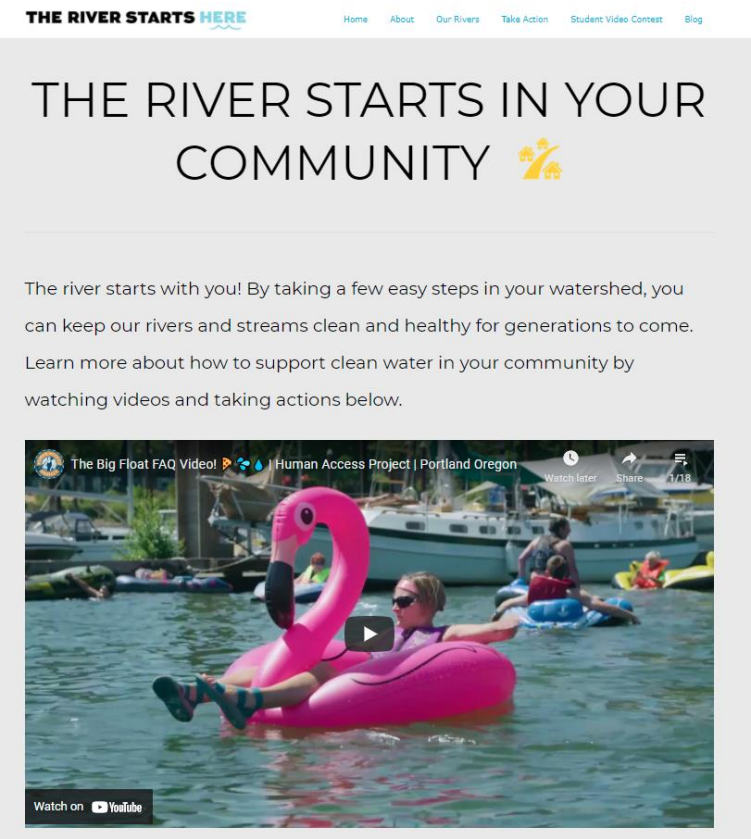


Figure 8: Screenshot from the River Starts Here website

As the 2021-22 school year begins with students in Oregon largely back in classrooms, the Coalition will again attempt an outreach strategy through school mailers, social media ads and through other community-based organizations, especially those serving marginalized populations and BIPOC youth, in an effort to achieve more diversity, equity and inclusion.

The Coalition plans to consult with new staff at Clean Water Services and Oak Lodge Sanitary District who have more specialized social media backgrounds for ideas on social media innovations in posting or purchased ads. The Coalition will also edit the student videos with applicable calls to action and branding and begin running them as advertising with a strategy to build culture and followers across the platforms.

Backyard Habitat Certification Program

Bring nature into your outdoor space and make your yard healthy for people and wildlife!

Learn more at
backyardhabitats.org

There is a small one-time fee.
Financial assistance is available.

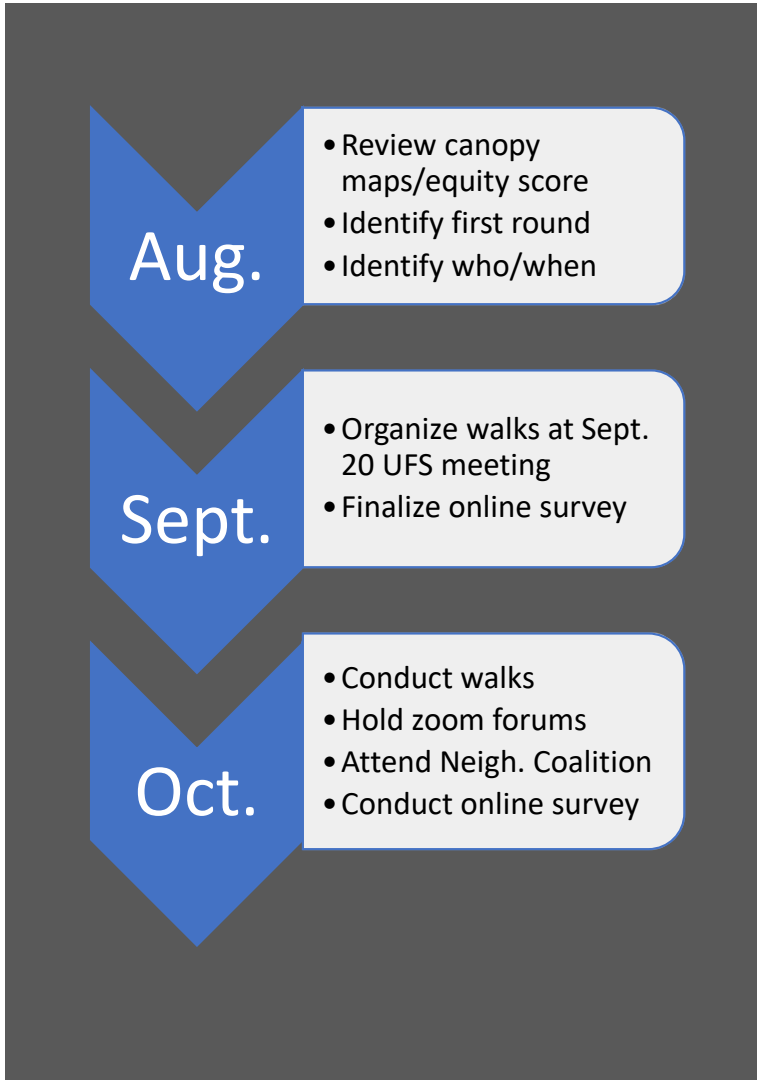
CITY OF GRESHAM

Neighborhood Tree Walks and Neighborhood Tree Plan

Draft Outreach Plan 8.24.21

Urban Forestry Subcommittee Member:

1. This slide deck includes some preliminary information to help you narrow down the *first round* of Neighborhood Tree Walks.
2. Some proposed next steps are included in the box to the right.
3. Review each of the five proposed neighborhoods that include canopy maps with destinations and an Equity Score that evaluates 2018 census data by neighborhood.
4. Decide which neighborhood you would prefer to assist with.
5. Email or call me with any questions or outreach plan feedback.
6. I'll send out a follow-up email the week of **Sept. 6.**



Neighborhood Tree Walk Proposals

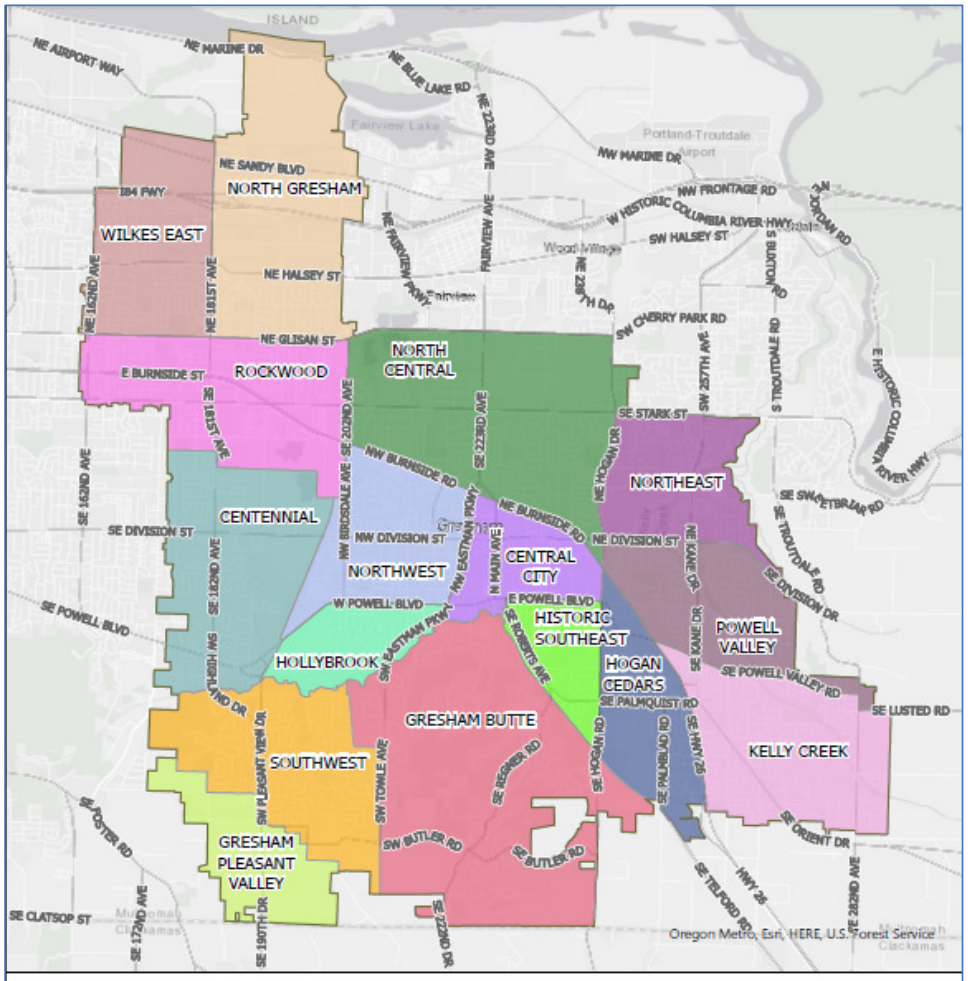
	Rockwood	North Gresham	Central City	Hogan Cedars	Historic Southeast
Who					
When					
Where					

Start thinking which neighborhood walk you would like to assist with and aim to finalize by Sept. 20

Neighborhood Tree Canopy (low canopy in red)

Quadrant 1
- Wilkes East (15%-24.9%)
- North Gresham (< 15%)
- Rockwood (15%-24.9%)*
- Centennial (15%-24.9%)

Quadrant 2
- Northwest(15%-24.9%)
- Hollybrook (15%-24.9%)
- Southwest (>35%)
- Gresham PV(15%-24.9%)



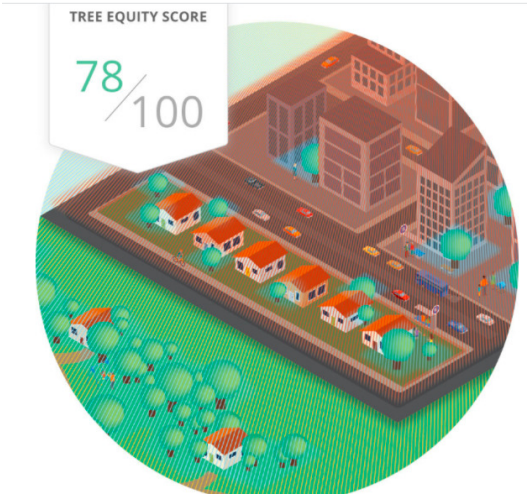
City of Gresham Neighborhood Map

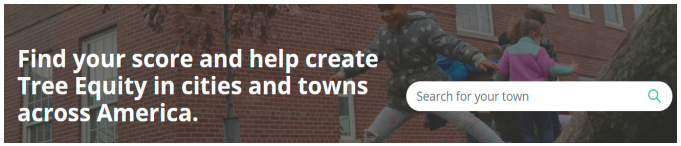
Quadrant 3
- North Central (15%-24.9%)
- Northeast (inactive)
- Powell Valley (15%-24.9%)
- Central City (< 15%)

Quadrant 4
- Historic Southeast(25%-34.9%)
- Hogan Cedars (< 15%)
- Kelly Creek (15%-24.9%)
- Gresham Butte (>35%)

* Canopy >10% in eastern portion of the Rockwood Neighborhood

Note: Canopy percentage data from 2009 UFMP GIS Maps, City of Gresham





Tree Equity Score

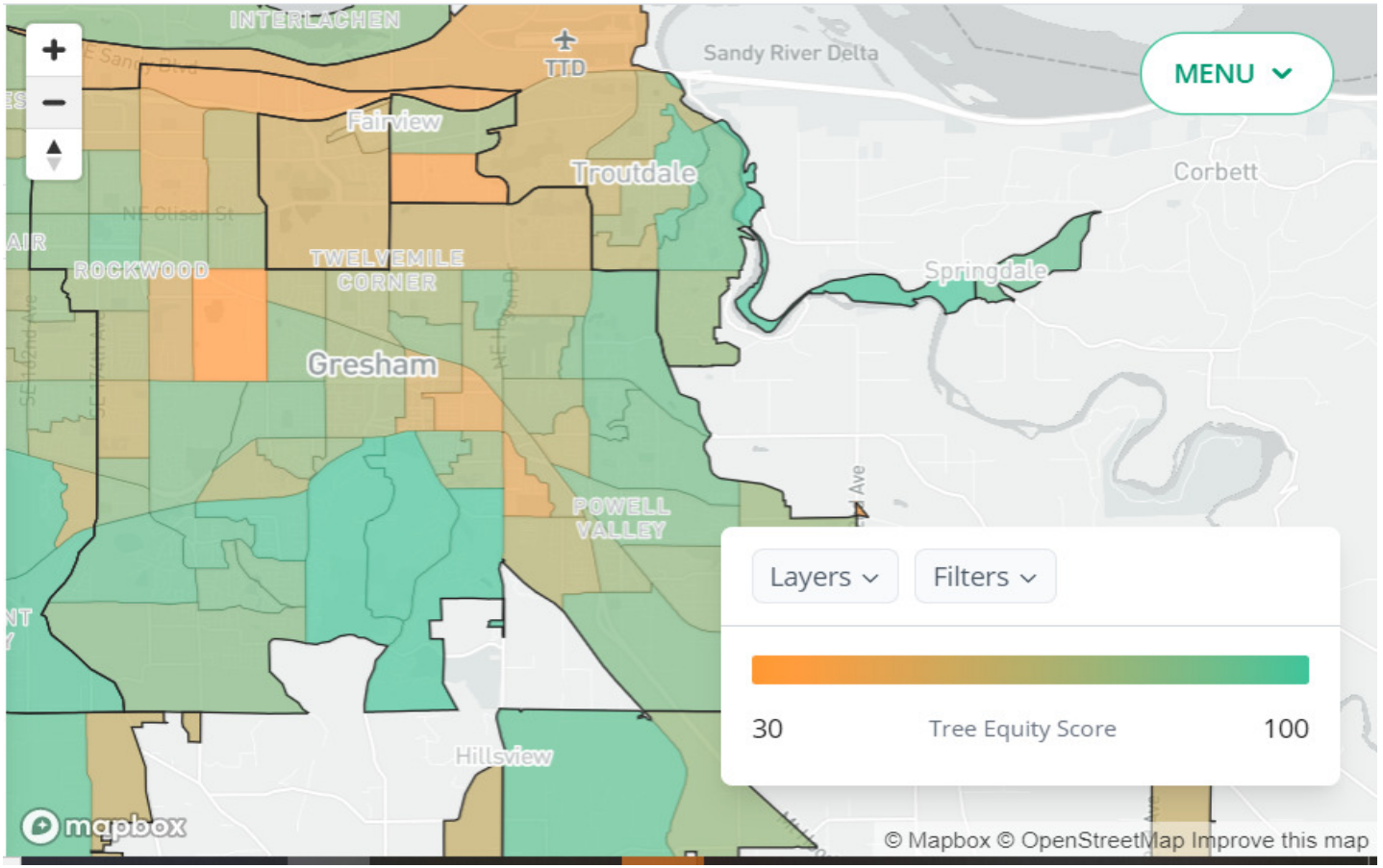
A map of tree cover in any city in the United States is too often a map of race and income. This is unacceptable. Trees are critical infrastructure that every person in every neighborhood deserves. Trees can help address damaging environmental inequities like air pollution.

The score evaluates data from each neighborhood's:

- Existing tree canopy
- Population density
- Income
- Employment
- Surface temperature
- Race
- Age
- Health

These metrics are combined into a single score between 0 and 100. A score of 100 means that a neighborhood has achieved Tree Equity. To learn more, visit our methodology page.

Source: American Forests , June 2021 https://www.treeequityscore.org/map/#11.02/45.4979/-122.3808



Source: American Forests , June 2021 https://www.treeequityscore.org/map/#11.02/45.4979/-122.3808

TREE EQUITY SCORE | NATIONAL EXPLORER

Search for your town

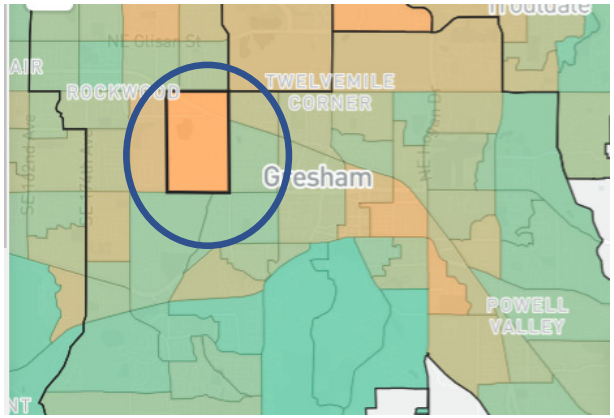
Gresham Municipal report →

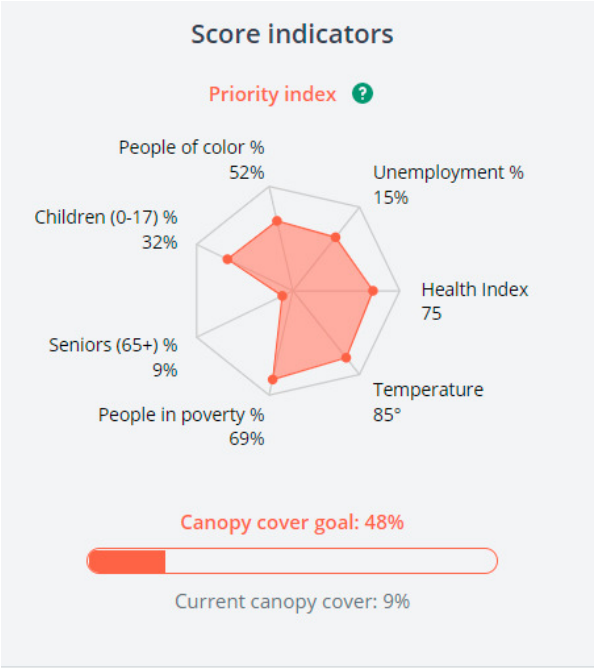
OR Congressional District 3

Census Block Group 410510098011

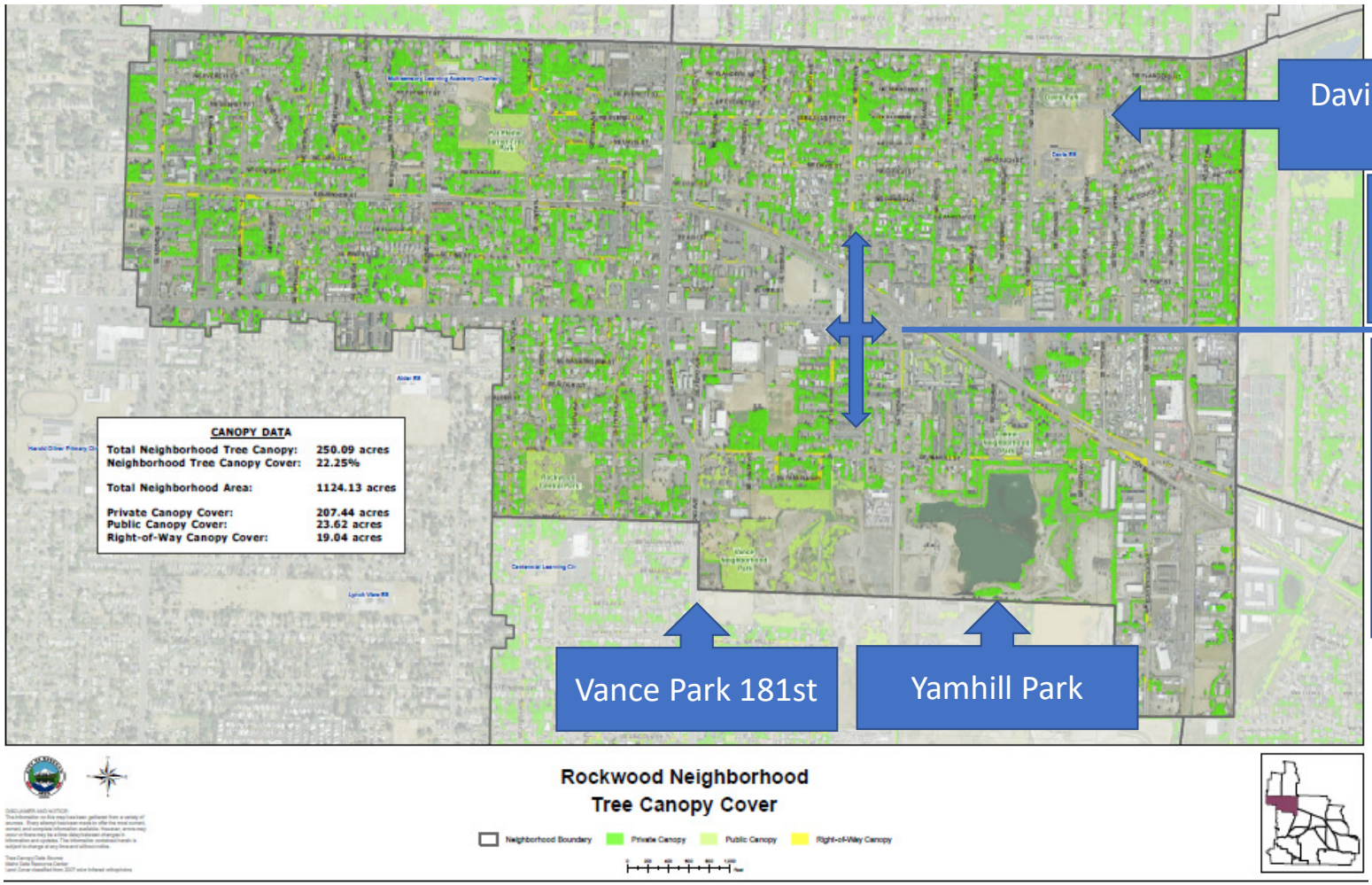
32
Tree Equity Score

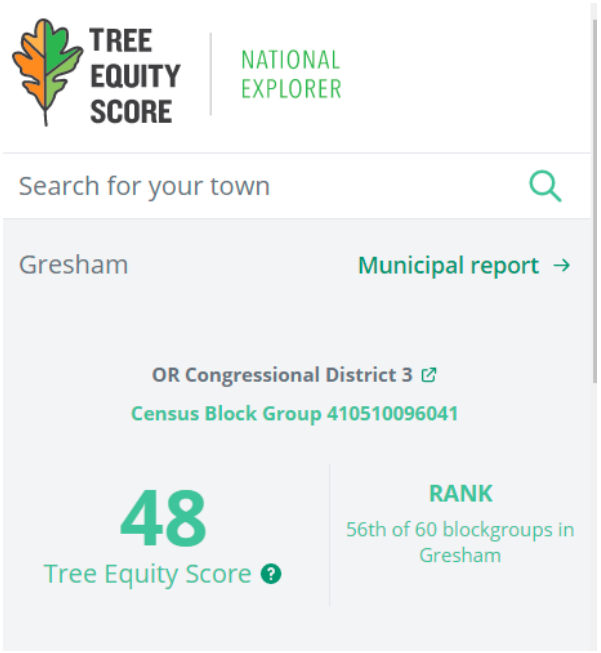
RANK
60th of 60 blockgroups in Gresham

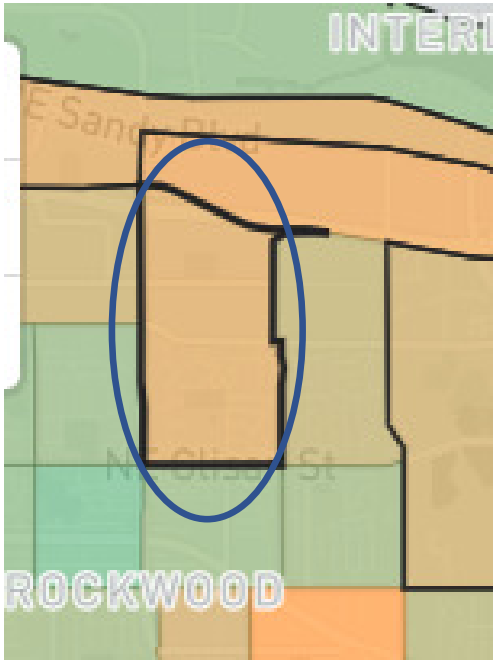


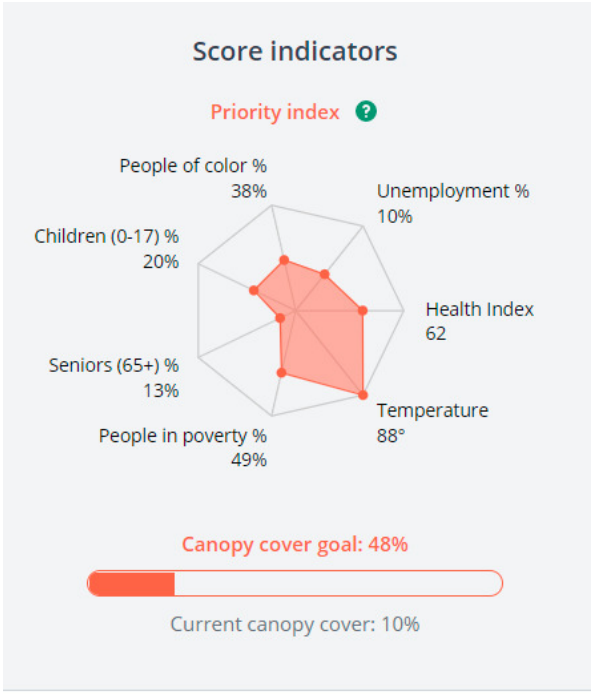


Rockwood Neighborhood


CANOPY DATA
Total Neighborhood Tree Canopy: 250.09 acres
Neighborhood Tree Canopy Cover: 22.25%
Total Neighborhood Area: 1124.13 acres
Private Canopy Cover: 207.44 acres
Public Canopy Cover: 23.62 acres
Right-of-Way Canopy Cover: 19.04 acres
Rockwood Neighborhood
Tree Canopy Cover
Neighborhood Boundary
Private Canopy
Public Canopy
Right-of-Way Canopy
Davis Elementary School
Couch to Stark along 188th
Downtown Rockwood south along 187th to Vance Park or Yamhill Neighborhood Park
Vance Park 181st
Yamhill Park

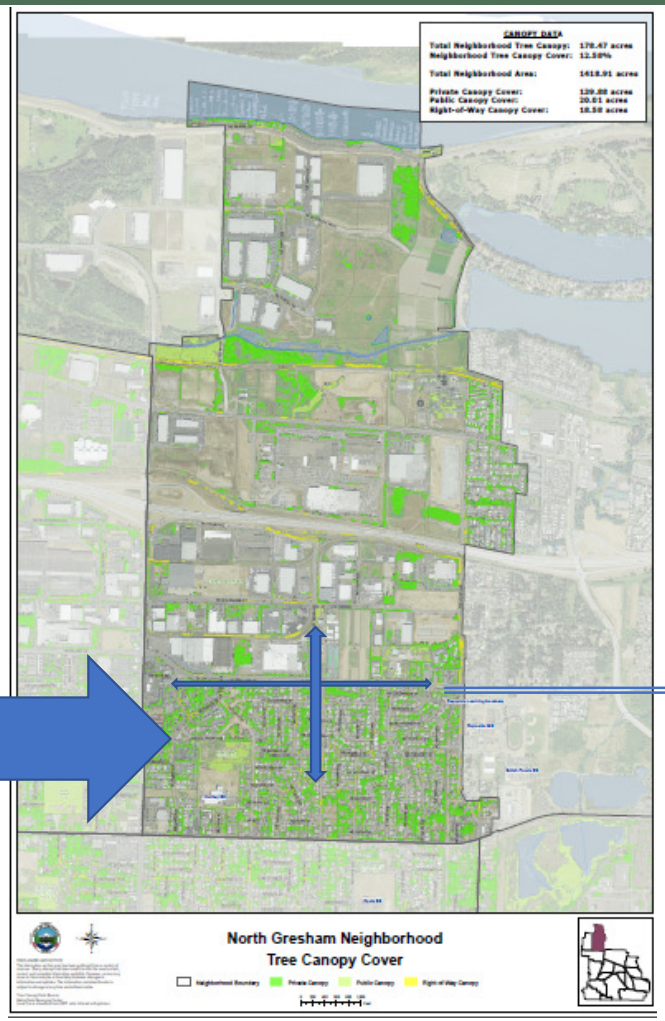






North Gresham Neighborhood

Kirk Park and Hartley Elementary School



Halsey Street (East –West)
192nd Street (North-South)

TREE EQUITY SCORE | NATIONAL EXPLORER

Search for your town

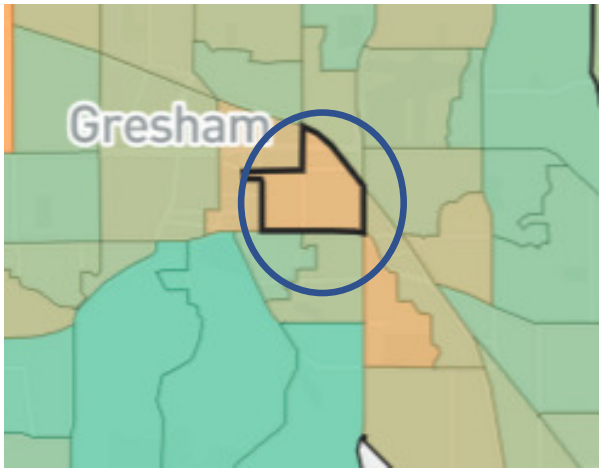
Gresham — Municipal report →

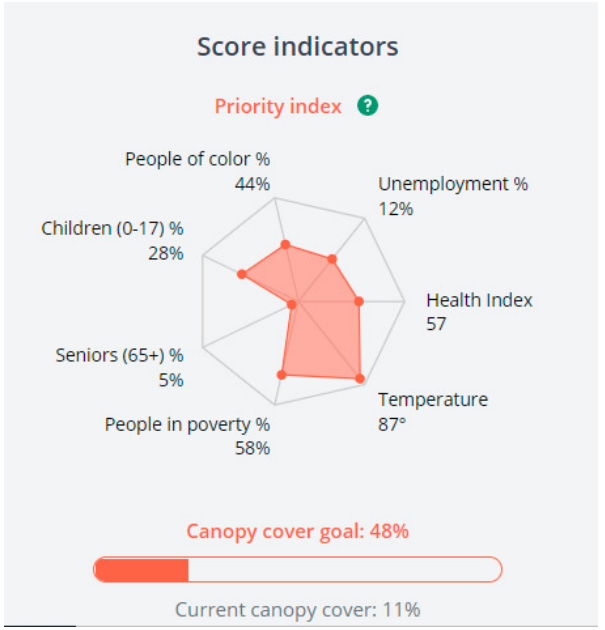
OR Congressional District 3

Census Block Group 410510104084

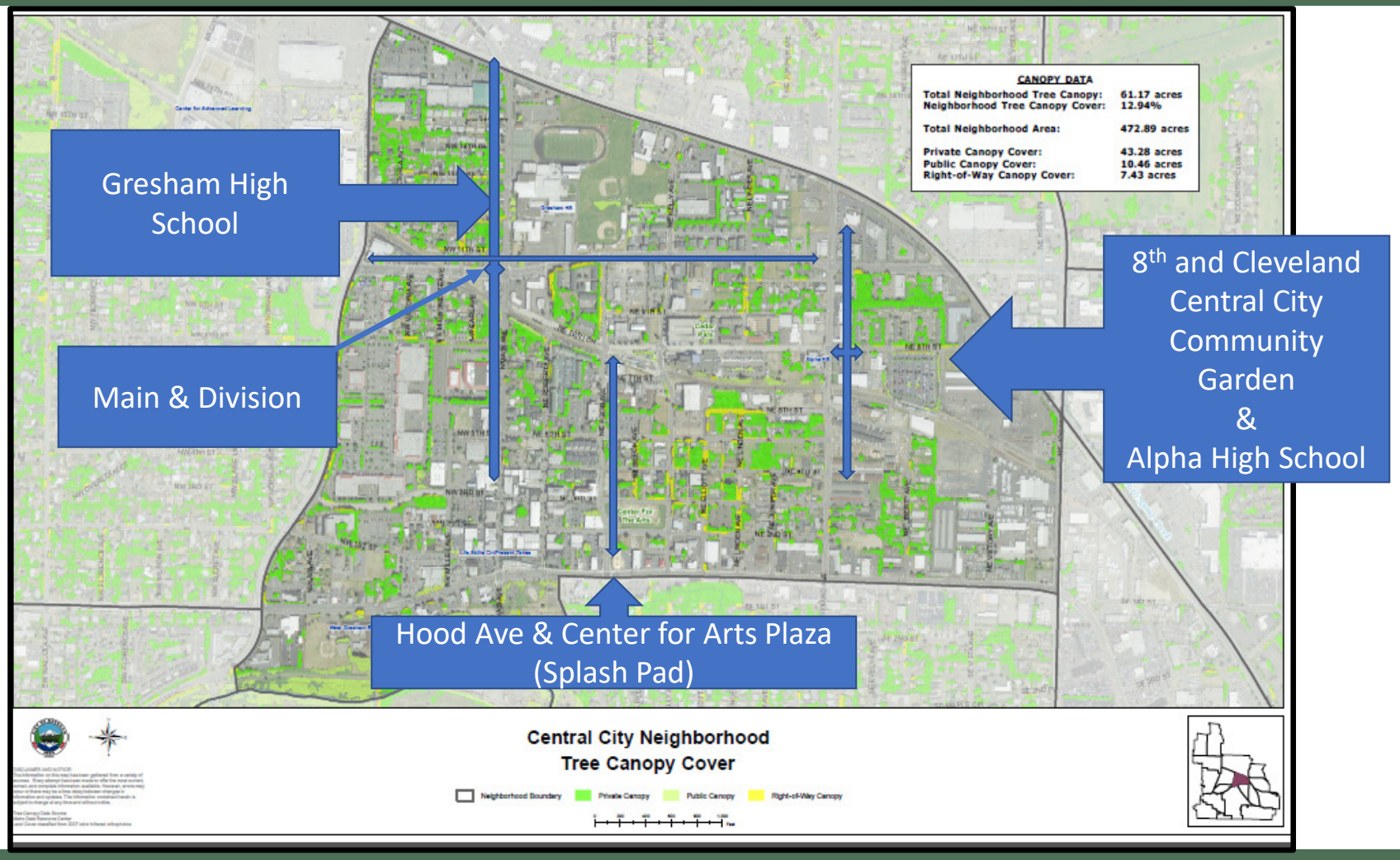
47
Tree Equity Score

RANK
57th of 60 blockgroups in Gresham





Central City Neighborhood


Gresham High School
Main & Division
8th and Cleveland Central City Community Garden & Alpha High School
Hood Ave & Center for Arts Plaza (Splash Pad)
CANOPY DATA
Total Neighborhood Tree Canopy: 61.17 acres
Neighborhood Tree Canopy Cover: 12.94%
Total Neighborhood Area: 472.89 acres
Private Canopy Cover: 43.28 acres
Public Canopy Cover: 10.46 acres
Right-of-Way Canopy Cover: 7.43 acres
Central City Neighborhood
Tree Canopy Cover
Neighborhood Boundary
Private Canopy
Public Canopy
Right-of-Way Canopy

TREE EQUITY SCORE | NATIONAL EXPLORER

Search for your town

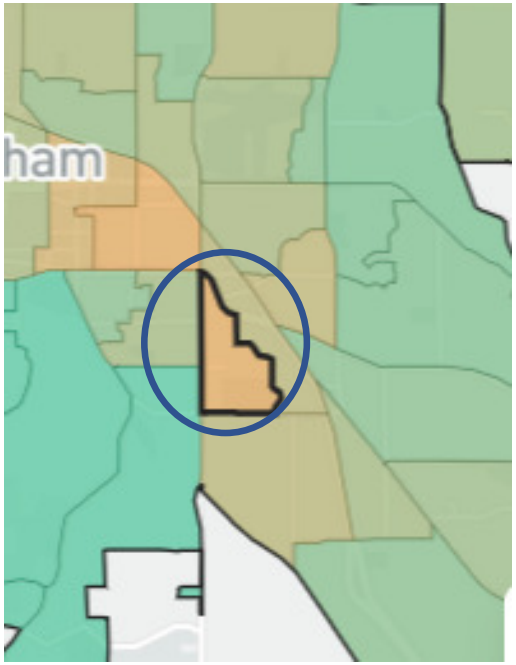
Gresham — Municipal report →

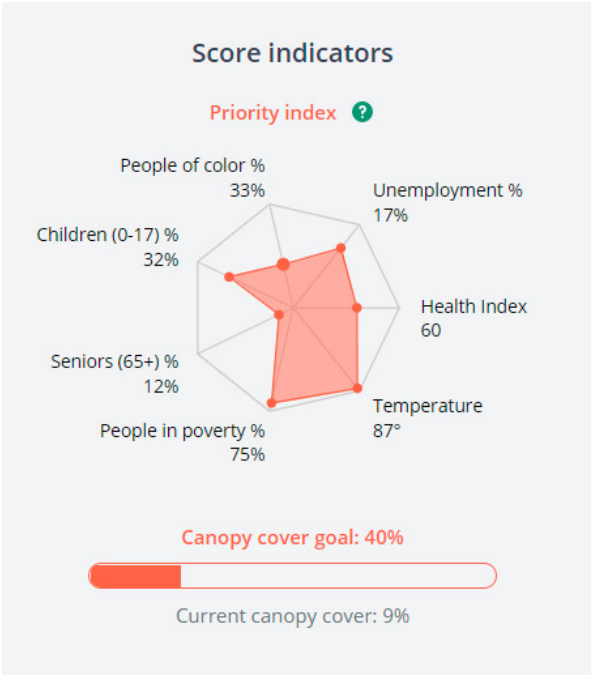
OR Congressional District 3

Census Block Group 410510104084

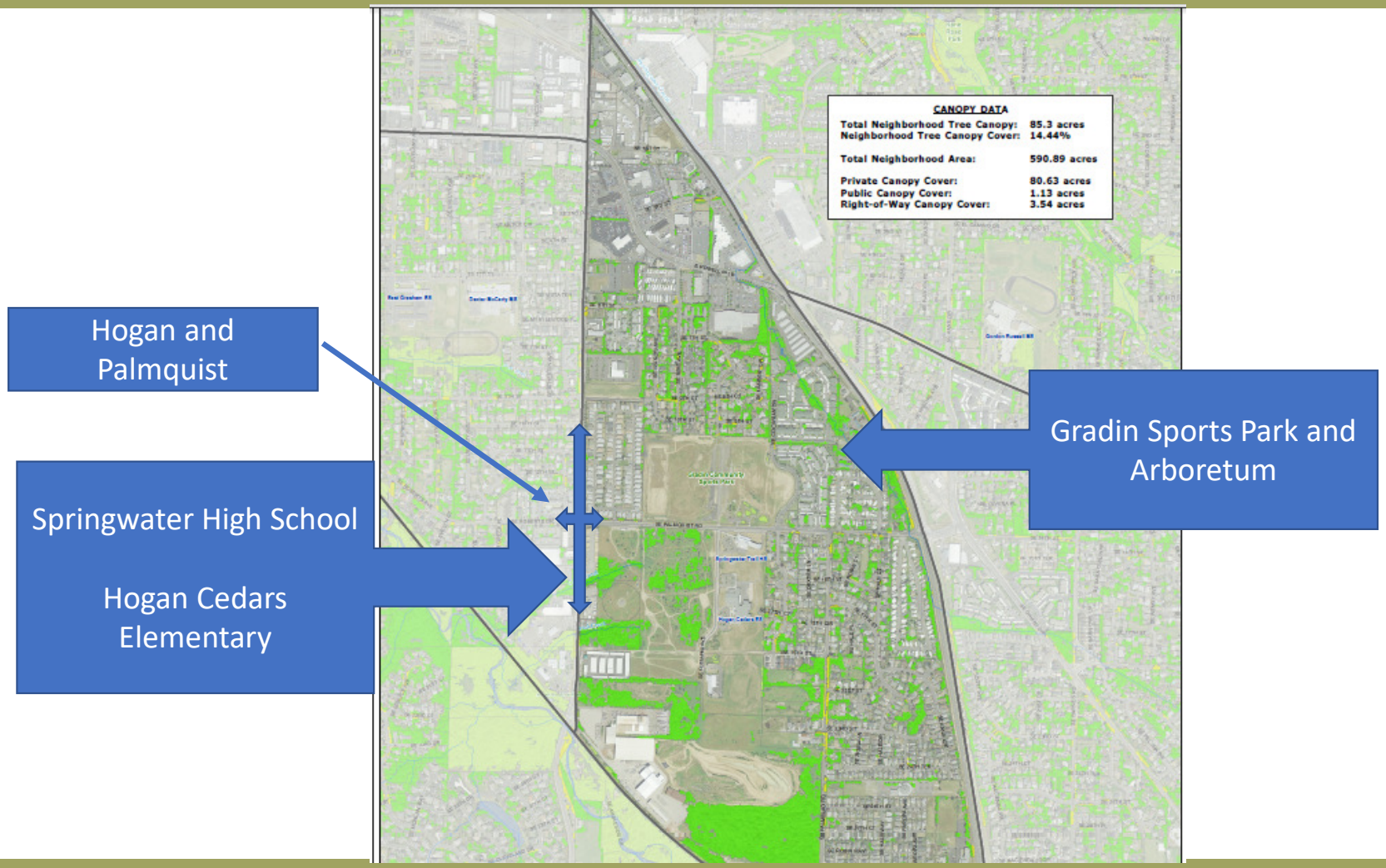
47
Tree Equity Score

RANK
57th of 60 blockgroups in Gresham





Hogan Cedars Neighborhood


CANOPY DATA
Total Neighborhood Tree Canopy: 85.3 acres
Neighborhood Tree Canopy Cover: 14.44%
Total Neighborhood Area: 590.89 acres
Private Canopy Cover: 80.63 acres
Public Canopy Cover: 1.13 acres
Right-of-Way Canopy Cover: 3.54 acres
Hogan and Palmquist
Springwater High School
Hogan Cedars Elementary
Gradin Sports Park and Arboretum

TREE EQUITY SCORE | NATIONAL EXPLORER

Search for your town

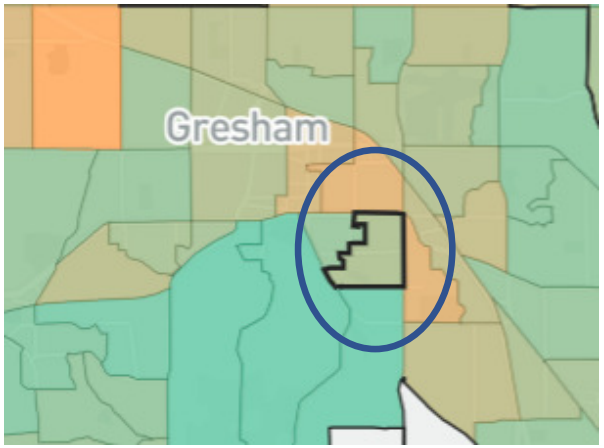
Gresham — Municipal report →

OR Congressional District 3

Census Block Group 410510099072

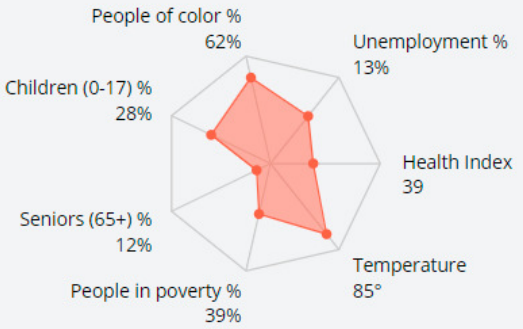
74
Tree Equity Score

RANK
33rd of 60 blockgroups in Gresham



Score indicators

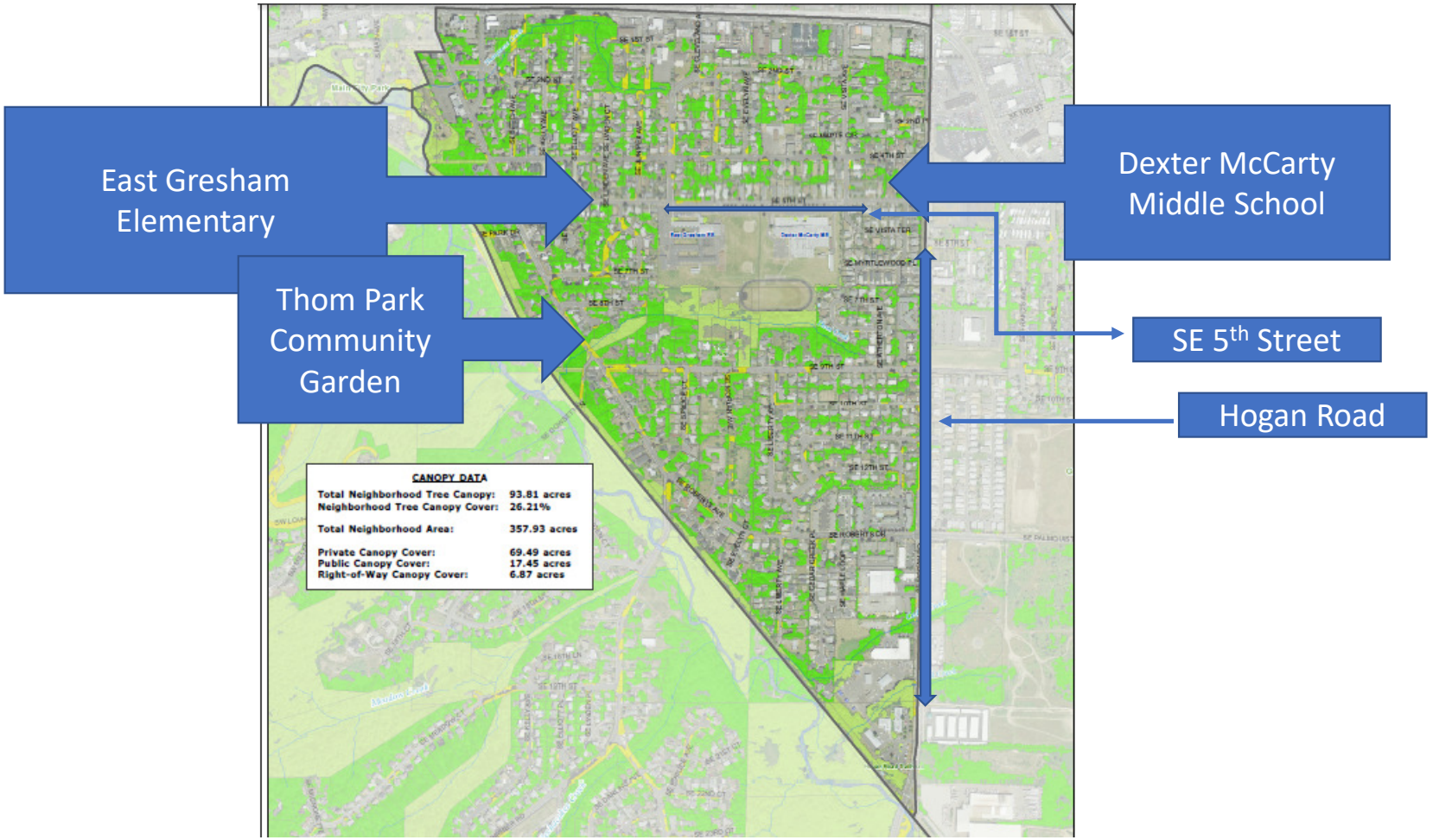
Priority index



Canopy cover goal: 40%

Current canopy cover: 22%

Historic Southeast Neighborhood


East Gresham Elementary
Thom Park Community Garden
Dexter McCarty Middle School
SE 5th Street
Hogan Road
CANOPY DATA
Total Neighborhood Tree Canopy: 93.81 acres
Neighborhood Tree Canopy Cover: 26.21%
Total Neighborhood Area: 357.93 acres
Private Canopy Cover: 69.49 acres
Public Canopy Cover: 17.45 acres
Right-of-Way Canopy Cover: 6.87 acres

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 ensure that soil remains on site and erosion protection is properly installed and maintained. Contractors with failing erosion control are liable for civil penalties.

IT IS YOUR RESPONSIBILITY TO:

- Properly install perimeter protection (fiber roll/wattle or silt fence) to keep soil on site.

- Tarp stockpiles and protect exposed soil with straw or hydroseed to prevent runoff.

- Prevent sediment tracking into street with rocked construction entrance and protect catch basins with inserts.

- Maintain a clean construction site:
  - Sweep dirt and debris from streets
  - Do not stockpile dirt or materials in the street
  - Keep trash contained

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

						Pollutant										Watershed					Regulatory Program					
NONPOINT SOURCE TMDL IMPLEMENTATION PLANS																										
An "X" in the pollutant, watershed, or regulatory program box indicates what pollutant is targeted by this activity, in which watershed, and by which regulartory driver(s).																										
Best Management Practice or Activity	**Commitment**	**Performance Measure**	**Status and Additional Goals, TMDL Year July 2019 through June 2020**	**Status and Additional Goals, TMDL Year July 2020 through June 2021**	**Proposed Adaptive Management**	*Nutrient Related**	*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 (drywells)*	*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 show 25,173 total active accounts. 24,583 are wastewater accounts. An addition of 129 wastewater accounts. City code requires hookup to the city system when septic systems fail (for historically operating septic tanks) if a city wastewater pipe is located within 300 feet.	City billing records show 25,173 total active accounts. 24,888 are wastewater accounts. An addition of 305 wastewater accounts. City code requires hookup to the city system when septic systems fail (for historically operating septic tanks) if a city wastewater pipe is located within 300 feet.	None proposed.	X	X									X	X	X	X	X		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 data shows that 18 septic tanks were decommissioned in Gresham.	County sanitarian data shows that 20 septic tanks were decommissioned in Gresham.	None proposed.	X	X									X	X	X	X	X		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	There was one incidence of a private system overflow onto land that was resolved by City staff and enforement to the property owner requiring a cctv of the private line and repair. No sewage entered the public system.	There was one incidence of a manhole upset on July 29, 2020 near 2311 SE 182nd. 200 gallons cleaned up, no impact to stormwater. A contractor accidentally bored thru a main line and was responsible for repairing it.	None proposed.	X	X									X	X	X	X	X		X				

Table 4. TMDL Implementation Plan Commitments

							Pollutant												Watershed					Regulatory Program				
NONPOINT SOURCE TMDL IMPLEMENTATION PLANS																												
Best Management Practice or Activity	**Strategy Commitments**	**Proposed Actions**	**2018-2023 Milestones**	**2020 Status**	**2021 Status**	**Proposed Adaptive Management**	*Nutrient Related**	*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 (drywells)*	*NPDES--WWTP*	*Goal 5/Title 13*
Temperature Management																												
NPT-1 Natural Resource CIP Implementation	**Program Commitment:** Implement Capital Improvement Projects within prioritized critical areas to protect or improve water quality, bank storage and aquifer recharge, and salmonid habitat	**Environmental Overlay Project (EOP):** Update City critical area overlays to integrate best available data for resource locations and implement more understandable buffer strategy for streams and wetlands in order to increase administration, implementation, and enforcement of floodplain, riparian, and slope protections	2019: • Floodplain Overlay Update adopted • Develop new hillside/slope model to better convey and mitigate landslide risk 2020: • Final drafts of Hillside and Riparian Buffer codes presented for public outreach • Draft Technical Guidance Companion Document • Programmatic Permit Option developed for large land managers to improve buffer compliance (PGE, Metro, Parks, Natural Resources) • Final versions of Code, Tech Guidance, Cash-in-Lieu mitigation option approved by DLCD, Metro, Gresham City Council 2021 • Outreach and Training • Post adoption clean up of code; refinements to Guidance Manual 2022: • Outreach, Training, Guidance Refinement • Update Floodplain Overlay with refined ESA provisions (additional protections for salmon habitat)	Public Outreach began in February, and halted in March with the initial Covid pandemic response. Method for large group outreach reinitiated in 2021 Permit Year and will be presented in the 2021 report. Programmatic Permit terms drafted, including vetting with Fire and geotechnical engineering specialists to combine wildfire prevention for riparian resource area, and landslide protection. Additional mitigation options developed to fit scenarios such as under power lines. Cash-in-lieu mitigation option drafted to ensure no loss of mitigation when inadequate space or other constraints exist for an applicant. In those instances, they'll now pay a fee supporting Gresham Natural Resources efforts to install more shade in highest priority Temp TMDL buffer areas.	Updated development code for riparian buffers, upland protections, and hillside/slope protection adopted by City Council in December following robust public outreach efforts throughout Fall 2021. Also approved through this process • New stream, wetland, and riparian buffer maps. • New riparian buffers have highest degree of impact restrictions within first 35-50' closest to the resource. This is referred to as the "High Value Resource Area" and is also the City's newly updated Temperature TMDL "shade buffer". The new Temp TMDL buffers are simplified and standardized to increase landowner awareness, and City monitoring & enforcement. • A new Environmental Technical Guidance Manual that provides code users detailed instructions on implementing these new standards. • A new "Payment-in-Lieu" mitigation fund that receives funds from development projects where insufficient space for full mitigation implementation exists. City will apply funding to increase riparian planting.	Phase II: During the 21-22 Permit Year there will be: • additional training provided to staff and the public on the updated code • additional refinements to wetland mapping • minor code edits for added clarification • minor edits to the Environmental Technical Guidance Manual		X									X	X	X	X	X		X			X
		Update of 2010 Natural Resources Master Plan to reflect best available data, the new regulatory buffers developed through the EOP, new community area project opportunities and acquisition/easement targets	2018: • Initiate Forest Health Study 2019: • Continue Forest Health Study • Continue Headcut Risk Assessment on East Buttes • Shade Classification Update 2020: • Finish Forest Health Study 2021: • Update all project descriptions and add new projects developed since 2010	Covid response postponed field work completion of Forest Health Study. This also delayed field work for headcut risk assessment and NRMP project site visits; the Shade Classification Update was delayed in 2019 due to staff shortages related to EOP obligations.	Initiated field work to investigate CIP opportunities within the newly updated riparian buffers. Drafted target list of potential acquisition targets to achieve larger scale stream and floodplain function improvements. Costs for land acquisition (or broad easement rights) will be incorporated into City's 21-22 update of System Development Charges that are assessed with each development in order to fund public improvements, including stream restoration projects.	Finalization of project concept plans, project costs, and prioritization strategies to be completed October 2021. Adoption of Natural Resources Master Plan by City Council expected by end of 2021 calendar year. Associated periodic update of City's System Development Charges methodology also expected in December or January.			X																
		Develop local wetland mitigation bank opportunities within 5th/6th field HUCs in order to maintain existing hydrologic function within DEQ-regulated basins. The only wetland mitigation bank approved in the region is in a different 4th field HUC and is hydrologically disconnected from all of Gresham's regulated waterways, thus use of this existing bank would allow export of high value wetland functions out of the Johnson Creek watershed.	2019: • Initiate discussions with DES work groups on need for co-funded wetland mitigation bank(s) to serve local watersheds at same scale as our DEQ regulations • Start scoping smaller scale options for Fujitsu Ponds to address heat loading in advance of the needed larger scale work 2020: • Funding in DES CIPs Aerial assessment of properties. Start negotiations for acquisition 2021: • Acquisition and permitting in either Pleasant Valley or Springwater new comm. area. for umbrella mitigation bank to keep mitigation within affected watershed.	Covid response postponed outreach to property owners. Site visits will occur late 2020, acquisition of property targeted in 2021. Re-scoping of the Fujitsu Ponds project to reduce heat loading initially with an earlier phase, smaller project being accomplished with the late 2020 Natural Resources Master Plan update.	Staff and consultants have continued outreach to landowners where potential mitigation opportunities are suspected. To date, no property has been identified that can serve as a single bank site for the new community areas of Pleasant Valley and Springwater.	In 21-22, City working with natural resources consultant to review riparian acquisition map newly developed for SDC methodology explained in the NRMP line item above to determine if mitigation improvements across those newly acquired riparian areas can fulfill wetland mitigation needs from public improvements in new community areas in order to keep mitigation benefits within the Johnson Creek basin.			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	**Annual riparian restoration within both Sandy Basin subwatersheds as well as Willamette Basin subwatersheds**. Staff will develop improved reporting criteria to demonstrate additional details. Beyond # of sites, details will include volunteer hours (if any), project site acres including linear feet of stream bank either treated for invasive control or where planted, and plants installed. With update of shade classifications in 2020, 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). Work with City Planning and Code Enforcement to **improve administration & enforcement of riparian buffer ordinances**.	2019: • As findings become available, incorporate forest health study results into riparian restoration site prioritization. • Review health impacts of climate change on typical suite of species used in restoration and develop more climate resilient planting pallete • Develop initiative to improve response to private encroachments, typically dumping and yard expansion, that negatively impact riparian shade conditions 2020: • Incorporate additional native species into riparian restoration projects • Work with forest health specialists, arborists, and/or wildfire risk reduction specialists to develop approach to addressing alder die off where use of heavy equipment would negatively impact soils from compaction, bank stability, and the health of retained trees. 2021: • Incorporate new shade classification findings into restoration project site prioritization 2022: • Implement restoration in prioritized forest die off areas to prevent landslides, bank slumping, and infrastructure failure. All years: continue existing riparian restoration projects.	NR staff began growing stocks of Pacific yew and Pacific madrone, and continued researching alternatives to red alder, the species continuing to demonstrate significant decline throughout the city. Other native species, including western redcedar are showing stress, but not resulting in massive die off yet. Existing restoration projects continued, almost entirely with professional crews instead of volunteers due to Covid social distancing requirements: **Sandy Basin**: Kelly Creek (2 sites) **Willamette Basin**: Johnson Creek main stem (9 sites), Jenne Creek (1 site), Butler Creek (1 site), Chastain Creek (1 site) and Fairview Creek (3 sites). Each of these sites are under active management for invasive species control, with a subset of these sites receiving additional native plantings including Johnson Creek (3 sites), Jenne Creek (1 site), and Kelly Creek (2 sites). The Natural Resource program also started its Upper Butler Creek CIP project and will be implementing the baseline report and restoration plan in Fall 2020 and continue through Fall 2023.	NR staff have continued development of nursery stock for species best suited to assist with slope stabilization on the buttes. Existing restoration projects continued, almost entirely with professional crews instead of volunteers due to Covid social distancing requirements: Sandy Basin: Kelly Creek (3 sites) Burlingame Creek (2 sites) Willamette Basin: Johnson Creek main stem (8 sites) Jenne Creek (1 site), Miller Creek (1 site), Kelley Creek (1 site) Fairview Creek (3 sites) Columbia Slough (2 sites) Activities at each site detailed in Table 3-3 of the City's NPDES report.	New forest health data is being incorporated into City's prioritization of restoration sites in order to address climate-induced die off, predominantly of alder. Due to the associated wildfire and landslide risk related to forest die-off, consideration of project sites completed in 2022 will include consideration of natural hazard risk mitigation.			X								X	X	X	X	X		X			X
				2020 additions to the draft new riparian buffer code included improved code enforcement provisions related to overly common practice of dumping yard debris materials into riparian open spaces. Enforcement will begin when new code is effective in January 2021.																						
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.	**Implementation reporting:** annually provide projects implemented projects under Performance Measures for NPT-1 and NPT-2. **Shade reporting:** At roughly 10 year intervals 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). Resulting 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.	2019: • Shade classification update 2020: • Natural Resources Master Plan project prioritization schema updated	The Shade Classification Update was delayed in 2019 due to staff shortages related to EOP obligations. Shade Classification update is being initiated in late 2020 and will be finalized in 2021, with results provided in next year's Temp TMDL report. Covid related delays to NRMP field work update has shifted this work to late 2020/early 2021. Results will be included in next year's Temp TMDL report.	City's Shade Class Assessment was updated to a new methodology with vastly improved reducibility and less dependence on best professional judgement. The new LiDAR-based assessment of vegetation height within the Temp TMDL buffer was run on 2009 conditions and 2019 conditions (2019 being the most recent LiDAR data set available) with an overall slight improvement in shade conditions found. Additional info on attached page. Updated Shade Classifications used in prioritizing projects in the 2021 Natural Resources Master Plan update.	2021-22: Staff developing geodatabase tracking of riparian sites have improved square footage tracking of impacts, costs, and correlation with alteration of shade classification ratings over time.			X								X	X	X	X	X		X			X

Table 4 (TMDL Implementation Plan Commitments), page 2

Riparian Shade Comparison, 2008-2019
City of Gresham Natural Resources Program

Prepared for Gresham's Annual NPDES/TMDL Report for 2020-21

Background:

As part of City of Gresham's efforts to increase city-wide stream shade to assist watershed partner efforts in meeting Temperature TMDL criteria for the Lower Willamette and Sandy basins, riparian restoration project needs were prioritized in 2009 based in part on an assessment of relative stream shade conditions across the current and future city jurisdiction. The baseline assessment of existing riparian shade conditions along all of Gresham's mapped streams (roughly 70 miles of stream) was conducted in 2008, with the following findings:

Resource		Watershed			Total
		Johnson Creek*	Kelly/ Burlingame/ Beaver Creeks	Columbia Slough- Fairview Creek	
Temperature TMDL Buffer (acres)		615.99	65.52	45.16	726.67
Category 1 Shade	Area (acres)	79.90	17.43	21.36	118.69
	Percent of TMDL Buffer	13.0	26.6	47.3	16.3
Category 2 Shade	Area (acres)	113.80	21.00	18.23	153.03
	Percent of TMDL Buffer	18.5	32.1	40.4	21.1
Category 3 Shade	Area (acres)	422.29	27.09	5.57	454.95
	Percent of TMDL Buffer	68.5	41.3	12.3	62.6

* Natural resources within the Johnson Creek watershed include those resources outside the current city limits within the new community areas Springwater Community, Pleasant Valley, and the Kelley Creek Headwaters. These areas are slated for annexation into the City of Gresham.

Shade categorization was based upon aerial photo analysis focused on relative amount of adjacent bank visible through tree cover, and visibility of easily distinguished low structure vegetation vs. tree cover. Shade Category 1 represented the lowest percentage of riparian shade (<25% of the stream

shaded), Category 2 represented 25-75% of the stream shaded, and Category 3 represented the greatest percentage of riparian shade (>75% of the stream shaded). The assessment protocol used had been established by Oregon Watershed Enhancement Board (OWEB), based largely on an existing Washington method for comparative stream condition analysis. 2006 aerials were used, as they were the most current available in 2008, and additional oblique-angle imagery available at www.live.com in 2008 was also used to map contiguous segments of each shade category, at a scale of approximately 1 inch = 650 feet. For larger streams such as Johnson Creek, separate shade categories were mapped on either side of the stream; for smaller streams (generally six feet wide or smaller), a single shade category was mapped for both stream banks. While mapping shade categories from the aerial photographs, areas needing field verification were identified. These sites and other random stream reaches were visited to verify the accuracy of the shade mapping.

2020 Methodology Update:

This 2008 shade categorization method, while utilized widely in Oregon and Washington at the time of the original assessment, had a few deficiencies in terms of reproducibility: it was dependent on the best professional judgement of natural resource consultant support that would likely change over time, and each new assessment would likely result in a degree of assessment errors that detracted from the validity of comparing shade classifications over long stretches of time. Also, the multiple aerial photo sets used had differing degrees of oblique-angle error inherent in the collection of aerial imagery over time.

A more consistent and efficient methodology was developed by Gresham staff in 2020 which made use of regional LiDAR datasets collected over NW Oregon and the Metro region since 2007. The ability to rely on digital data derived from regionally established protocols allows Gresham results to be compared, if DEQ wished, to other portions of the Lower Willamette of Sandy River basins.

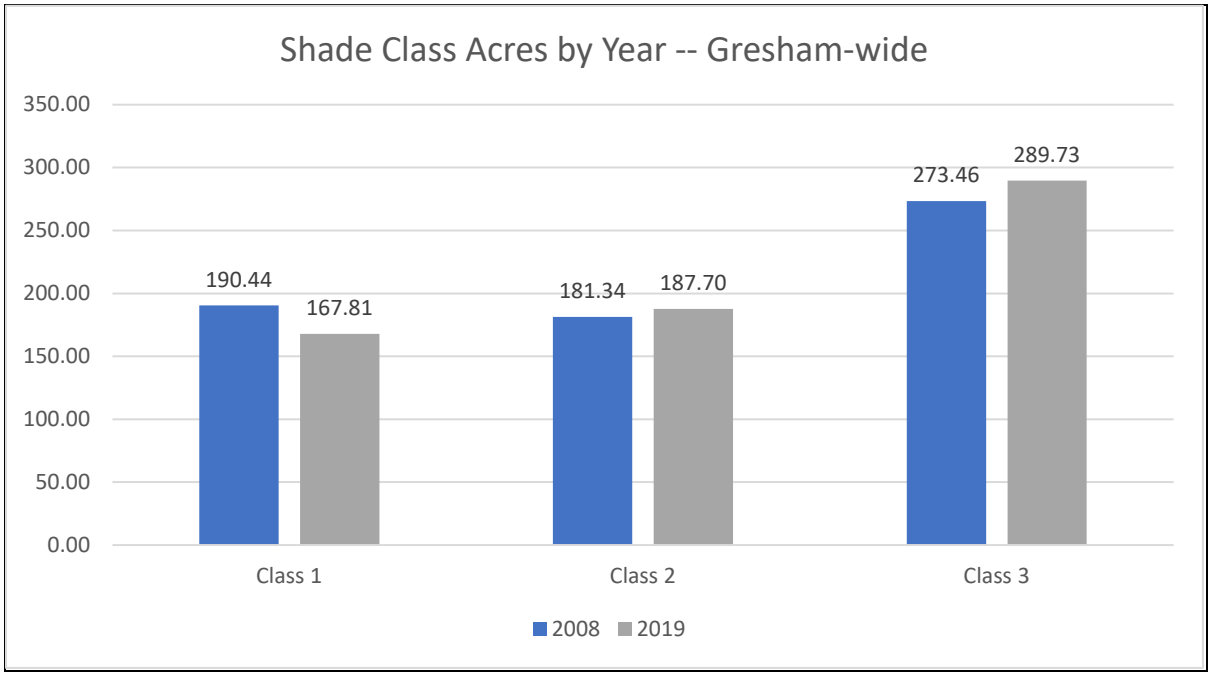
The new methodology uses 1-meter resolution LiDAR-derived Digital Elevation Models (DEMs) to measure the height of existing vegetation across the Temp TMDL buffer. Retained from Gresham's original 2008 methodology is a 3-tiered categorization. The new method defines Shade Class 1 as consisting of vegetation less than 15 feet tall (reflecting primarily unvegetated areas and vegetated areas with herbaceous forbs and most woody shrubs). Shade Class 2 consists of vegetation between 15 and 50 feet tall reflecting tall shrubs and short or immature trees. Shade Class 3 consists of vegetation more than 50 feet tall reflecting more mature, taller trees that tend to dominate riparian forests under natural conditions within Gresham.

Direct comparisons between 2008 shade class methodology and the newer method are complicated by different Temperature TMDL buffer methodologies being used. In 2020, the City used consistent buffer widths whereas in 2008 the City was using azimuth-based variable buffer widths. Additionally, jurisdictional stream determinations have been completed since the original assessment, and that has altered the underlying stream network used to create these buffers. Figure 1 compares shade class statistics across comparable buffer areas between these two shade class methods. Since they have different methodologies, it is not unexpected that they differ.

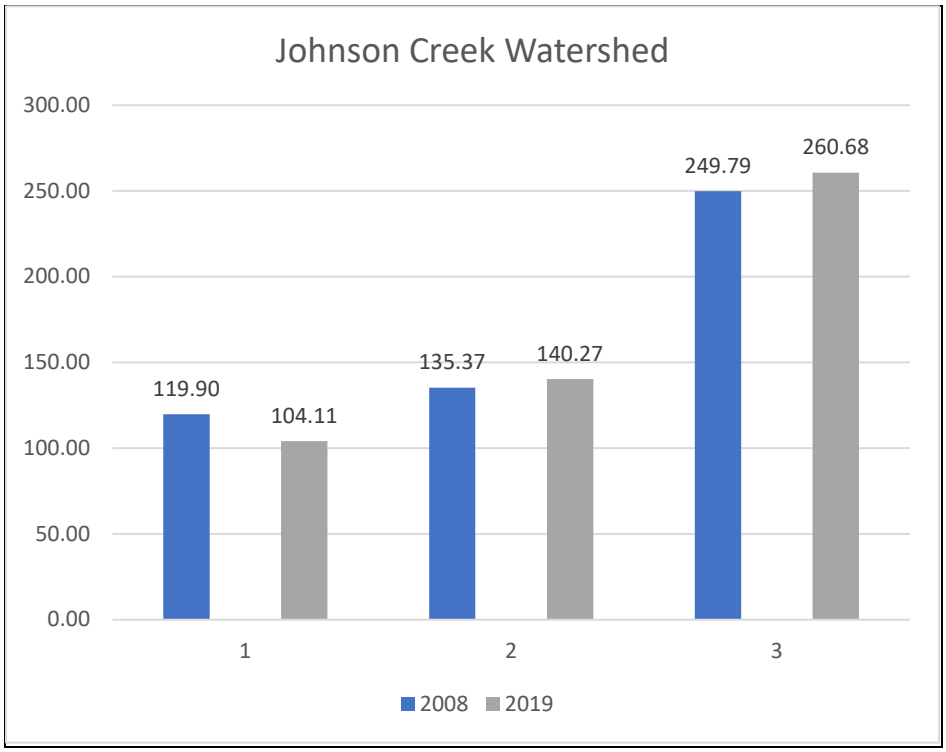
Figure 1

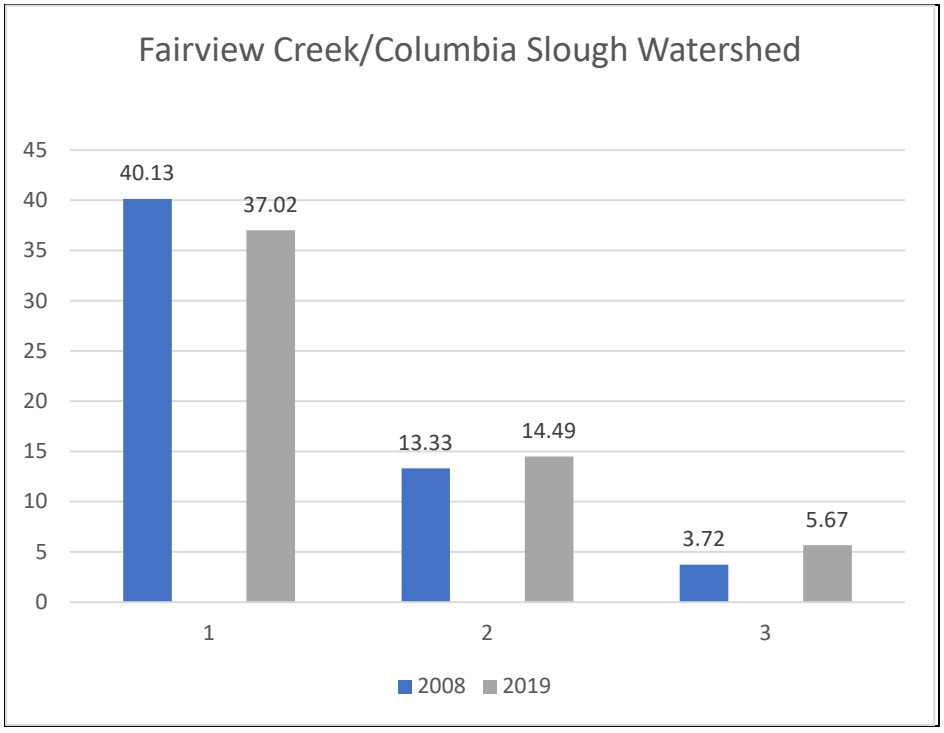
Findings:

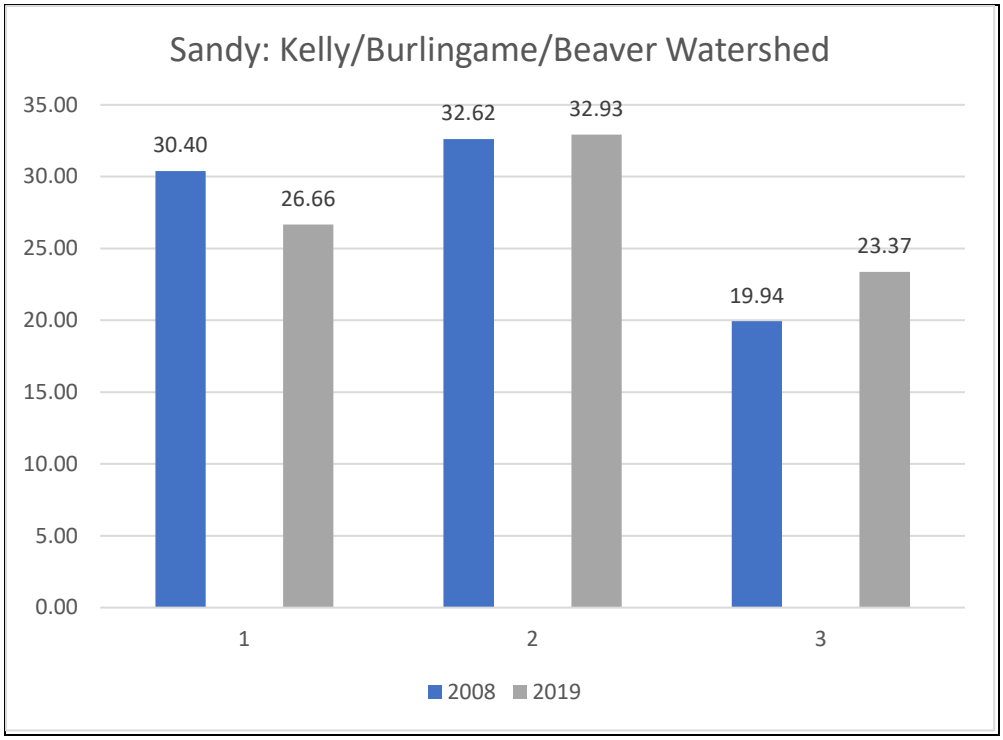
The new 2020 methodology allows for efficiently comparing shade-producing vegetation across buffer areas through time. Using the 2008 and 2019 LiDAR data sets for the Gresham area, and using the 2020 adopted standardized riparian buffer widths applied to both the 2008 and 2019 LiDAR data sets, the methodology shows the changes for vegetation height for the same land area adjacent to mapped streams. The resulting overall comparison across the Gresham jurisdiction shows a trend toward increased riparian shade (a decrease in overall acres of low vegetation such as grass or blackberries, and increase in overall acres of vegetation heights over 15', and increase in overall acres where riparian vegetation is now over 50').



Split out by watershed, the statistics for each watershed also show a trend of increasing vegetation height (declining acreage of low structure vegetation, and increasing acreage of taller woody vegetation).







Next Steps:

The updated shade classification mapping resulting from the 2019 LiDAR-based assessment is being used in the Fall of 2021 in prioritizing riparian restoration projects as part of the update to the City's Natural Resources Master Plan, which is currently slated to be finalized and approved by City Council in late 2021/early 2022.

Additional detail on the stream shade assessment method, maps of the assessment output, and information on how the assessment informs the City's Natural Resources Master Plan project prioritization is available by contacting Gresham's Environmental Data Analyst, Jeff Lesh, at jeff.lesh@greshamoregon.gov.