Jenna Kay

From: Monica Zazueta <zazuetamonica0813@gmail.com>
Sent: Wednesday, January 15, 2025 8:20 PM
To: Jenna Kay; Amy Koski; sylvia@mosaicresolutions.com; Dana Hellman; Ben Duncan; tlunsford@parametrix.com; Harrison Husting; Nicole Metildi
Subject: Fwd: Clark County Noxious Weed Chemicals
Attachments: ThomasWetlandHeadsUpFINAL4_14_14.pdf; Clean_Water_Division_overview_10_5_16.pdf; Stormwater Capital Plan 2020-2025.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

---------- Forwarded message ---------
From: **Heidi Cody** <hcodystudio@gmail.com>
Date: Wed, Jan 15, 2025, 5:09 PM
Subject: Clark County Noxious Weed Chemicals
To: Monica Zazueta <zazuetamonica0813@gmail.com>

Here are some attachments and info about Clark County's Noxious Weed Management Program in one County Park, Douglas Carter Fisher Park which is adjacent to ThomasWetland:

Clark County Noxious Weed Management

Clean Water Act Section 319

Clean Water Act Section 404

Under Clean Water Act 404, activities that involve the use of any of the toxic chemicals listed under section 307, the agency or body cannot be approved for an exemption permit. Clark County's Noxious Weed Management contracts out several weed management companies that use chemicals composed of toxic pollutants as a method of weed control at the wetland.

--
Coalition Manager
Alliance for Community Engagement SW WA (ACE)

HEADS UP!

SPRING 2014

A Message From Clark County About a Project in the East Minnehaha Neighborhood

Grant funding:
DEPARTMENT OF ECOLOGY
State of Washington

CONSTRUCTION IN
THOMAS WETLAND EAST FACILITY

Stormwater Facility Renovation

Clark County Public Works and Environmental Services will expand and reconfigure existing stormwater facilities to better manage polluted storm water runoff from roads, roofs and other surfaces in the East Minnehaha neighborhood.

Federal, state and local laws require the county to collect and treat polluted runoff to protect the environment. Without proper stormwater management, runoff picks up oil, fertilizers, pesticides, pet waste and other contaminants and carries that pollution into streams and waterways, where it can harm fish and other aquatic life.

The project will expand and reconfigure the existing stormwater wetlands to improve water quality treatment and reduce high flows from rainstorms into the Lower Burnt Bridge Creek subwatershed.

When construction is complete, the expanded facility will be up to 360 feet long (east/west) and 460 feet wide (north/south). The facility will be able to hold 3.63 million gallons, enough water to fill more than five Olympic-size pools.

WHAT TO EXPECT AND WHEN

- **Construction should begin in early July 2014,** depending on weather conditions. Construction should wrap up in early fall 2014, followed by wetland plantings during the winter.
- **Work will be during daylight hours on weekdays**, although the contractor could work some evening and weekends, depending on scheduling.
- **Construction will require a substantial amount of earth moving and excavating**, including removal of some existing vegetation. Residents may notice a significant number of trucks heading to and from the construction site.

Existing wetland east of Douglas Carter Fisher Neighborhood Park

Adjacent residents could experience a modest amount of dust, noise and vibration from construction. The contractor will be required to have a community liaison to handle any problems that might arise.

Construction will be followed by planting more than 7,000 native plants over the winter months that will improve the appearance of the area, including 2-foot tall trees (half deciduous and half conifers), shrubs, rushes and sedges.

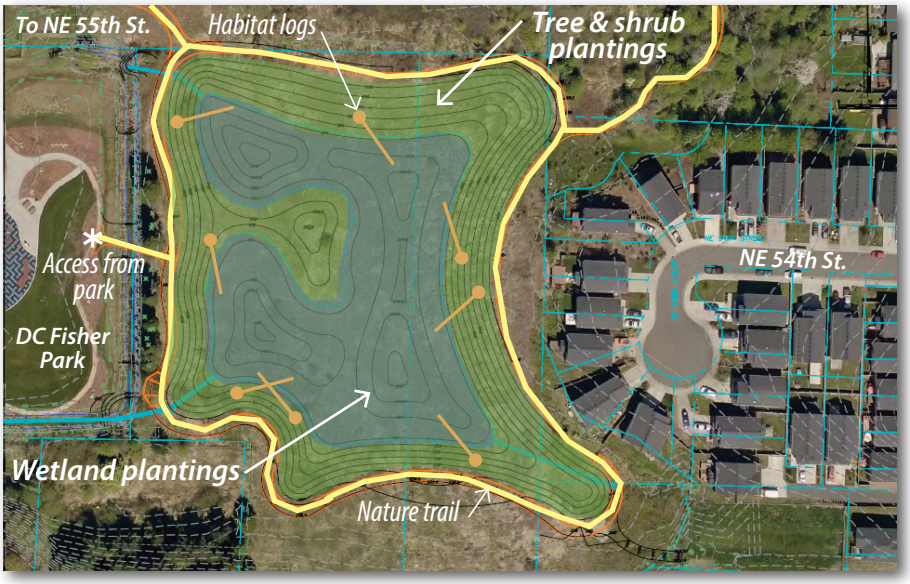
Construction workers and equipment will access the site using up to three different locations. When construction is complete, these access points will be controlled with gates. County staff will periodically use the access points for routine maintenance and monitoring work.

FUNDING

This project is funded by a grant from the Washington State Department of Ecology and the Clean Water Fee paid by property owners in unincorporated Clark County. Construction costs are approximately $1.3 M.

Watershed Fact: According to the 2010 Clark County Stream Health Report, the Burnt Bridge Creek has been identified as having "Poor" water quality. Projects like this one aim to improve stream health in the downstream creek.

PROJECT AREA



Tips for a healthy home

ClarkGreenNeighbors.org

green NEIGHBORS

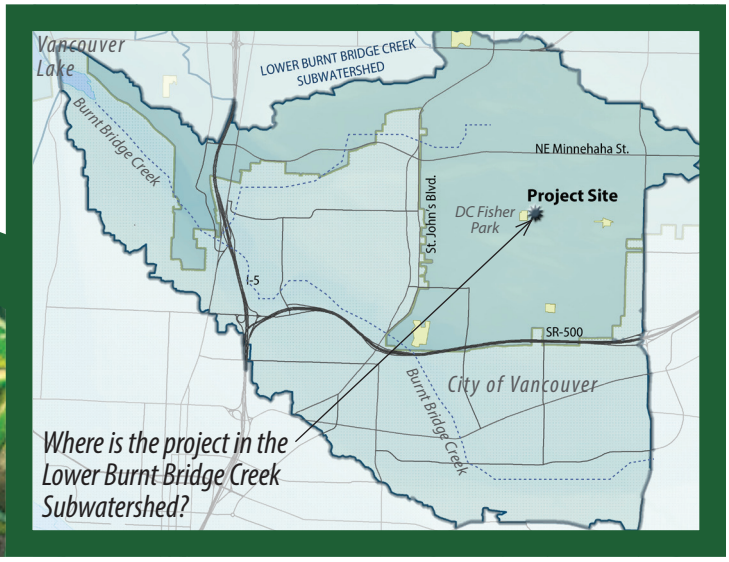
You can play a role in protecting Burnt Bridge Creek. Visit the Clark County Green Neighbors website to learn how to prevent polluted storm runoff before it starts.

THIS FLIER CONTAINS IMPORTANT NEWS REGARDING A COUNTY PROJECT IN YOUR NEIGHBORHOOD

To Find Out More:

***Scott Fakler*, Project Manager**
(360) 397-6118 ext. 4394
Scott.Fakler@clark.wa.gov
www.clark.wa.gov/environment

CRP #401972



For other formats, contact the Clark County ADA Office: **Voice** (360) 397-2322; **Relay** 711 or (800) 833-6388; **Fax** (360) 397-6165; **E-mail** ADA@clark.wa.gov.

Clark County
Department of Public Works
PO Box 9810
Vancouver, WA 98666-9810

CLARK COUNTY, WASHINGTON

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Clark County
Clean Water Division

An overview of the stormwater program

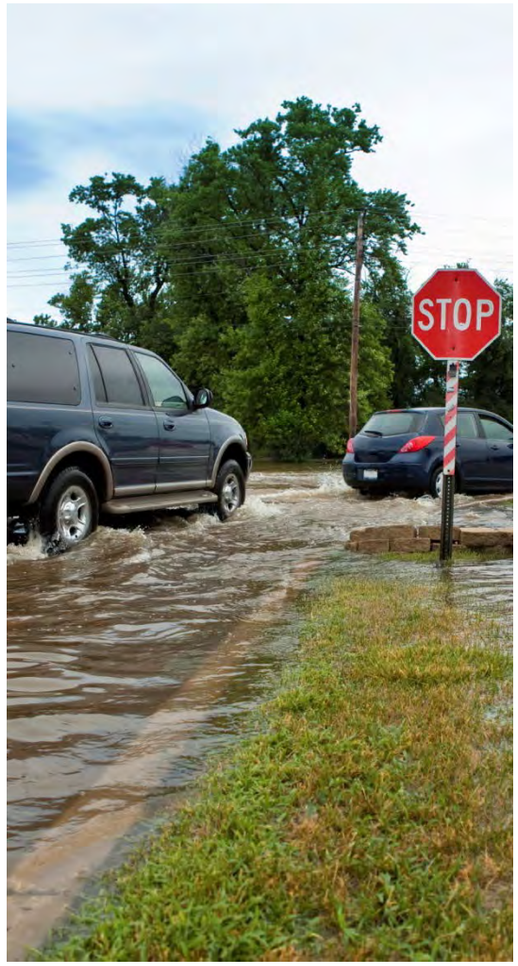
PUBLIC WORKS
1300 FRANKLIN ST.
Public Service Center
Vancouver, WA 98666-9810
(360) 397-2121
cleanwater@clark.wa.gov

What is stormwater?

Water from rain or melting snow that "runs off" across the land instead of seeping into the ground.

Fact: Stormwater is the #1 threat to water quality in urban areas

- **Impervious surfaces increase amount of stormwater runoff**
- **Runoff causes erosion of bare dirt increasing sediment to waterways**
- **Pollution in runoff from cars, yards, household, and pet waste impacts water quality**



Stormwater example …

Increased impervious surfaces (roads, houses, buildings, sidewalks, etc.) limits where the stormwater runoff can soak into the ground

Why does it matter, why should we care?

- **Reducing pollution (point and non-point sources) protects water quality**
- **Managing stormwater runoff reduces volumes that could erode river channels**
- **Protecting our quality of life for recreational uses such as swimming and fishing**
- **Protecting wildlife habitat for the diverse species that live in and near our rivers**

Who regulates stormwater?

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Primary Regulatory Authority

- State of WA Dept. of Ecology — WA Water Pollution Control Law RCW Chapter 90.48
- United States Env. Protection Agency — Federal Water Pollution Control Act USC Title 33, Section 1251

Primary CC Authority

- BOCC
- County Manager

CC Code 13.26A, 40.386 – plus other related planning codes

Primary Responsible County Departments

Public Works + Clark County Departments

- Community Development
- Community Planning
- Prosecuting Attorney
- Public Health

Stakeholders

- Technical Advisory Stakeholder Advisory Development Engineering Advisory Board
- Other municipal NPDES permittees
- General Public

Clean Water Division programs:

6

- **Inventory and Mapping**
- **Stormwater Capital Construction**
- **Maintenance and Operations**
- **Assessment and Monitoring**
- **Technical Assistance and Enforcement**
- **Education and Outreach**
- **Fee Administration**

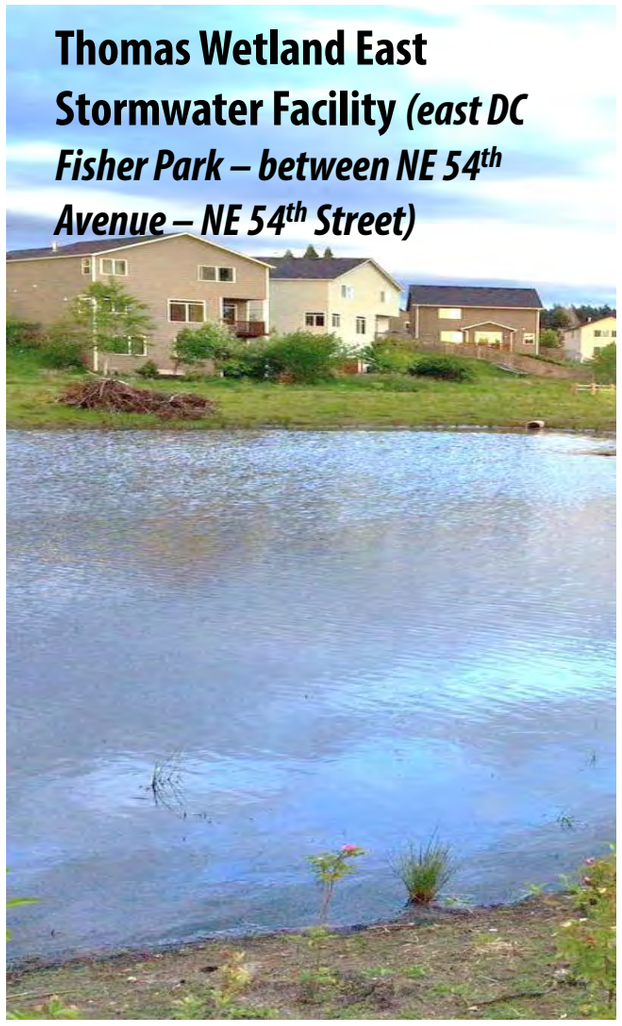
Identifies and maps the location of all stormwater features in GIS

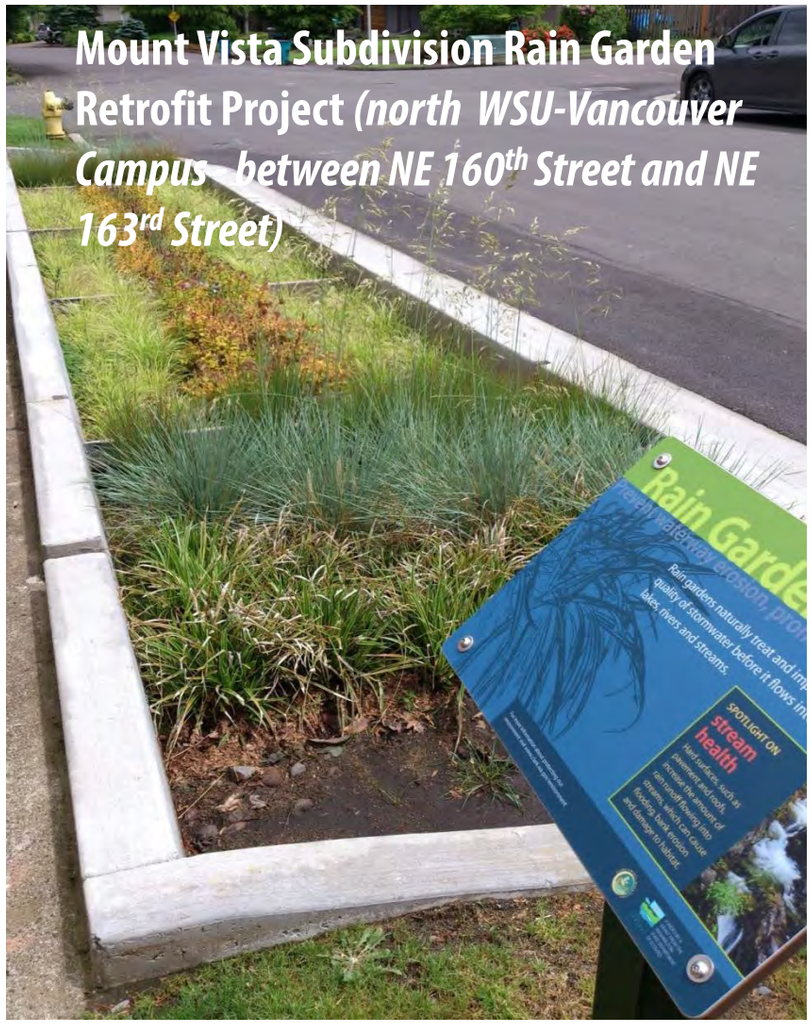
Clean Water Division programs:

7

- Inventory and Mapping
- Stormwater Capital Construction
- Maintenance and Operations
- Assessment and Monitoring
- Technical Assistance and Enforcement
- Education and Outreach
- Fee Administration

Builds new facilities to manage runoff for quantity and quality or retrofits old facilities

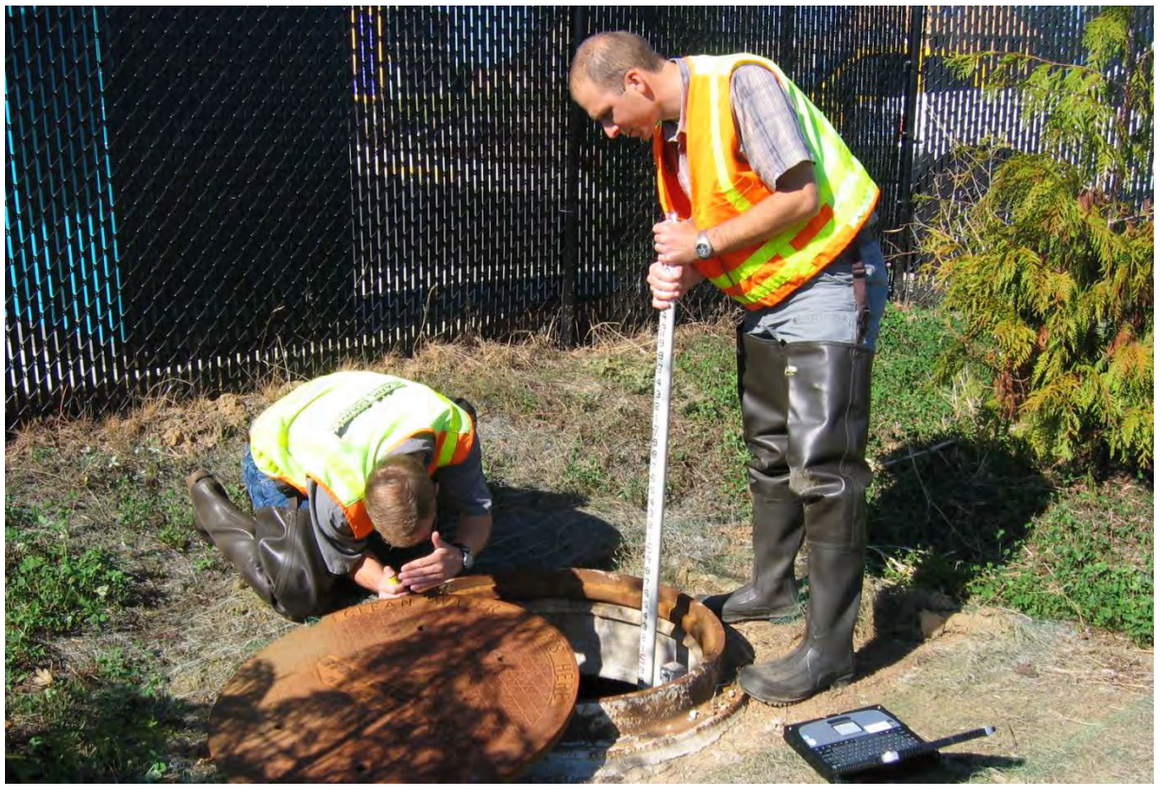




Clean Water Division programs:

- Inventory and Mapping
- Stormwater Capital Construction
- Maintenance and Operations
- Assessment and Monitoring
- Technical Assistance and Enforcement
- Education and Outreach
- Fee Administration

County staff inspect, repair and maintain county-owned facilities. We also work with owners of private facilities for ongoing maintenance.



Clark County stormwater system: more than 1,000 county owned facilities, including 450 detention/retention ponds; 400 miles of stormwater pipes; 11,000+ catch basins; 2000+ drywells

Clean Water Division programs:

9

- Inventory and Mapping
- Stormwater Capital Construction
- Maintenance and Operations
- Assessment and Monitoring
- Technical Assistance and Enforcement
- Education and Outreach
- Fee Administration

Monitoring provides a picture of the health of local waterways. Testing include water chemistry, pollution and aquatic bugs (indicator of health).

Clean Water Division programs:

- Inventory and Mapping
- Stormwater Capital Construction
- Maintenance and Operations
- Assessment and Monitoring
- Technical Assistance and Enforcement
- Education and Outreach
- Fee Administration

Site visits – help businesses identify problems and solutions

Technical assistance – support Homeowner's associations with inspection and maintenance

Code enforcement – works with owners to correct problems

Clean Water Division programs:

- Inventory and Mapping
- Stormwater Capital Construction
- Maintenance and Operations
- Assessment and Monitoring
- Technical Assistance and Enforcement
- **Education and Outreach**
- Fee Administration

Raise awareness of stormwater issues as well as affect behavior to reduce pollution. Audiences include general public, businesses, citizens, homeowner's associations, and partner agencies.

Clean Water Division programs:

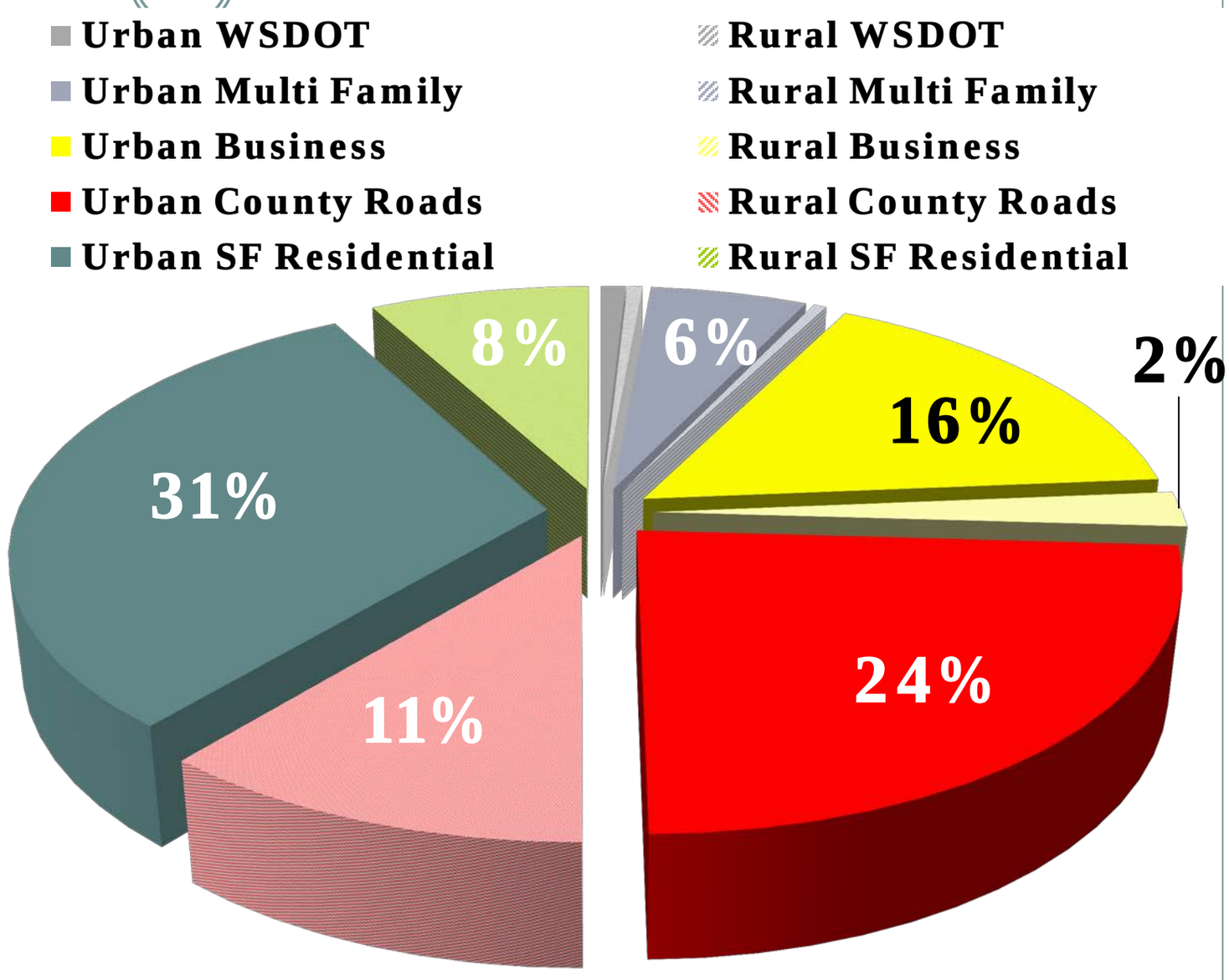
- Inventory and Mapping
- Stormwater Capital Construction
- Maintenance and Operations
- Assessment and Monitoring
- Technical Assistance and Enforcement
- **Education and Outreach**
- Fee Administration

Examples of educational messages:

- Canines for Clean Water – pick up pet waste
- Business source control – don't dump or wash materials down storm drains, repair dumpsters
- Lawn care – reduce chemical use and sweep (don't rinse down a drain)
- Green Neighbors – information that applies to residential homes
- Schools – Student watershed monitoring network partnership with the City of Vancouver
- Spill Kit Program – provide information on how to clean up spills to prevent pollution
- Small Acreage Program – large lot properties can manage manure and other runoff risks

Clean Water Division programs:

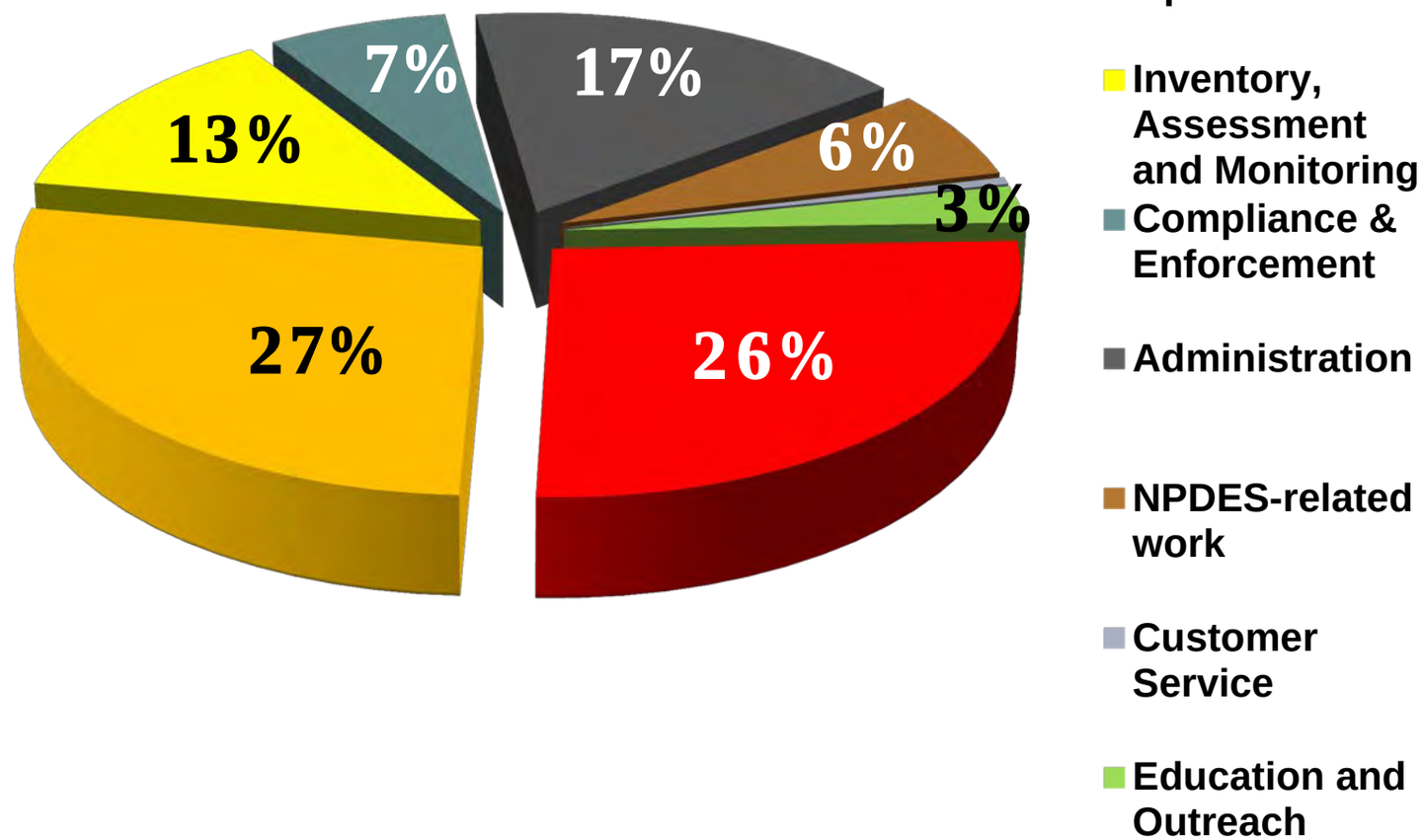
- Inventory and Mapping
- Stormwater Capital Construction
- Maintenance and Operations
- Assessment and Monitoring
- Technical Assistance and Enforcement
- Education and Outreach
- Fee Administration



Where the monies come from - CWD manages the Clean Water Fee program for properties with impact to stormwater runoff

Clean Water Division programs:

- Inventory and Mapping
- Stormwater Capital Construction
- Maintenance and Operations
- Assessment and Monitoring
- Technical Assistance and Enforcement
- Education and Outreach
- Fee Administration



Where the monies go to manage the program – CWD invests approximately $13.4 million for the 2015/2016 budget cycle

What are the changes for 2016?

Updates to the Clark County Stormwater Manual and related municipal code:

- **<u>New stormwater manual</u> – Administration, BMP Design, Source Control and Maintenance/Operations**
- **<u>Updated codes</u> – edits to CCC 13.26A Water Quality and repeal of CCC 40.385 Stormwater and Erosion Control – Replace with 40.386**
- **<u>Requirement to use Low Impact Development</u> where feasible, including bioretention, rain gardens, infiltration, etc.**

The goal is to mimic the natural landscape – let stormwater infiltrate into the ground as close to the source as possible and minimize pollution of that runoff.

Do you need more information?

Contact the Clean Water Division:

1300 Franklin St.
Vancouver, WA 98666-9810
(360) 397-2121
www.clark.wa.gov/stormwater

Heath Henderson
Director, Public Works Services

Dean Boening
Division Manager, Clean Water

Thomas Wetlands East, East Minnehaha Neighborhood

2020-2025

STORMWATER CAPITAL PLAN

Clark County Public Works - Clean Water Division
1300 Franklin St., Vancouver, WA 98666-9810
564.397.4345
www.clark.wa.gov/stormwater

October 2019

For other formats, contact the Clark County ADA Office

Voice 360.397.2322 **Relay** 711 or 800.833.6388
Fax 360.397.6165
Email ADA@clark.wa.gov

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This document represents the efforts and cooperation of Clark County staff, the Clark County Clean Water Commission, and the Clark County Council. Thank you to all who participated in the development of this plan.

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David McDevitt
Sue Marshall
Justin Maynard
Michelle Maynard
Joshua Seeds

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Stormwater Management Program

The Public Works Clean Water Division administers the Clark County Stormwater Management Program to protect surface water and groundwater resources from polluted storm water runoff and to coordinate compliance with state and federal Clean Water regulations. Primary responsibilities of the stormwater management program include: planning and building stormwater control facilities; removing pollutant sources; water quality monitoring of stormwater runoff and streams; public education and outreach; development and enforcement of water quality regulations; coordination with other municipalities; and maintenance of the county's stormwater system.

As the county's population continues to increase, Clark County is committed to responsible stormwater management to keep our waterways clean for people, fish and wildlife.

Unfortunately, many past drainage and stormwater management practices and regulations have proven inadequate to prevent stormwater runoff impacts to streams, wetlands and groundwater. Thousands of developed acres in Clark County currently contribute to problems in streams, lakes and rivers.

Stormwater Impacts and Solutions

Impacts of stormwater runoff on waterways are well-documented and widespread. In Clark County, runoff contributes to impaired stream health, diminished fish populations, and degraded habitat conditions. These impacts have been described in the *2010 Clark County Stream Health Report*, the *2010 Lower Columbia Salmon Recovery and Fish & Wildlife Subbasin Plan* and the Washington Department of Ecology's statewide list of impaired water bodies.

Figure 1. Encore Stormwater Facility

Stormwater runoff impacts water bodies in two critical ways: water quality and water quantity. Stormwater runoff from roads, fields, rooftops, parking lots and yards carries with it a variety of pollutants deposited by everyday activities. Fertilizers, oil, grease, heavy metals, pesticides, industrial chemicals, soil and animal wastes all can make their way to water bodies in stormwater runoff. These pollutants degrade stream water quality, posing risks to both human health and stream life.

Hard surfaces and cleared areas increase the amount and speed of stormwater runoff flowing into streams. This results in streams with too much flow during storms and too little flow during non-storm periods. Left unchecked, this situation leads to increased erosion during storms, decreased habitat quality, reduced groundwater recharge, impacted stream life and poor overall water quality.

Projects in the Stormwater Capital Plan help protect waterways in many ways. Examples include keeping existing stormwater facilities in good repair, updating or building new stormwater control facilities to

remove pollutants or slow down runoff, planting trees, preserving intact forested/streamside habitats, increasing infiltration to groundwater and rehabilitating stream channels.

What is in the Stormwater Capital Plan?

This document includes:

- Regulatory requirements summary
- Local framework for stormwater capital planning
- Description of project types and strategies for implementation
- Description of the process used to develop the capital plan
- Six-year plan funding matrix
- Map and index of projects included in the plan
- Detail sheets for projects included in the plan

Regulatory Requirements Summary

Clark County selects projects for the Stormwater Capital Plan based on environmental factors, as well as to meet regulatory requirements stemming from federal and state laws. The Clean Water Act's National Pollutant Discharge Elimination Systems (NPDES) Phase I Municipal Stormwater Permit program and Washington's state water pollution laws provide regulatory objectives.

NPDES Permit – S5.C.7. Structural Stormwater Controls

The NPDES Permit requires the county to have a program to construct structural stormwater controls to prevent or reduce impacts to waters of the state caused by discharges from the municipal separate storm sewer system (MS4). Under the permit, projects include flow control facilities, water quality treatment facilities, sediment traps, retrofits of existing facilities and property acquisition to provide water quality or flow control benefits. Other means of reducing impacts include riparian habitat acquisition and restoration of forest in upland areas or in riparian buffers.

Chapter 173-218 WAC – Underground Injection Control (UIC) Program

Pursuant to Chapter 90.48 RCW and Chapter 173-218 WAC, the state's requirements for stormwater infiltration wells may drive capital improvements if the county finds systems that pose a threat to groundwater quality.

Stormwater Capital Planning Local Framework

Policies and Goals

County policies for stormwater capital planning include:

- Meet the Phase I Municipal Stormwater Permit (Permit) requirements through stormwater capital planning and capital construction.

County goals for stormwater capital projects include:

- Protect and enhance streams and wetlands in Clark County through planning and constructing modifications to the stormwater infrastructure.
- Minimize the degradation of receiving waters caused by stormwater runoff in urban areas.
- Maximize public benefits of county-owned land by providing multiple uses such as recreation and by leveraging funding from multiple sources.

Guiding principles

In support of county policies and goals, the capital planning process strives to:

- Prioritize projects with the greatest potential to support multiple county programs and goals, including local and regional fish recovery, habitat enhancement and pollution prevention goals.
- Ensure a reliable scientific and engineering basis for projects.
- Ensure each project in the plan is needed, feasible and cost-effective.
- Focus limited resources on cost beneficial solutions to the most pressing concerns.
- Incorporate environmental benefits into needed infrastructure repair projects.
- Maintain a list of potential projects to take advantage of funding opportunities.

Projects and Ongoing Programs

Project Types

Stormwater capital projects are grouped into six basic types for planning purposes.

Capital Repair

Description

Capital repair projects are stormwater facility repair projects costing more than $25,000. Repairs of this kind are required under the county's Permit; however, due to the higher costs associated with capital repair work compared to routine maintenance, the Permit does not set a time limit for completing capital repair projects. Typical repair activities include replacing pipes and flow control structures, addressing drainage problems, large-scale sediment or vegetation removal, and replacing retaining walls or access roads.

Figure 2. Bioswale (typical)

Strategy

Repairing and maintaining existing infrastructure is a county priority. Routine inspection of county stormwater facilities identifies repair needs. Given regulatory requirements and funding constraints, Clark County intends to address as many of the existing list of capital repair projects as feasible in each 6-year plan.

Water Quality

Description

Water quality projects include a variety of modifications to stormwater infrastructure to add or enhance water quality treatment. Examples include installation of cartridge filter systems, conversion of swales to bioretention facilities or wet ponds and other improvements to stormwater facilities or conveyance systems such as replacing existing catch basins with treatment BMPs.

Figure 3. Roadside bioretention

Strategy

Water quality projects typically address the Permit-required Structural Stormwater Controls program and consequently represent a significant annual investment. Water quality projects are located primarily in older urban areas with little or no water quality treatment. These areas contribute disproportionately to water quality degradation in streams such as Salmon Creek. The focus is on areas with no treatment followed by those with outdated treatment facilities, particularly higher traffic areas where pollutant loads are greater.

Hydrology Improvement

Description

Hydrology improvement projects address problems resulting from too much stormwater runoff. These may include new facilities, retrofits to provide additional detention or retention within existing facilities and low impact development practices aimed at reducing the volume of runoff and enhancing groundwater recharge.

Figure 4. Wetland detention

Strategy

Hydrology improvement projects may be used to meet Structural Stormwater Control requirements and often address significant stormwater runoff impacts.

These projects are typically focused on adding controls to stormwater treatment ponds. Streams in urbanizing areas are still in the process of adjusting to development and increased runoff, and may benefit from additional flow control. Projects in fully urbanized areas are avoided because streams have already been damaged and adjusted to the increased flows.

Underground Injection Control (UIC)

Description

UIC wells are large manholes and buried trenches designed to infiltrate runoff. Projects to retrofit UIC wells improve stormwater infiltration systems that are a demonstrated threat to groundwater quality. Improvements typically include the addition of upstream treatment devices, replacement of deeper wells with shallower wells to avoid groundwater, or the replacement of failing infiltration wells with alternative stormwater retention or detention facilities.

Figure 5. Manhole

Strategy

Under requirements in Chapter 90.48 RCW, Clark County has identified and registered 2,200 UIC wells with the Washington State Department of Ecology and assessed each one's risk for polluting groundwater. The county's obligation to retrofit failing or high-threat facilities began in 2015. Some UIC well projects may also satisfy municipal stormwater permit requirements for the Structural Stormwater Controls program if they overflow to the storm system or remove runoff discharging to streams.

Stream Stabilization and Habitat Improvement

Description

Stream stabilization and habitat improvement projects typically include channel enhancements, bank stabilization, floodplain reconnections or culvert/fish barrier removal.

Strategy

Stabilization and habitat projects are often very cost-effective methods to improve stream habitat and function where past impacts have been significant. Their presence is limited in the capital plan because these projects typically do not qualify as Structural Stormwater Controls under the Permit. However, habitat projects may be competitive as grant submittals and may also satisfy permit requirements to implement watershed-scale stormwater plans.

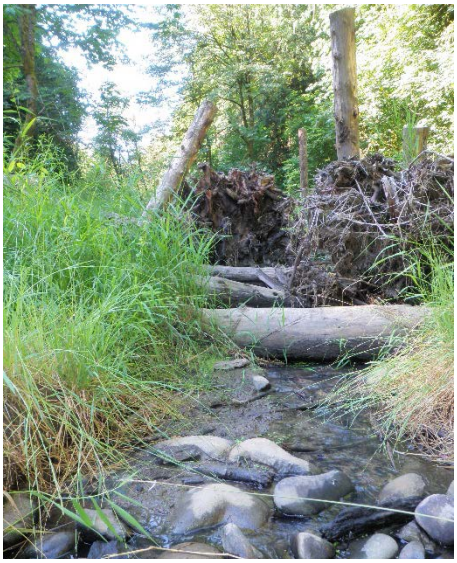


Figure 6. Stabilized stream channel

Ongoing Programs

Ongoing Programs allocate funding to specific programmatic efforts that support Structural Stormwater Control requirements on an ongoing basis. These programs are described briefly below and include:

- Reforestation
- Catch Basin Retrofit/Asphalt Overlay Coordination
- Sub-basin Retrofit Planning
- Property Acquisition
- Street Sweeping

Reforestation

Description

Reforestation enhances county properties with native vegetation. Intact and rehabilitated forested areas provide stormwater benefits because water evaporates from foliage, soaks into the ground or is taken up by vegetation. These projects maximize the ecological and stormwater benefits of the properties, supporting numerous local and regional environmental goals.

Strategy

Reforestation projects provide stormwater benefits that qualify for the Structural Stormwater Controls program and may be included in stormwater capital plans. Resources are allocated for the overall reforestation program, with individual project sites selected annually. Reforestation focuses on properties owned by the Clean Water Division, Parks Division and Legacy Lands Program, while promoting partnerships with Clark Public Utilities and the Lower Columbia Fish Recovery Board.

Figure 7. Tree planting

Catch Basin Retrofit/Asphalt Overlay Coordination

Description

Clark County Public Works operates an annual overlay program to preserve and upgrade pavement surfaces. The stormwater capital program coordinates with the overlay program to replace high priority catch basin inlets with cartridge-filter inlets in areas that have no water quality treatment.

Strategy

Coordinating these programs allows work to be completed in the same construction window, may reduce project bidding costs, and helps the retrofit program avoid restrictions on work in recently overlaid areas. Annual planning identifies high-priority inlets within planned overlay areas and individual inlets are assessed for feasibility of replacement. The number of applicable inlets varies from year to year and inlet replacement is incorporated into the overlay process and timelines as necessary.

Sub-basin retrofit studies

Description

Sub-basin retrofit studies follow previous stormwater planning efforts (Stormwater Needs Assessments) by identifying an array of projects that help meet stormwater and environmental goals in focused areas. This activity supports capital planning requirements under the current stormwater permit and will likely form the basis for meeting new watershed planning requirements in the 2019-2024 Permit which took effect in August 2019.

Strategy

The program utilizes existing assessment information along with focused field work and desktop analyses to help identify cost-effective projects. Projects are evaluated and included in 6-year Stormwater Capital Plans.

Property Acquisition for Stormwater Benefit

Description

Clark County purchases properties with existing high-quality habitat along streams, in wetlands or in forested upland areas. Preservation of these areas provides significant long-term watershed benefits, including stormwater control. Purchases are also made to secure property for needed stormwater improvement projects. Property acquisition may be costly and is dependent on the availability of willing sellers; however, preventing stormwater problems before they occur is among the most cost-efficient means of managing impacts. With limited public land available for construction of stormwater facilities, strategic property acquisition becomes increasingly important.

Figure 8. Conservation property

Strategy

Property acquisitions for habitat preservation are typically prioritized and pursued through the county's Legacy Lands Program. Current anticipated acquisitions are subject to future updates of the

Conservation Areas Acquisition Plan. When appropriate, Clark County seeks to leverage stormwater program and Conservation Futures funds together.

Property acquisitions utilizing solely Clean Water funding typically secure property for future construction of stormwater facilities and are often addressed on a case-by-case basis as opportunities or needs arise.

The program strives to allocate sufficient funds to take advantage of unplanned opportunities, as well as leverage known qualifying opportunities through Legacy Lands.

Acquisitions of intact riparian or forest habitat qualify immediately as Structural Stormwater Controls under the Permit. Land acquisitions for stormwater facility construction do not qualify until a stormwater facility is constructed on the property.

Street Sweeping

Description

Certain levels of street sweeping qualify as Structural Stormwater Controls under the Permit because they have a similar function as treatment facilities to remove solids from runoff. Clark County allocates considerable funding to annual street sweeping. Funding for this effort is provided in the Clean Water Division budget under maintenance activities rather than capital planning.

Strategy

Street sweeping is a cost-effective method to remove pollutants from road surfaces and is especially important in high traffic areas where there is little to no treatment. Clean Water funding supports year-round sweeping of arterial roadways to address these higher pollutant areas.

Plan Development

Capital planning is the process of identifying and implementing cost-effective projects that are aligned with the county's goals and reflect a consistent set of strategies and processes.

The approach to developing the 2020-2025 Stormwater Capital Plan included four components:

1. Priority-setting
2. Project identification
3. Project Verification
4. Programming projects for construction

The final product is a matrix listing planned projects and the anticipated schedule for funding and constructing them over the six-year capital plan timeline.

Priority-setting

The capital program considers projects within the entire unincorporated urban area and rural Clark County, but focuses on urban and urbanizing areas where stormwater impacts are greatest.

General priorities for 2020-2025 are listed and described below.

- Required capital repair projects (>25K)
- Required Underground Injection Control (UIC) projects to address high risk drywells
- Water quality treatment in Suds Creek and Cougar Creek tributaries to Salmon Creek
- Whipple Creek hydrology, treatment, and instream habitat from previous planning work

Required capital repair projects (>25K)

Good business practice dictates that repair of existing infrastructure should be a county priority. It makes little sense to construct additional infrastructure if the county fails to maintain existing facilities. The Permit recognizes the need to maintain existing facilities and requires timely repair under the maintenance requirements, but also allows scheduling for expensive repairs under the Structural Stormwater Controls requirement.

Clark County has an effective routine maintenance program that minimizes the occurrence of large-scale repairs. However, there is a small backlog of facilities that do not perform up to design expectations and require continued attention.

Required UIC projects

Clark County owns approximately 2,200 drywells registered with the state. These drywells were evaluated in 2013 to identify wells representing a high threat to groundwater quality. Forty wells met the criteria for high threat and must be addressed under UIC regulations. Nineteen wells were addressed under the 2013-2018 Stormwater Capital Plan; the remaining 21 wells are an ongoing priority as funding and opportunities allow.

Water quality retrofits: Suds Creek, Cougar Creek

Approximately 14 square miles within the unincorporated portions of the Urban Growth Area lack stormwater treatment. These areas were built to lesser or nonexistent stormwater standards and represent a significant gap in stormwater infrastructure.

The watersheds of many small creeks in these urban areas are heavily developed. Damage to creek channels from lack of stormwater flow control began long ago and is ongoing. Retrofitting these areas for flow control and/or hydrologic improvement is both prohibitively expensive and of limited value since these creeks are in the process of stabilizing under the current hydrology. Adding water quality treatment and/or infiltrating water to recharge groundwater are priorities, however, since these creeks are tributary to important salmon-bearing streams, recreational resources and waters on Ecology's 303(d) list of polluted waterbodies.

Water quality retrofits in the 2020-2025 plan focus on Cougar Creek and Suds Creek in the Salmon Creek watershed. This area was the focus of a sub-basin retrofit study in 2018 to identify high priority projects.

Whipple Creek hydrology, treatment, and instream habitat

In 2017, Clean Water completed a Watershed-Scale Stormwater Plan Report for Whipple Creek as required by the stormwater permit. Capital efforts will focus on hydrology improvement, treatment retrofits and instream projects as effective methods to protect and restore beneficial uses in this developing watershed.

Project Identification

Stormwater capital projects typically originate from systematic capital planning efforts, routine stormwater facility inspections, observations by maintenance crews, or evaluation of underground injection control wells.

Clean Water completed significant county-wide project identification and screening efforts between 2006 and 2011 under the Stormwater Needs Assessment Program (SNAP). The program identified many potential project opportunities, which formed the basis for much of the stormwater capital plan through 2018. During that time, most priority opportunities identified through the SNAP have either been constructed or were found to be infeasible. The remaining potentially viable projects from the SNAP effort are being re-evaluated in light of updated priorities during sub-basin retrofit studies.

Sub-basin retrofit studies follow up on earlier stream assessments, refining county efforts to plan and build stormwater controls that meet permit requirements and reduce pollutant discharges to receiving waters. The process for sub-basin retrofit studies was developed in 2018 and first applied to Cougar and Suds Creeks in the Salmon Creek watershed. Additional high-priority drainages will be evaluated beginning in 2019.

Studies identify an array of projects that will improve stream conditions, applying consistent objectives and specific project types tailored to the goals for each sub-basin. The process incorporates information from multiple county capital efforts and is intended to promote collaboration between county programs.

The studies apply a series of tools to identify projects, including a series of project area maps depicting existing conditions and needs, long-plots of high traffic roadway corridors, stormwater outfall

verification, review of underutilized and county lands, headwater wetland project assessment, right-of-way retrofitting assessment, and channel/floodplain restoration project assessment.

Results are managed in a series of project maps and spreadsheets, and highly-rated projects are promoted to the Capital Planning Database for possible inclusion in the 6-year Stormwater Capital Plan.

A Project Identification Worksheet is first compiled, identifying purpose and level of need (1-5) for each identified project and performing a preliminary high-level verification. The end result is a list of all identified projects shown in three categories: viable; needs more information, or; rejected.

Project Verification

Viable projects from the identification spreadsheet are run through a more detailed verification process in a second spreadsheet called the Project Verification Worksheet.

The primary verification checks are based on detailed Technical Information Report maps automatically generated for each project. These maps inform project verification with current information and also identify whether additional field visits are necessary to perform verification. The end result is a list of projects shown in three categories: verified; additional field information needed, or; rejected.

Verified projects with a need level of 1, 2, or 3 are carried over into the database for consideration in the 6-year plan.

Programming

Programming is the process of applying regulatory requirements and available funding to the list of scoped projects to develop a six-year plan matrix that can meet permit requirements and program goals.

Six-Year Matrix

Capital projects are placed in the six-year plan matrix based on regulatory requirements, programmatic goals, project prioritization, and available funding.

Specific projects or project areas are typically not identified for ongoing programs. Anticipated expenses are listed for each ongoing program area, and specific project plans are developed separately each year.

In addition to the matrix, a table lists selected projects from the current Legacy Lands Acquisitions Plan that may be considered for support under the property acquisition ongoing program area.

Funding

This capital plan includes 27 projects and 4 ongoing programs totaling approximately $13.8 million in Clean Water Division funding over six years.

The Clean Water Fund, competitive grant programs and the Conservation Futures Fund may all contribute to meeting permit requirements under the stormwater capital program.

Clean Water Fund
The County established the Clean Water Fund in 2000 to implement requirements of its Permit. Current rates for a standard tax lot are $47.00 per year and yield approximately $7.6 million annually to support county-wide stormwater management. The Clean Water Division's five areas of effort include:

- Operations and maintenance of the stormwater system
- Permit compliance and enforcement
- Stream and stormwater assessment and monitoring
- Education and outreach
- Stormwater capital planning and projects

Grant Funding
Grants are highly competitive, and available sources are subject to fluctuation from year to year. When available, grant funds are aggressively pursued.

The most common grant source for stormwater capital projects has been Ecology's Stormwater Financial Assistance Program (SFAP). Common sources for Legacy Lands program purchases have been grants managed by the State Recreation and Conservation Office, including Washington Wildlife and Recreation Program (WWRP) and Salmon Recovery Funding Board (SRFB).

Clark County was awarded grants totaling just under $5 million for projects and acquisitions completed under the 2013-2018 Stormwater Capital Plan.

Since 2018, SFAP funding has been withheld due to legal proceedings surrounding Clark County's alleged non-compliance with the state Growth Management Act on three issues.

In August 2019, the Court of Appeals issued a decision holding, as Clark County had contended in the appeal, that two of the three issues are not subject to Growth Management Hearings Board authority. The County Council will consider additional actions in late 2019 that may lead to resolution of the final outstanding issue.

Clean Water submitted two applications in October 2019 under Ecology's Centennial grant program for non-point source implementation funding. This funding source is not restricted by the GMA non-compliance issue; however, stormwater retrofit projects are not eligible Centennial projects. Eligible projects include reforestation and headwater stream/wetland restoration.

Conservation Futures Fund
Clark County instituted the Conservation Futures Fund in 1985. The primary revenue source for the fund is the conservation futures property tax levy, a county-wide levy that cannot exceed $0.0625 per $1,000 valuation. The levy has generated $2.3 to $2.4 million annually in recent years.

The Legacy Lands Program manages the fund with the goal of bringing together the people, groups and community support to establish, restore and maintain an interconnected system of natural areas and open spaces within the region. The program coordinates various projects, partners and funding sources to protect and improve lands highly valued for habitat, scenic corridors, low-impact recreation or other qualities that enhance the local environment, including stormwater benefits.

Six-Year Plan Matrix

2020-2025 Stormwater Capital Plan
Project Funding Analysis

CLEAN WATER DIVISION

ID	Project Name	Type	Phase	Dec 2019 Spent to Date (Est)	2020		2021		2022		2023		2024		2025		2020-2025	Project Total
					CWF	Grant	CWF	Grant	CWF	Grant	CWF	Grant	CWF	Grant	CWF	Grant		
CP-186	Wet Pond Repairs >25K (5)	repair	PE		8,000												8,000	8,000
			ROW														0	0
			CN		130,000												130,000	130,000
			Total	**0**	**138,000**		**0**		**0**		**0**		**0**		**0**		**138,000**	**138,000**
CP-187	Padden Downs SWF Repair	repair	PE		10,000												10,000	10,000
			ROW														0	0
			CN		50,000												50,000	50,000
			Total	**0**	**60,000**		**0**		**0**		**0**		**0**		**0**		**60,000**	**60,000**
CP-63	Vista Woods SWF Retrofit	water quality	PE		10,000												10,000	10,000
			ROW														0	0
			CN		29,000												29,000	29,000
			Total	**0**	**39,000**		**0**		**0**		**0**		**0**		**0**		**39,000**	**39,000**
CP-178	Whipple Creek Place SWF Repair	repair	PE	35,000	35,000		10,000										45,000	80,000
			ROW														0	0
			CN				140,000										140,000	140,000
			Total	**35,000**	**35,000**		**150000**		**0**		**0**		**0**		**0**		**185,000**	**220,000**
OS-147	Whipple Creek Park Tributary Culvert Repair	stabilization/ habitat	PE		22,000												22,000	22,000
			ROW														0	0
			CN				55,000										55,000	55,000
			Total	**0**	**22,000**		**55,000**		**0**		**0**		**0**		**0**		**77,000**	**77,000**
OS-119	Mt Vista 8 SWF Retrofit	water quality	PE		30,000												30,000	30,000
			ROW														0	0
			CN				181,000										181,000	181,000
			Total	**0**	**30,000**		**181,000**		**0**		**0**		**0**		**0**		**211,000**	**211,000**
OS-80	Heritage Farm Wetland Restoration	hydrology	PE	20,000	50,000		50,000										100,000	120,000
			ROW														0	0
			CN						1,400,000								1,400,000	1,400,000
			Total	**20,000**	**50,000**		**50,000**		**1,400,000**		**0**		**0**		**0**		**1,500,000**	**1,520,000**
CP-183	Country Meadows UIC decommission	uic	PE	10,000	50,000		50,000										100,000	110,000
			ROW														0	0
			CN						300,000								300,000	300,000
			Total	**10,000**	**50,000**		**50,000**		**300,000**		**0**		**0**		**0**		**400,000**	**410,000**
CP-191	NE Hwy 99 WQ Retrofit (68th to 72nd)	water quality	PE		50,000		20,000		10,000								80,000	80,000
			ROW														0	0
			CN						307,000								307,000	307,000
			Total	**0**	**50,000**		**20,000**		**317,000**		**0**		**0**		**0**		**387,000**	**387,000**
CP-192	NE Hwy 99 WQ Retrofit (72nd to 78th)	water quality	PE		50,000		25,000		10,000								85,000	85,000
			ROW														0	0
			CN						339,000								339,000	339,000
			Total	**0**	**50,000**		**25,000**		**349,000**		**0**		**0**		**0**		**424,000**	**424,000**
CP-195	NE Hazel Dell Ave 78th to Cougar Cr WQ Retrofit	water quality	PE		60,000		40,000				20,000						120,000	120,000
			ROW														0	0
			CN								467,000						467,000	467,000
			Total	**0**	**60,000**		**40,000**		**0**		**487,000**		**0**		**0**		**587,000**	**587,000**

2020-2025 Stormwater Capital Plan
Project Funding Analysis

CLEAN WATER DIVISION

ID	Project Name	Type	Phase	Dec 2019 Spent to Date (Est)	2020 CWF	2020 Grant	2021 CWF	2021 Grant	2022 CWF	2022 Grant	2023 CWF	2023 Grant	2024 CWF	2024 Grant	2025 CWF	2025 Grant	2020-2025	Project Total
CP-203	**Cougar Creek 3 Enhancement**	stabilization/ habitat	PE	35,000	65,000		20,000		40,000		10,000		30,000				165,000	200,000
			ROW														0	0
			CN										800,000				800,000	800,000
			Total	**35,000**	**65,000**		**20,000**		**40,000**		**10,000**		**830,000**		**0**		**965,000**	**1,000,000**
CP-202	**99th Street WQ vault pre-treatment**	water quality	PE				10,000										10,000	10,000
			ROW														0	0
			CN				25,000										25,000	25,000
			Total	**0**	**0**		**35,000**		**0**		**0**		**0**		**0**		**35,000**	**35,000**
CP-129	**NE Hazel Dell Ave @ NE 97th St WQ Retrofit**	water quality	PE				80,000		5,000								85,000	85,000
			ROW														0	0
			CN						365,000								365,000	365,000
			Total	**0**	**0**		**80,000**		**370,000**		**0**		**0**		**0**		**450,000**	**450,000**
CP-194	**NE 78th St at NE 13th Ave WQ retrofit**	water quality	PE				10,000		10,000		5,000						25,000	25,000
			ROW														0	0
			CN								99,000						99,000	99,000
			Total	**0**	**0**		**10,000**		**10,000**		**104,000**		**0**		**0**		**124,000**	**124,000**
CP-200	**NE 78th St at NE16th Ave WQ retrofit**	water quality	PE				20,000		20,000		10,000						50,000	50,000
			ROW														0	0
			CN								199,000						199,000	199,000
			Total	**0**	**0**		**20000**		**20,000**		**209,000**		**0**		**0**		**249,000**	**249,000**
OS-145	**Whipple Creek Near NW 11th Ave Habitat Improvement**	stabilization/ habitat	PE				75,000										75,000	75,000
			ROW														0	0
			CN										225,000				225,000	225,000
			Total	**0**	**0**		**75,000**		**0**		**0**		**225,000**		**0**		**300,000**	**300,000**
CP-199	**NE 78th St/ Heritage Farms ROW WQ Retrofit**	water quality	PE						40,000		15,000						55,000	55,000
			ROW														0	0
			CN								225,000						225,000	225,000
			Total	**0**	**0**		**0**		**40,000**		**240,000**		**0**		**0**		**280,000**	**280,000**
CP-188	**Mayer's Terrace SWF Repair**	water quality	PE						5,000								5,000	5,000
			ROW														0	0
			CN								20,000						20,000	20,000
			Total	**0**	**0**		**0**		**5,000**		**20,000**		**0**		**0**		**25,000**	**25,000**
CP-198	**NE 78th St East of Bingo Hall WQ retrofit**	water quality	PE						20,000		30,000		5,000				55,000	55,000
			ROW								250,000						250,000	250,000
			CN										320,000				320,000	320,000
			Total	**0**	**0**		**0**		**20,000**		**280,000**		**325,000**		**0**		**625,000**	**625,000**
CP-105	**Hazel Dell Ave ROW WQ Retrofit**	water quality	PE								50,000		20,000				70,000	70,000
			ROW														0	0
			CN										400,000				400,000	400,000
			Total	**0**	**0**		**0**		**0**		**50,000**		**420,000**		**0**		**470,000**	**470,000**
CP-204	**I-SUDS1 (lower Suds Creek restoration)**	stabilization/ habitat	PE						30,000		50,000		50,000		10,000		140,000	140,000
			ROW														0	0
			CN												840,000		840,000	840,000
			Total	**0**	**0**		**0**		**30,000**		**50,000**		**50,000**		**850,000**		**980,000**	**980,000**

2020-2025 Stormwater Capital Plan
Project Funding Analysis

CLEAN WATER DIVISION

ID	Project Name	Type	Phase	Dec 2019 Spent to Date (Est)	2020 CWF	2020 Grant	2021 CWF	2021 Grant	2022 CWF	2022 Grant	2023 CWF	2023 Grant	2024 CWF	2024 Grant	2025 CWF	2025 Grant	2020-2025	Project Total
CP-193	NE Hwy 99 WQ Retrofit (78th to 82nd)	water quality	PE								30,000		20,000		8,000		58,000	58,000
			ROW														0	0
			CN												233,000		233,000	233,000
			Total	**0**	**0**		**0**		**0**		**30,000**		**20,000**		**241,000**		**291,000**	**291,000**
CP-197	NE Hwy 99 WQ Retrofit (82nd to 86th)	water quality	PE								50,000		30,000		16,000		96,000	96,000
			ROW														0	0
			CN												385,000		385,000	385,000
			Total	**0**	**0**		**0**		**0**		**50,000**		**30,000**		**401,000**		**481,000**	**481,000**
CP-201	NE 99th Street catch basin Retrofit	water quality	PE										30,000		15,000		45,000	45,000
			ROW														0	0
			CN												173,000		173,000	173,000
			Total	**0**	**0**		**0**		**0**		**0**		**30,000**		**188,000**		**218,000**	**218,000**
CP-190	NW 99th Street Corridor WQ retrofit	water quality	PE										40,000		20,000		60,000	60,000
			ROW														0	0
			CN												236,000		236,000	236,000
			Total	**0**	**0**		**0**		**0**		**0**		**40,000**		**256,000**		**296,000**	**296,000**
CP-104	Lakeshore Elementary SWF	water quality	PE										80,000		10,000		90,000	90,000
			ROW														0	0
			CN												150,000		150,000	150,000
			Total	**0**	**0**		**0**		**0**		**0**		**80,000**		**160,000**		**240,000**	**240,000**

ONGOING PROGRAMS

					2020		2021		2022		2023		2023		2024			
	Overlay/HMA catch basin retrofits		PE	40,000	50,000		50,000		50,000		50,000		50,000		50,000		300,000	340,000
			ROW														0	0
			CN		200,000		100,000		100,000		100,000		100,000		100,000		700,000	700,000
			Total	**40,000**	**250,000**		**150,000**		**150,000**		**150,000**		**150,000**		**150,000**		**1,000,000**	**1,040,000**
	Reforestation		PE		10,000		10,000										20,000	20,000
			ROW														0	0
			CN		170,000		175,000		50,000		50,000		50,000		50,000		545,000	545,000
			Total	**0**	**180,000**		**185,000**		**50,000**		**50,000**		**50,000**		**50,000**		**565,000**	**565,000**
	Sub-basin Retrofit Planning		PE		75,000		75,000		75,000		75,000		75,000		75,000		450,000	450,000
			ROW														0	0
			CN														0	0
			Total	**0**	**75,000**		**75,000**		**75,000**		**75,000**		**75,000**		**75,000**		**450,000**	**450,000**
	Property Acquisition		PE														0	0
			ROW		300,000		300,000		300,000		300,000		300,000		300,000		1,800,000	1,800,000
			CN														0	0
			Total	**0**	**300,000**		**300,000**		**300,000**		**300,000**		**300,000**		**300,000**		**1,800,000**	**1,800,000**

Revenue Source		CWF	Grant	CWF	Grant	CWF	Grant	CWF	Grant	CWF	Grant	CWF	Grant	6 Year SW CIP Total
Annual Totals By Funding		1,454,000	0	1,521,000	0	3,476,000	0	2,105,000	0	2,625,000	0	2,671,000	0	
Annual Totals By Phase	PE	575,000		545,000		315,000		395,000		430,000		204,000		$13,852,000
	ROW	300,000		300,000		300,000		550,000		300,000		300,000		
	CN	579,000		676,000		2,861,000		1,160,000		1,895,000		2,167,000		
Annual Totals		1,454,000		1,521,000		3,476,000		2,105,000		2,625,000		2,671,000		

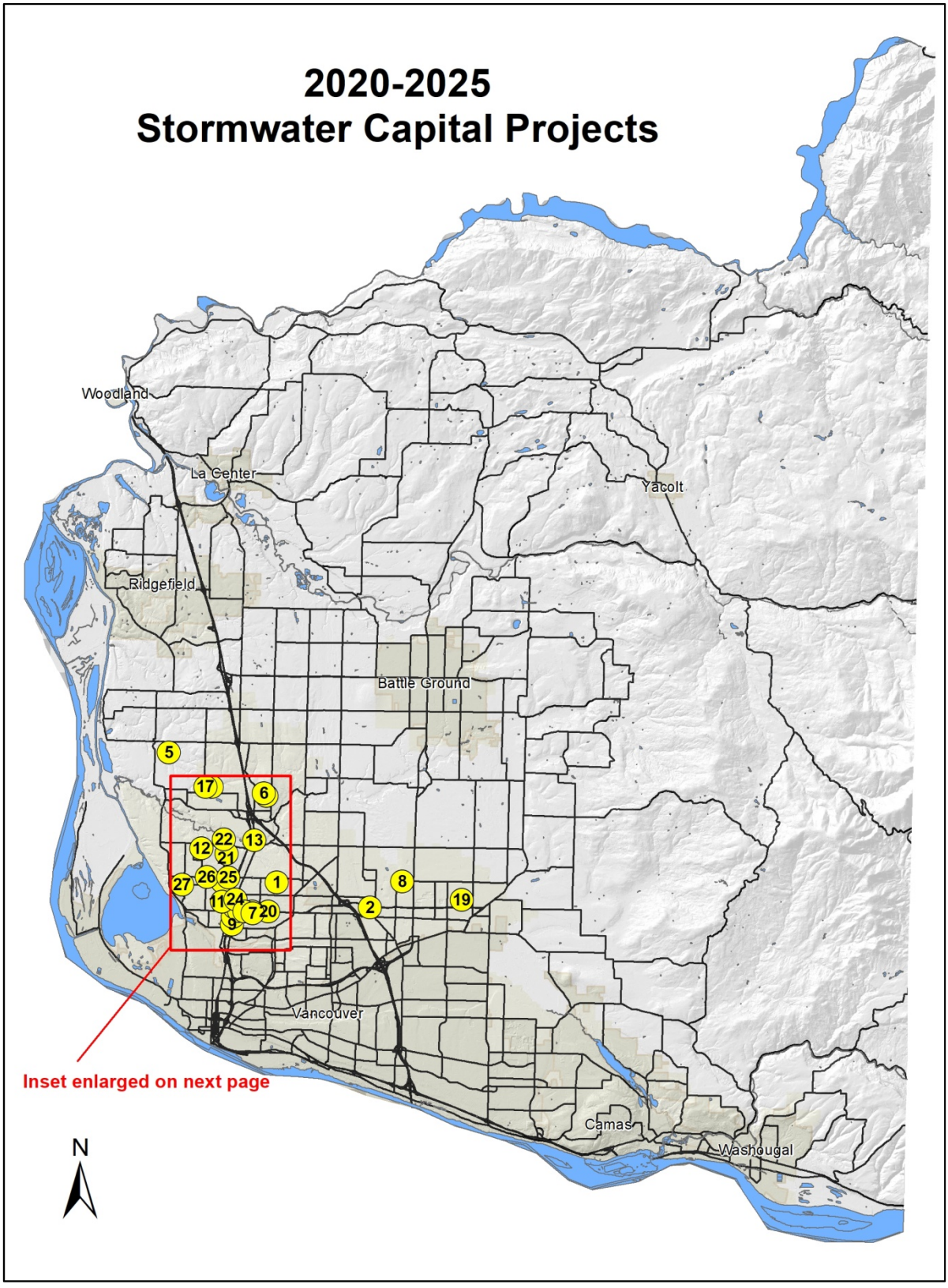
Planned Legacy Lands Acquisitions

Available for Potential Clean Water Leveraging 2019-2024

Project	Year	Sponsor	Acres	Con Futures $	Sponsor $	Total Cost
Lacamas Lake North	19-20	City of Camas	70	$2,580,000	$2,200,000	$4,780,000
East Fork Lewis River – Mason Creek	19-20	Clark County	65	$726,599	n/a	$726,599
Yacolt Burn Forest – Ph 1	19-20	Columbia Land Trust	8445	$1,083,125	$3,249,375	$4,332,500
Rock Creek Forest	tbd	Columbia Land Trust	362	$1,332,500	$400,000	$1,732,500
Total			8,942	$5,722,224	$5,849,375	$11,571,599

Project Index and Map

2020-2025 Stormwater Capital Plan Project Index			
Map ID	**Project ID**	**Project Name**	**Subwatershed**
1	CP-186	Wet Pond Repairs >25K	various
2	CP-187	Padden Downs SWF Repair	Curtin Creek
3	CP-63	Vista Woods SWF Retrofit	Whipple Creek (upper)
4	CP-178	Whipple Creek Place SWF Repair Phase 1	Whipple Creek (upper)
5	OS-147	Whipple Creek Park Tributary Culvert Repair	Whipple Creek (upper)
6	OS-119	Mt Vista 8 SWF Retrofit	Salmon Creek (r.m. 03.83)
7	OS-80	Heritage Farm Wetland Restoration	Cougar Creek
8	CP-183	Country Meadows UIC Decommission	Curtin Creek
9	CP-191	NE Hwy 99 WQ Retrofit (68th to 72nd)	Cougar Creek
10	CP-192	NE Hwy 99 WQ Retrofit (72nd to 78th)	Cougar Creek
11	CP-195	NE Hazel Dell Ave 78th to Cougar Creek WQ Retrofit	Cougar Creek
12	CP-203	Cougar Creek 3 Enhancement	Cougar Creek
13	CP-202	99th Street WQ vault pre-treatment	Salmon Creek (r.m. 03.83)
14	CP-129	NE Hazel Dell Ave @ NE 97th St WQ Retrofit	Cougar Creek
15	CP-194	NE 78th St at NE 13th Ave WQ Retrofit	Cougar Creek
16	CP-200	NE 78th St at NE 16th Ave WQ Retrofit	Cougar Creek
17	OS-145	Whipple Creek Near NW 11th Ave Habitat	Whipple Creek (upper)
18	CP-199	NE 78th St/Heritage Farms ROW WQ Retrofit	Cougar Creek
19	CP-188	Mayer's Terrace SWF Repair	Upper Burnt Bridge Creek
20	CP-198	NE 78th St East of Bingo Hall WQ Retrofit	Cougar Creek
21	CP-105	Hazel Dell Ave ROW WQ Retrofit	Salmon Creek (r.m. 03.83)
22	CP-204	I-SUDS1 Lower Suds Creek restoration	Salmon Creek (r.m. 03.83)
23	CP-193	NE Hwy 99 WQ Retrofit (78th to 82nd)	Cougar Creek
24	CP-197	NE Hwy 99 WQ Retrofit (82nd to 86th)	Cougar Creek
25	CP-201	NE 99th St Catch Basin Retrofit	Cougar Creek
26	CP-190	NW 99th St Corridor WQ Retrofit	Cougar Creek
27	CP-104	Lakeshore Elementary SWF	Lakeshore


2020-2025
Stormwater Capital Projects
Woodland
La Center
Yacolt
Ridgefield
Battle Ground
Vancouver
Camas
Washougal
5
17
6
22
13
12
21
27
26
25
1
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24
7
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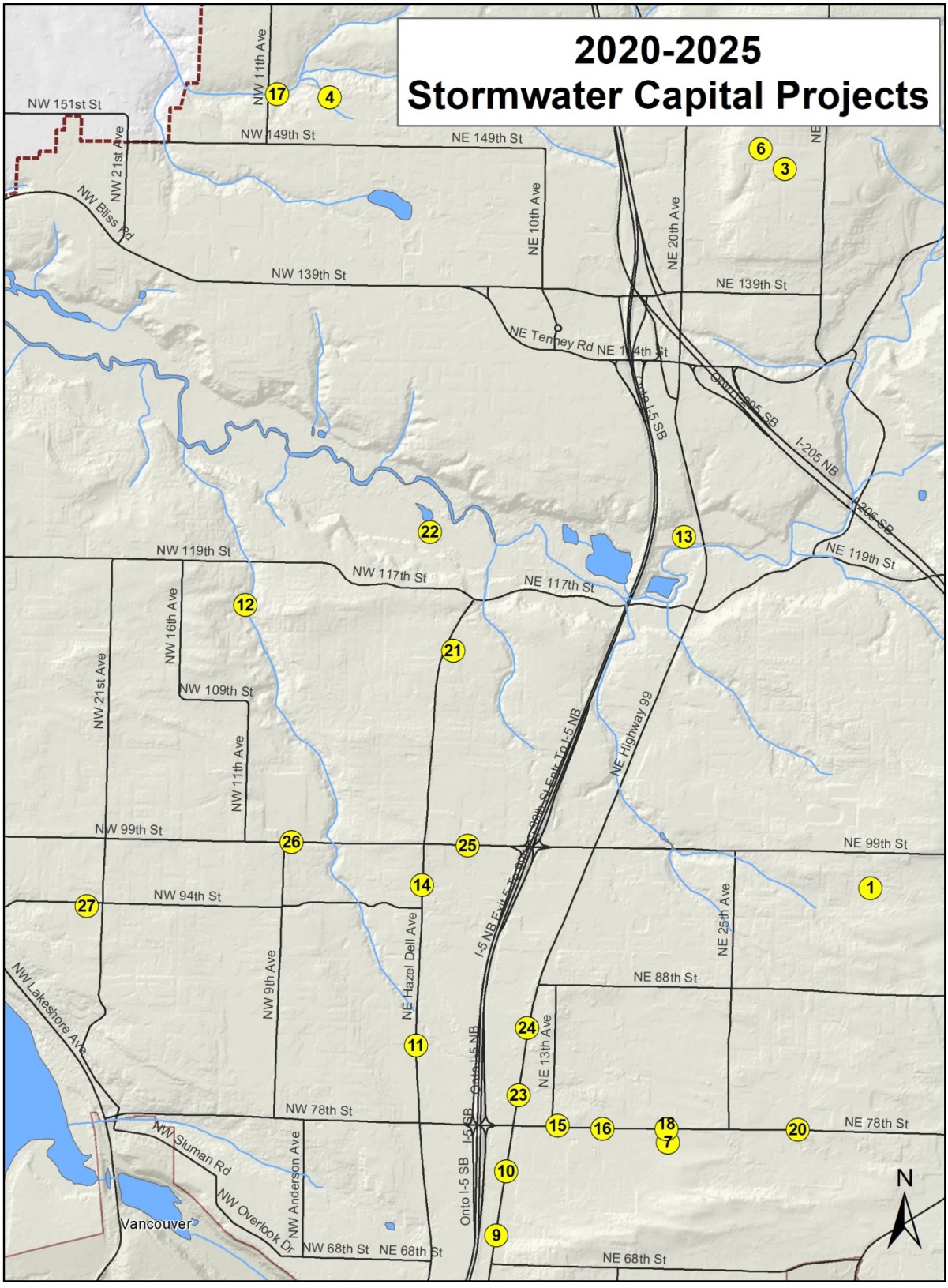
2020-2025
Stormwater Capital Projects
NW 151st St
NW 149th St
NE 149th St
NW 11th Ave
NW 21st Ave
NW Bliss Rd
NE 10th Ave
NE 20th Ave
NW 139th St
NE 139th St
NE Tenney Rd
NE 134th St
Onto I-5 SB
Onto I-205 SB
I-205 NB
I-205 SB
NW 119th St
NW 117th St
NE 117th St
NE 119th St
NW 16th Ave
NW 109th St
NW 21st Ave
NW 11th Ave
NE Highway 99
NW 99th St
NE 99th St
NW 94th St
NE 25th Ave
NE 88th St
NW 9th Ave
NE Hazel Dell Ave
I-5 NB Exit To 99th St Exit To I-5 NB
NW Lakeshore Ave
NE 13th Ave
Onto I-5 NB
NW 78th St
NE 78th St
NW Sluman Rd
NW Anderson Ave
NW Overlook Dr
Onto I-5 SB
Vancouver
NW 68th St
NE 68th St
N
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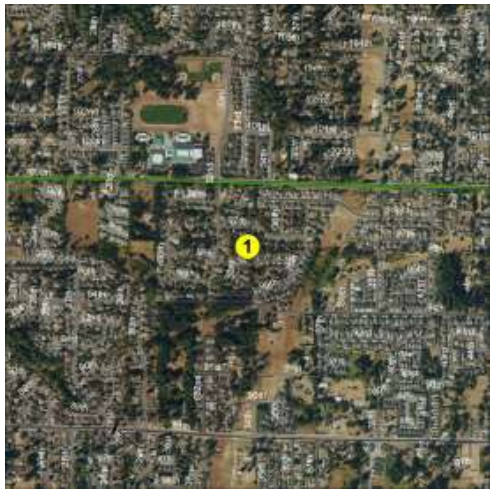
Project Detail Sheets

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Wet Pond Repairs >25K

Vicinity Map



Site Photo

Project Summary

Site ID: CP-186

Work Order Number: TBD

Project Manager: TBD

Subwatershed:

Location: various

Description: This project regrades and removes accumulated sediment from wet pond facilities at Maple Gate, Tenny Pond, Harvest Meadows, Padden West End, and East Lake Village to restore proper function.

Basis: This project address required maintenance under the municipal stormwater permit.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2020
Engineering/Permitting:	$8,000
Property Acquisition:	$0
Construction:	$130,000
ESTIMATED TOTAL:	**$138,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Padden Downs SWF Repair

Vicinity Map

Site Photo

Project Summary

Site ID: CP-187

Work Order Number: TBD

Project Manager: TBD

Subwatershed: Curtin Creek

Location: NE 82nd Street and NE 91st Place

Description: This project installs filter cartridge treatment inlets and a conveyance pipe to replace a failed bioswale in the Curtin Creek subwatershed.

Basis: This project addresses required maintenance under the municipal stormwater permit.

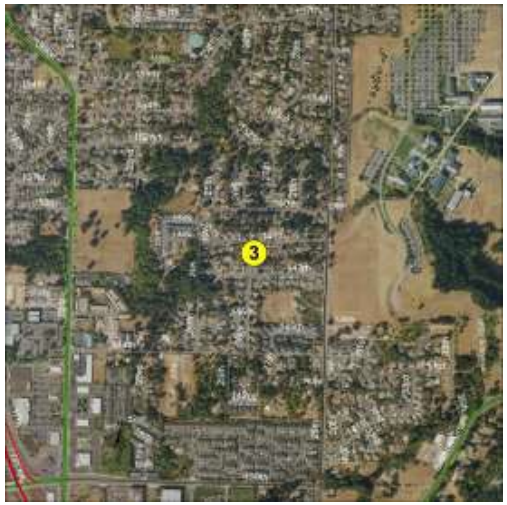
Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2020
Engineering / Permitting:	$10,000
Property Acquisition:	$0
Construction:	$50,000
ESTIMATED TOTAL:	**$60,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Vista Woods SWF Retrofit

Vicinity Map



Site Photo

Project Summary

Site ID: CP-63

Work Order Number: TBD

Project Manager: TBD

Subwatershed: Whipple Creek (Upper)

Location: NE 147th Cir, west of NE 26th Ave

Description: This project will install two sediment traps and replace the existing outlet structure with a standard flow control structure to improve water quality treatment and flow control. The existing facility was constructed as a flood control facility that does not provide treatment.

Basis: Vista Woods subdivision drains to an impacted tributary in the Upper Whipple Creek subwatershed. The facility provides no water quality treatment for runoff from a residential subdivision, in a basin with identified water quality issues.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2020
Engineering / Permitting:	$10,000
Property Acquisition:	$0
Construction:	$29,000
ESTIMATED TOTAL:	**$39,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Whipple Creek Place SWF Repair

Vicinity Map

Site Photo

Project Summary

Site ID: CP-178

Subwatershed: Whipple Creek (Upper)

Work Order Number: 405635

Location: NW 152nd Street and NW 6th Avenue

Project Manager: Sarah Smith

Description: This project stabilizes erosion in a canyon downstream from a failing stormwater outfall, and reconfigures the outfall to limit future stream damage.

Basis: This project is required maintenance under the municipal stormwater permit

Schedule and Estimated Cost

Project Status:	Design
Planned Construction Year:	2021
Engineering / Permitting:	$80,000
Property Acquisition:	$0
Construction:	$140,000
ESTIMATED TOTAL:	***$220,000***

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Whipple Creek Park Tributary Culvert Repair

Vicinity Map

Site Photo

Project Summary

Site ID: OS-147

Subwatershed: Whipple Creek (Upper)

Work Order Number: TBD

Location: Vicinity of Whipple Creek Park

Project Manager: TBD

Description: This project removes a failed culvert at a historical stream crossing to improve resident or migratory fish access to upstream habitat on county Parks property. The project is located on private property and is dependent on landowner permission.

Basis: This project addresses long-term improvements in habitat and beneficial use attainment in the Whipple Creek watershed and optimizes habitat value on County lands.

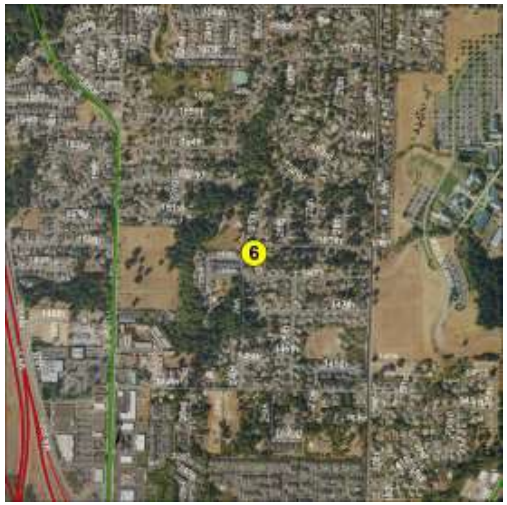
Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2021
Engineering / Permitting:	$22,000
Property Acquisition:	$0
Construction:	$55,000
ESTIMATED TOTAL:	***$77,000***

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Mt Vista 8 SWF Retrofit

Vicinity Map



Site Photo

Project Summary

Site ID: OS-119

Subwatershed: Whipple Creek (Upper)

Work Order Number: TBD

Location: NE 150th St & NE 25th Ct

Project Manager: TBD

Description: This project reconfigures an existing drainage control pond built in 1978 into a stormwater treatment wetland. The project provides treatment and limited flow control for previously untreated runoff to Whipple Creek.

Basis: The facility drains to the Upper Whipple Creek subwatershed, an area with demonstrated erosion and water quality issues. The existing facility serves a significant developed area, but provides no water quality treatment and limited detention.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2021
Engineering / Permitting:	$30,000
Property Acquisition:	$0
Construction:	$181,000
ESTIMATED TOTAL:	**$211,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Heritage Farm Wetland Restoration

Vicinity Map

Site Photo

Project Summary

Site ID: OS-80

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: NE 78th Street, east of HWY 99

Project Manager: TBD

Description: This project will excavate a shallow floodplain bench and provide wetland and riparian restoration along a channelized headwater reach of Cougar Creek on the County's Heritage Farm property.

Basis: This project implements a portion of the Heritage Farm master plan and addresses a priority of enhancing and restoring headwater wetlands within the Cougar Creek drainage.

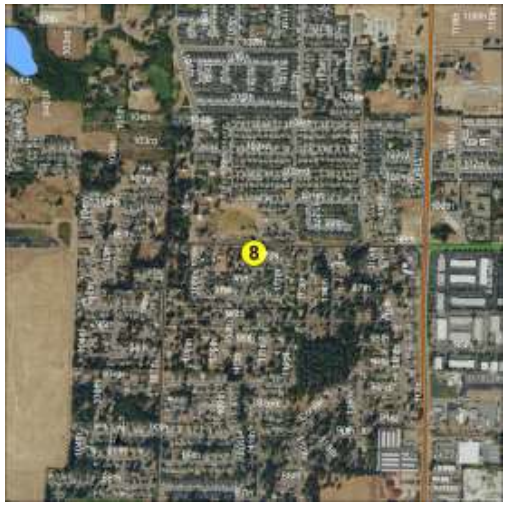
Schedule and Estimated Cost

Project Status:	Design
Planned Construction Year:	2022
Engineering / Permitting:	$120,000
Property Acquisition:	$0
Construction:	$1,400,000
ESTIMATED TOTAL:	**$1,520,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Country Meadows UIC decommission

Vicinity Map



Site Photo

Project Summary

Site ID: CP-183

Subwatershed: Curtin Creek

Work Order Number: TBD

Location: NE 99th Street and NE 110th Avenue

Project Manager: Scott Fakler

Description: This is a cooperative project between County TIP and Stormwater programs. The project will decommission nine (9) drywells that are encroaching into groundwater along NE 99th Street and within the Country Meadows subdivision. The three wells within NE 99th Street will be addressed with the road project, and the remaining six will be addressed simultaneously by Clean Water.

Basis: Underground Injection Control regulations require the county to retrofit or decommission drywells that are completed within the groundwater table. This project addresses 9 out of a total 43 wells the county is required to retrofit or decommission.

Schedule and Estimated Cost

Project Status:	Design
Planned Construction Year:	2022
Engineering / Permitting:	$110,000
Property Acquisition:	$0
Construction:	$300,000
ESTIMATED TOTAL:	**$410,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE Hwy 99 (68th St to 72nd St) WQ Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-191

Work Order Number: TBD

Project Manager: TBD

Subwatershed: Cougar Creek

Location: Hwy 99 between 68th and 72nd Street

Description: The project will retrofit existing catch basins and/or curb inlets along both sides of Highway 99 between NE 68th Street and NE 72nd Street by installing storm filter cartridges to provide water quality treatment before the runoff is discharged to Cougar Creek.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the larger Salmon Creek watershed. The project treats stormwater from nearly 1/3 mile of high-traffic roadway on Highway 99 that is currently discharged directly to Cougar Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2022
Engineering/Permitting:	$80,000
Property Acquisition:	$0
Construction:	$307,000
ESTIMATED TOTAL:	**$387,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE Hwy 99 (72nd St to 78th St) WQ Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-192

Work Order Number: TBD

Project Manager: TBD

Subwatershed: Cougar Creek

Location: Hwy 99 from 72nd to 78th Street

Description: The project will retrofit existing catch basins and/or curb inlets along both sides of NE Highway 99 between NE 72nd Street and NE 78th Street by installing storm filter cartridges to provide water quality before the runoff is discharged to Cougar Creek.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the larger Salmon Creek watershed. The project treats stormwater from nearly 1/3 mile of high-traffic roadway on Highway 99 that is currently discharged directly to Cougar Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2022
Engineering/Permitting:	$85,000
Property Acquisition:	$0
Construction:	$339,000
ESTIMATED TOTAL:	**$424,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE Hazel Dell Ave (78th St to Cougar Cr) WQ Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-195

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: NE Hazel Dell Avenue from 78th St to Cougar Creek

Project Manager: TBD

Description: This project will retrofit existing catch basins or curb inlets along both sides of NE Hazel Dell Avenue between NE 78th Street and Cougar Creek crossing by installing storm filter cartridges to provide water quality treatment before the runoff is discharged to Cougar Creek.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the large Salmon Creek watershed. The project treats stormwater from approximately 1/3 mile of high-traffic roadway on NE Hazel Dell Avenue that is currently discharged directly to Cougar Creek with no water quality treatment.

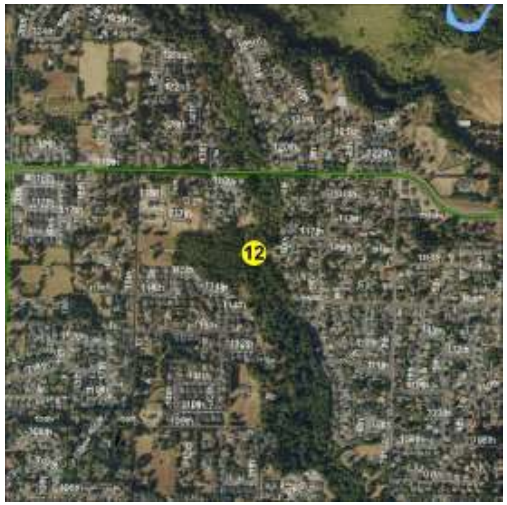
Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2023
Engineering / Permitting:	$120,000
Property Acquisition:	$0
Construction:	$467,000
ESTIMATED TOTAL:	**$587,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Cougar Creek 3 Enhancement

Vicinity Map



Site Photo

Project Summary

Site ID: CP-203

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: Cougar Creek south of 119th Street

Project Manager: TBD

Description: This project reconnects the incised Cougar Creek channel to its floodplain using valley spanning wood structures, protects existing waste water infrastructure, reduces and mitigates bank erosion, and increases wetland and riparian habitat. The project is primarily on county-owned property. Construction access is expected to remain as an extension of the existing trail system in the Cougar Creek greenway.

Basis: Cougar Creek is a tributary to Salmon Creek, an anadromous fish-bearing stream with ongoing TMDLs and fish recovery efforts. The existing Cougar Creek channel is confined, straightened and disconnected from its floodplain. Waste water infrastructure is at risk, and gully erosion is impacting slope stability in this highly developed area. The project is a rare opportunity to combine stormwater, wastewater, and parks objectives into a single, cooperative project effort. Clean Water, Parks, and Clark Regional Wastewater District are actively coordinating project development.

Schedule and Estimated Cost

Project Status:	Design
Planned Construction Year:	2024
Engineering / Permitting:	$200,000
Property Acquisition:	$0
Construction:	$800,000
ESTIMATED TOTAL:	**$1,000,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE 99th Street WQ pre-treatment

Vicinity Map

Site Photo

Project Summary

Site ID: CP-202

Subwatershed: Salmon Creek (r.m. 03.83)

Work Order Number: TBD

Location: NE 122nd Street west of Hwy 99

Project Manager: TBD

Description: This project installs a pre-treatment device to provide sediment removal upstream of a large stormwater treatment vault containing 99 filter cartridges.

Basis: The Salmon Creek/Hwy 99 North SWF provides stormwater treatment for a large section of Hwy 99 that receives heavy traffic and generates a high amount of runoff. The 99-cartridge facility is expensive to maintain due to the number of cartridges requiring freqent replacement. Installation of a pre-treatment device is anticipated to significantly reduce overall maintenance costs by protecting the cartridge filters from much of the existing sediment load to the vault, decreasing the frequency of replacement.

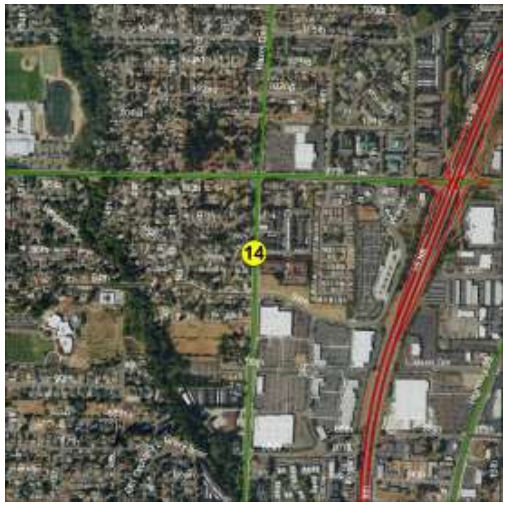
Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2021
Engineering/Permitting:	$10,000
Property Acquisition:	$0
Construction:	$25,000
ESTIMATED TOTAL:	**$35,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE Hazel Dell Ave @ NE 97th St WQ Retrofit

Vicinity Map



Site Photo

Project Summary

Site ID: CP-129

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: NE Hazel Dell Ave

Project Manager: TBD

Description: This project will retrofit several existing catch basins/curb inlets along NE Hazel Dell Ave with Contech storm filter catch basins to provide water quality treatment for runoff generated within a high traffic road segment.

Basis: Cougar Creek is heavily urbanized and lags behind observed water quality improvements in other areas of the Salmon Creek watershed. Cougar Creek is inaccessible to migratory fish, but contributes significant flow to Salmon Creek and impacts water quality in the salmon-bearing mainstem. Hazel Dell Avenue is a high-traffic roadway that contributes stormwater carrying oils, metals, and other pollutants to Cougar Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2022
Engineering/Permitting:	$85,000
Property Acquisition:	$0
Construction:	$365,000
ESTIMATED TOTAL:	**$450,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE 78th Street and NE 13th Ave CB Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-194

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: NE 78th Street at 13th Avenue

Project Manager: TBD

Description: This project will retrofit catch basins/curb inlets around intersection of NE 78th Street and NE 13th Avenue by installing storm filter cartridges to provide water quality treatment before the runoff is discharged to Cougar Creek. The project will also look for the opportunity to install a filter vault within the ROW along NE 13th Street in leiu of individual filter catch basins as an alternative.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the large Salmon Creek watershed. The project treats highly polluted stormwater from intersection around NE 78th Street and NE 13th Avenue that is currently discharged directly to Cougar Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2023
Engineering / Permitting:	$25,000
Property Acquisition:	$0
Construction:	$99,000
ESTIMATED TOTAL:	**$124,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE 78th St and NE 16th Ave CB Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-200

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: NE 78th Street at NE 16th Avenue

Project Manager: TBD

Description: This project will retrofit existing catch basins/curb inlets within the intersection of NE 78th Street and NE 16th Avenue to approximately 500 feet to the east by installing storm filter cartridges to provide water quality treatment before the runoff is discharged to Cougar Creek.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the large Salmon Creek watershed. The project treats highly polluted stormwater from around intersection of NE 78th Street and NE 16th Avenue that is currently discharged directly to Cougar Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2023
Engineering / Permitting:	$50,000
Property Acquisition:	$0
Construction:	$199,000
ESTIMATED TOTAL:	**$249,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Whipple Creek Near NW 11th Ave Habitat Improvement

Vicinity Map

Site Photo

Project Summary

Site ID: OS-145

Subwatershed: Whipple Creek (Upper)

Work Order Number: TBD

Location: NW 11th Avenue north of NW 149th Street

Project Manager: TBD

Description: This project excavates a floodplain bench to reconnect the channel to its floodplain, provides engineered bank stabilization to reduce erosion and sediment, and improves overall grade control in the middle reach of Whipple Creek.

Basis: This project provides floodplain reconnection, runoff storage and streambank stabilization in the Upper Whipple Creek subwatershed. The project is located on a parcel jointly purchased by the Parks and Clean Water divisions for park development and stormwater benefit.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2024
Engineering / Permitting:	$75,000
Property Acquisition:	$0
Construction:	$225,000
ESTIMATED TOTAL:	**$300,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE 78th St Heritage Farm ROW Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-199

Work Order Number: TBD

Project Manager: TBD

Subwatershed: Cougar Creek

Location: NE 78th Street adjacent to Heritage Farm

Description: This project will install over 500 linear feet of infiltration trench and a pre-treatment system to divert highly polluted runoff from NE 78th Street that extends to the east from Heritage Farm main entrance.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the large Salmon Creek watershed. The project will infiltrate runoff following a pre-treatment from nearly 1/3 mile of high-traffic roadway on NE 78th Street that is currently going to an existing stormwater facility, which is struggling with degraded water quality treatment functionality.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2023
Engineering/Permitting:	$55,000
Property Acquisition:	$0
Construction:	$225,000
ESTIMATED TOTAL:	**$280,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Mayer's Terrace SWF Repair

Vicinity Map

Site Photo

Project Summary

Site ID: CP-188

Work Order Number: TBD

Project Manager: TBD

Subwatershed: Upper Burnt Bridge Creek

Location: NE 145th Street and NE 87th Avenue

Description: This project replaces a missing bioswale and conveyance pipe with catch basin treatment cartridges and a drywell

Basis: This project addresses required repairs under the municipal stormwater permit

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2023
Engineering / Permitting:	$5,000
Property Acquisition:	$0
Construction:	$20,000
ESTIMATED TOTAL:	**$25,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE 78th St (East of Bingo Hall) SW Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-198

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: Ne 78th Street east of Bingo Hall

Project Manager: TBD

Description: This project plans to acquire a small parcel (#986034163) that is currently owned by Hidden Glen HOA and combine this with a small portion of BPA easement to build a stormwater wetland facility that will detain and treat highly polluted runoff from NE 78th Street. If the project is found infeasible or can't go as planned, an alternate project will retrofit individual catch basins along both sides of NE 78th Street by installing storm filter cartridges to provide water quality treatment.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the large Salmon Creek watershed. The project treats and detains stormwater from nearly 1/3 mile of high-traffic roadway on NE 78th Street that is currently discharged to a grossly undersized Bingo Hall facility with minimal water water quality treatment in this headwater area of Cougaer Creek.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2024
Engineering / Permitting:	$55,000
Property Acquisition:	$250,000
Construction:	$320,000
ESTIMATED TOTAL:	**$625,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Hazel Dell Ave ROW Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-105

Work Order Number: TBD

Project Manager: TBD

Subwatershed: Salmon Creek (r.m. 03.83)

Location: NE Hazel Dell Ave and NE 112th Cir

Description: Construct a wetpond or bioretention rain garden facility to capture runoff from a developed residential area on the westside of NE Hazel Dell Ave and a portion of the roadway (Hazel Dell Ave) to provide water quality treatment, and flow control before releasing to the existing conveyance system along Hazel Dell Avenue and eventually Suds Creek.

Basis: Suds Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. The project treats stormwater from high-traffic roadway on NE Hazel Dell Avenue and is currently discharged directly to Suds Creek with no or minimal water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2024
Engineering/Permitting:	$70,000
Property Acquisition:	$0
Construction:	$400,000
ESTIMATED TOTAL:	**$470,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

I-SUDS1 (lower Suds Creek restoration)

Vicinity Map

Site Photo

Project Summary

Site ID: CP-204

Subwatershed: Salmon Creek (r.m. 03.83)

Work Order Number: TBD

Location: Suds Creek floodplain west of Klineline ball fields

Project Manager: TBD

Description: This project removes a culvert and berm to increase floodplain connectivity and fish passage between Suds Creek and Salmon Creek, improve water quality by reducing temperature and sediment, enhance channel complexity, and restore wetlands. The project is located on county-owned property.

Basis: Suds Creek channel has been straightened and degraded near the Salmon Creek floodplain. An existing culvert at the Suds Creek mouth is perched and blocks access for anadromous and resident fish to cold-water refuge areas. Salmon Creek is subject to a temperature TMDL and is an important stream for salmon recovery efforts. Reconnecting the floodplain will provide multiple watershed and stormwater benefits in this reach.

Schedule and Estimated Cost

Project Status:	TBD
Planned Construction Year:	2025
Engineering/Permitting:	$140,000
Property Acquisition:	$0
Construction:	$840,000
ESTIMATED TOTAL:	**$980,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE Hwy 99 (78th St to 82nd St) WQ Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-193

Work Order Number: TBD

Project Manager: TBD

Subwatershed: Cougar Creek

Location: Hwy 99 from 78th to 82nd Street

Description: This project will retrofit existing catch basins and/or curb inlets along both sides of NE Highway 99 between NE 78th Street and NE 82nd Street by installing storm filter cartridges to provide water quality treatment before the runoff is discharged to Cougar Creek.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the large Salmon Creek watershed. The project treats stormwater from nearly 1/4 mile of high-traffic roadway on Highway 99 that is currently discharged directly to Cougar Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2025
Engineering / Permitting:	$58,000
Property Acquisition:	$0
Construction:	$233,000
ESTIMATED TOTAL:	**$291,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE Hwy 99 (82nd St to 86th St) WQ Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-197

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: NE Hwy 99 from 82nd to 86th St

Project Manager: TBD

Description: This project will retrofit existing catch basins and/or curb inlets along both sides of NE Highway 99 between NE 82nd Street and north of NE 86th Street by installing storm filter cartridges to provide water quality treatment before the runoff is discharged to Cougar Creek.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the large Salmon Creek watershed. The project treats stormwater from nearly 1/4 mile of high-traffic roadway on Highway 99 that is currently discharged directly to Cougar Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2025
Engineering/Permitting:	$96,000
Property Acquisition:	$0
Construction:	$385,000
ESTIMATED TOTAL:	**$481,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NE 99th St CB Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-201

Subwatershed: Salmon Creek (r.m. 03.83)

Work Order Number: TBD

Location: NE 99th Street west of I-5

Project Manager: TBD

Description: This project will retrofit existing catch basins along both sides of NE 99th Street west of Interstate I-5 by installing storm filter cartridges to provide water quality treatment before the runoff is discharged to Suds Creek.

Basis: Suds Creek is a tributary to Salmon Creek that is subject to multiple TMDLs. The project treats nearly a quarter mile of high traffic area on NE 99th Street that is currently discharged directly to Suds Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2025
Engineering/Permitting:	$45,000
Property Acquisition:	$0
Construction:	$173,000
ESTIMATED TOTAL:	**$218,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

NW 99th Street Road Corridor Retrofit

Vicinity Map

Site Photo

Project Summary

Site ID: CP-190

Subwatershed: Cougar Creek

Work Order Number: TBD

Location: NW 99th Street west of Cougar Creek

Project Manager: TBD

Description: This project will retrofit existing catch basins/curb inlets along both sides of NW 99th Street between NW 11th Avenue and Cougar Creek crossing by installing storm filter cartridges to provide water quality treatment before the runoff is discharged to Cougar Creek.

Basis: Cougar Creek has well-documented water quality degradation, and as a tributary to Salmon Creek is subject to multiple TMDLs. Cougar Creek lags behind observed water quality improvements in the large Salmon Creek watershed. The project treats stormwater from nearly 1/3 mile of high-traffic roadway on NW 99th Street that is currently discharged directly to Cougar Creek with no water quality treatment.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2025
Engineering/Permitting:	$60,000
Property Acquisition:	$0
Construction:	$236,000
ESTIMATED TOTAL:	**$296,000**

STORMWATER CAPITAL IMPROVEMENT PROGRAM

Lakeshore Elementary School SWF

Vicinity Map

Site Photo

Project Summary

Site ID: CP-104

Subwatershed: Lakeshore

Work Order Number: TBD

Location: NW 94th Street & NW 21st Ave

Project Manager: TBD

Description: This project will construct parking lot swales and bioretention facilities to provide water quality treatment at Lakeshore Elementary School. The project may also reduce runoff volumes contributing to localized flooding near the site.

Basis: The Lakeshore subwatershed drains directly to Vancouver Lake, a regionally significant water body with multiple 303(d) listings. Parking lot runoff currently receives very limited water quality treatment. Although flow control is not required in this area, the downstream drainage system is near capacity; reduction of runoff serves to decrease pressure on the downstream system.

Schedule and Estimated Cost

Project Status:	Planning
Planned Construction Year:	2025
Engineering/Permitting:	$90,000
Property Acquisition:	$0
Construction:	$150,000
ESTIMATED TOTAL:	**$240,000**