

Stormwater Management Program

NPDES Permit #IDS028207



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Contents

ACRONYMS.....	3
DEFINITIONS.....	4
1. BASIC SWMP INFORMATION.....	9
1.1. Staff Organization.....	9
1.2. Receiving Waters.....	9
1.3. SWMP Information and Statistics.....	9
1.4. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation.....	11
2. MAP OF THE SEPARATE STORM SEWER SYSTEM.....	12
3. TARGETING POLLUTANTS OF CONCERN.....	16
3.1. Monitoring/Assessment of MS4 Discharges to Impaired Waters.....	16
4. LEGAL AUTHORITY AND ENFORCEMENT.....	19
5. STORM WATER CONTROL MEASURES TO REDUCE POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE.....	20
5.1. Construction Site Runoff Control.....	20
5.2. Storm Water Management for Areas of New Development and Redevelopment.....	22
5.3. Pollution Prevention/Good Housekeeping for MS4 Operations.....	23
5.4. Illicit Discharge Detection and Elimination.....	25
5.5. Education, Outreach, and Public Involvement.....	28
6. UNIQUE PROVISIONS SPECIFIC TO LAKES, POST FALLS, AND EAST SIDE HIGHWAY DISTRICTS.....	33
6.1. Annual Compliance Evaluation.....	33
6.2. Alternative Control Measure Requests.....	33
6.3. Adaptive Management Actions.....	33

ACRONYMS

AHDS Associated Highway District Standards
BMP Best Management Practice
CFR Code of Federal Regulations
CGP Construction General Permit CWA Clean Water Act
EPA Environmental Protection Agency
ERP Enforcement Response Policy
ESHD East Side Highway District
GIS Geographic Information System
IDDE Illicit Discharge Detection & Elimination
IDEQ Idaho Department of Environmental Quality
LHD Lakes Highway District
µg/L Micrograms per Liter
mg/L Milligrams per Liter
MEP Maximum Extent Practicable
MS4 Municipal Separate Storm Sewer System
NPDES National Pollutant Discharge Elimination System
O&M Operations & Maintenance
ORI Outfall Reconnaissance Inventory
PCB Polychlorinated Biphenyls
PFHD Post Falls Highway District
SEEP Stormwater & Erosion Education Program
SWMP Storm Water Management Program
TMDL Total Maximum Daily Load
US United States
USACE United States Army Corps of Engineers
WLA Wasteload Allocations
WOTUS Waters of the United States
WQS Water Quality Standards

DEFINITIONS

Best Management Practice (BMP): Schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also mean treatment requirements operating procedures, and practices to control, runoff, spillage, or leaks, sludge, or waste disposal, or drainage from raw material storages. See 40 CFR 122.2 and 122.44(k). For the purposes of the NPDES Permit, BMP broadly refers to any type of structural or non-structural practice or activity undertaken by the Permittee in the course of implementing its SWMP.

Code of Federal Regulations (CFR): The official annual compilation of all regulations and rules promulgated during the previous year by the agencies of the United States government, combined with all the previously issued regulations and rules of those agencies that are still in effect.

Construction General Permit (CGP): The current available version of EPA’s NPDES General Permit for Stormwater Discharges for Construction Activities in Idaho, Permit No. IDR12-0000. EPA’s CGP is posted on EPA’s website at www.epa.gov/npdes/stormwater/gcp.

Construction Activity: Includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to the construction of residential buildings and non-residential buildings, and heavy construction (e.g., highways, streets, bridges, tunnels, pipelines, transmission lines, and industrial non-building structures).

Coeur d’Alene Urbanized Area (NPDES Permit Area): Defined by the decennial census data from the 2020. An urbanized area is the densely settled core of census tracts and/or census blocks that have a population of at least 50,000, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. It is a calculation used by the Bureau of Census to determine the geographic boundaries of the most heavily developed and dense urban areas. Once a small MS4 is designated into the program based on the UA boundaries, it cannot be waived from the program if in subsequent UA calculation the small MS4 is no longer with the UA boundaries

Clean Water Act (CWA): (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483, and Public Law 97-117, 33 U.S.C. § 1251 et seq. [40 CFR §122.2].

Discharge of a Pollutant: any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any “indirect discharger” [40 CFR §122.2].

Erosion: The process of carrying away soil particles by the action of water.

Hazardous Materials: Defined at IDAPA 58.01.02.010.47 and means a material or combination of materials which, when discharged in any quantity into state waters, presents a substantial present or potential hazard to human health, the public health, or the environment. Unless otherwise specified, published guides such as Quality Criteria for Water (1976) by EPA, Water Quality Criteria (Second Edition, 1963) by the state of California Water Quality Control Board, their subsequent revisions, and more recent research papers, regulations and guidelines will be used in identifying individual and specific materials and in evaluating the tolerances of the identified materials for the beneficial uses indicated.

Impaired Waters: Any water body that does not meet applicable water quality standards for one or more beneficial uses by one or more pollutants. For the purposes of this Permit, impaired water includes any water body that IDEQ includes in its 2014 Integrated Report, as a “Category 4a” water of the state for which a total maximum daily load has been completed and approved; as a “Category 4b” water of the state that have pollution control requirements in place other than a TMDL and are expected to meet standards; and/or as a “Category 5” water of the state where a TMDL is necessary. The term impaired water also includes any interstate surface water body that originates in Idaho and flows into Washington that the Washington Department of Ecology categorizes as Category 4a, 4b, or 5 in its latest Water Quality Assessment 305(b) Report and 303(d) List as approved by EPA on July 22, 2016.

Illicit Connections: Include, but are not limited to, pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4.

Illicit Discharge: Any discharge to a municipal storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges from firefighting activities. See 40 CFR 122.26(b)(2).

Interconnection: The point (excluding sheet flow over impervious surfaces) where the Permittee’s MS4 discharges to another MS4 or other storm sewer system, through which the discharge is eventually conveyed to a water of the United States. Interconnections shall be treated similarly to outfalls throughout the Permit.

MS4 (Municipal Separate Storm Sewer System): Is used in the NPDES Permit to refer to ‘Small Municipal Separate Storm Sewer System’ as defined in 40 CFR 122.26(b)(16). The term, as used in the context of the NPDES Permit, refers to those portions of the municipal separate storm sewer systems owned and/or operated by the entities named herein. See also Municipal Separate Storm Sewer and Small MS4.

Municipality: A city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

Municipal Separate Storm Sewer: Defined in 40 CFR §122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar

entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

National Pollutant Discharge Elimination System (NPDES): The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA [40 CFR §122.2].

Outfall: Defined at 40 CFR §122.26(b)(9) means a point source (see definition below) at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

Permanent Stormwater Controls, or Practices, Permanent Controls, and/or Post-Construction Stormwater Management Controls: Structural and non-structural controls that are designed to treat or control pollutants in stormwater runoff on a permanent basis.

Permit: For the purposes of this document, means North Idaho Highway Districts MS4 NPDES Permit.

Pollutant: Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials [except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2011 et seq.)], heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water [40 CFR §122.2].

Pollutant(s) of Concern: For the purposes of the NPDES Permit, any pollutant identified by IDEQ or WDOE as a cause of impairment of any water body that receives MS4 discharges authorized under the NPDES Permit. See also “impaired water.”

Post-Construction Stormwater Management Controls or “Permanent Stormwater Controls”: Controls designed to treat or control runoff on a permanent basis once construction is complete.

Redevelopment: For the purposes of the NPDES Permit, the alteration, renewal or restoration of any developed land or property that results in land disturbance of one acre or more, or less than one acre that is part of a common plan of development of sale that exceeds one acre, and that has one of the following characteristics: land that currently has an existing structure, such as buildings or houses; or land that is currently covered with an impervious surface, such as a parking lot or roof; or land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering.

Storm Event: For the purposes of the NPDES Permit, means a precipitation event that results in an actual discharge from the outfall, and which follows the preceding measurable storm event by at least 48 hours (2 days).

Stormwater and Storm Water Runoff: As used in the NPDES Permit, means stormwater runoff, snow melt runoff, and surface runoff and drainage, and is defined at 40 CFR §122.26(b)(13). “Stormwater” means that portion of precipitation that does not naturally percolate into the ground or evaporate, but

flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

Stormwater Control Measure or Stormwater Management Program Control Measure: The physical, structural, and/or managerial measures that, when used singly or in combination, reduce the downstream quality and quantity impacts of storm water runoff. Also, stormwater control measures means a permit term or condition used to prevent or control the discharge of pollutants. This may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. Stormwater control measures may include, but are not limited to, treatment requirements; operating procedures; practices to control plant site runoff, spillage, leaks, sludge, or waste disposal; or drainage from raw material storage. See best management practices (BMPs). Minimum stormwater control measures are defined 40 CFR §122.34(b).

Stormwater Management Practice or Stormwater Management Control: Practices that manage stormwater, including structural and vegetative components of a storm water system.

Stormwater Management Program (SWMP): A comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system. For the purposes of the NPDES Permit, the SWMP consists of the actions and activities conducted by the Permittees as required by the NPDES Permit and described in the Permittees' SWMP Document. A "SWMP Document" is the written summary describing the unique and/or cooperative means by which an individual Permittee or entity implements the specific stormwater management control measures required by the NPDES Permit within their jurisdiction.

Small Municipal Separate Storm Sewer System or Small MS4: Defined at 40 CFR 122.26(b)(16) and (17), respectively, and means all separate storm sewers that are: (i) owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) not defined as "large" or "medium" municipal separate storm sewer systems pursuant to 40 CFR 122.26(b)(4) and (b)(7), or designated under paragraph 40 CFR 122.26(a)(1)(v); and (iii) includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Total Maximum Daily Load (TMDL): the sum of the individual wasteload allocations for point sources, load allocations (LAs) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality [IDAPA 58.012.02.010.100].

Toxic Substance: Defined at IDAPA 58.01.02.010.102, and means any substance, material or disease-causing agent, or a combination thereof, which after discharge to waters of the State and upon exposure, ingestion, inhalation or assimilation into any organism (including humans), either directly from the environment or indirectly by ingestion through food chains, will cause death, disease, behavioral abnormalities, malignancy, genetic mutation, physiological abnormalities (including

malfunctions in reproduction) or physical deformations in affected organisms or their offspring. Toxic substances include, but are not limited to, the one hundred twenty-six (126) priority pollutants identified by the EPA pursuant to Section 307(a) of the federal Clean Water Act.

Treatment: The reduction and removal of pollutants from stormwater.

Uncontaminated: For the purposes of the NPDES Permit, means that the MS4 discharge does not:

- result in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at any time since November 16, 1987; or
- result in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
- contribute to a violation or exceedance of an applicable Idaho Water Quality Standard.

Waters of the United States or Waters of the US:

- All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters, including interstate “wetlands;”
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - Which are used or could be used for industrial purposes by industries in interstate commerce;
- All impoundments of water otherwise defined as waters of the United States under this definition;
- Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- The territorial sea; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition [40 CFR §122.2].

1. BASIC SWMP INFORMATION

This Storm Water Management Program (SWMP) Document was developed originally by Ruen-Yeager & Associates, Inc. on behalf of the Lakes, Post Falls, and East Side Highway Districts (North Idaho Highway Districts) and updated by Welch Comer Engineers to describe the activities and control measures conducted to meet the terms and conditions of NPDES Permit # IDS028207.

1.1 Staff Organization

This document contains information pertaining to a Storm Water Management Program for the Post Falls Highway District. The personnel responsible for implementing the SWMP are the respective Highway District Director of Highways. Post Falls Highway District Director of Highways is Michael Lenz.

The Associated Highway Districts of Kootenai County consist of the East Side, Lakes, Post Falls, and Worley Highway Districts. The East Side, Lakes, and Post Falls Highway Districts are joint permittees under NPDES Permit #IDS028207. However, each Highway District is independently responsible for MS4 permit compliance, operates independent of the other, and has established mapped boundaries, with individual elected Board of Commissioners.

This SWMP was developed under agreement between the participating Associated Highway Districts of Kootenai County to be adopted as a management program tool to provide guidance and track progress of respective Highway District MS4s under the joint NPDES permit.

1.2 Receiving Waters

The waterbodies identified in Table 1 receive storm water discharges from the Post Falls Highway District MS4.

Table 1 Receiving Water Summary

Receiving Waterbody Segments	WQS Classification	Impairment or Pollutant of Concern	TMDLs? (Yes/No)	Applicable WLAs (Yes/No)	No. of Discharging Outfalls
Spokane River	Category 4A (303d listed)	Cadmium, lead, zinc, and total phosphorus	Yes	No	15

1.3 SWMP Information and Statistics

Post Falls Highway District will track the following information to set priorities and assess permit compliance:

Public Education and Outreach – Events performed in respect to Public Education and Outreach will be documented. Any questionnaires administered during outreach will be recorded and analyzed for effectiveness.

Illicit Discharge Detection and Elimination – Post Falls Highway District is always monitoring for illicit discharges in its district as they make daily travel through the District.

- MS4 Maps and Outfall Inventory have been developed and refined for Post Falls Highway District to more accurately depict point source discharges to Post Falls Highway District MS4

jurisdiction.

- Dry Weather Outfall Screening – All outfalls were observed during July through September dry season and any outfalls with flows were tested for pH; total chlorine; surfactants; total phenols; E. coli; total phosphorus; turbidity; temperature and suspended solids. Test results will be documented and will provide a baseline for future identification or investigation of recurring illicit discharges.
- Annual training is documented and performed for the staff of each Highway District to identify and respond to illicit discharges and for good housekeeping and best management practices.

Construction Site Stormwater Runoff Control – Post Falls Highway District requires erosion control, sediment control, and waste material management controls for any projects within their MS4 jurisdiction. Any projects disturbing one or more acres are required to obtain NPDES coverage under the current Idaho Construction General Permit.

- Post Falls Highway District will log the nature and number of inspections, follow up actions, and subsequent enforcement actions.

Post-Construction Stormwater Management for New Development and Redevelopment – Post Falls Highway District will require the installation and long-term maintenance of permanent stormwater controls at new development and redevelopment project sites within their MS4 boundary that result in land disturbance of greater than or equal to one (1) acre.

- The Highway Districts will perform plan reviews and approval of permanent stormwater controls.

Pollution Prevention/Good Housekeeping for MS4 Operations – Post Falls Highway District does not have any facilities, yards, or material stockpile areas within the MS4 boundary. However, they do still adhere to and require best management practices within their facilities.

- Post Falls Highway District will maintain records reflecting their catch basin and inlet inspection and cleaning.
- Post Falls Highway District will maintain a schedule for street sweeping in the MS4 area streets every spring as soon as weather permits.
- Post Falls Highway District began a spring reminder in 2021 to all registered trash pick-up groups to schedule their trash pick-ups in the months of May.
- Post Falls Highway District conducts and documents annual staff training sessions concerning pollution prevention, proper BMP's, good housekeeping practices, and illegal discharge and detection information.
- Post Falls Highway District also performs public outreach, including workshops, fliers, and media, etc. These outreach methods are detailed throughout this SWMP.

- Post Falls Highway District maintains a website containing information on their MS4.

Street Sweeping – Post Falls Highway District completes street sweeping each spring and logs when the sweeping occurs. A map of the street sweeping schedule for 2023 is in the appendix.

1.4 Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation

There are no Transfers of Ownership, Operational Authorities, or responsibilities for SWMP implementation. Each permitted Highway District is responsible for its own MS4 jurisdiction.

2. MAP OF THE SEPARATE STORM SEWER SYSTEM

The Post Falls MS4 Outfall Map is in the appendix. The PFHD maintains fifteen (15) MS4 Outfalls within the Coeur d'Alene Urbanized Area. The primary receiving water is the Spokane River, stretching from Spokane Street to the west to W. Harbor Drive to the east with many outfalls on private property. The full dry weather inspection memo, inspection reports, and additional photos are in the appendix.

2023 Dry Weather Monitoring Photos



Outfall 2

Outfall 1



Outfall 3



Outfall 4



Outfall 5



Outfall 6



Outfall 7 (inlet, outfall is submerged)



Outfall 8



Outfall 9



Outfall 10 (inlet, outfall submerged)



Outfall 11



Outfall 12



Outfall 13



Outfall 14



Outfall 15

3. TARGETING POLLUTANTS OF CONCERN

3.1 Monitoring/Assessment of MS4 Discharges to Impaired Waters

A monitoring and assessment plan was developed and submitted in September 2022. In addition to dry weather monitoring, PFHD must monitor and assess the impairment pollutants discharging to the Spokane River. The four pollutants of concern, cadmium, lead, zinc, and phosphorus will be sampled annually as described in the implementation schedule in Section 4, once per year in September or October (if runoff present) or November (if no runoff present in September or October). If a pollutant reduction project has been implemented, then sampling will take place both upstream and downstream of the project to aid in the assessment of pollutant reduction. Impaired waters sampling will be done via grab bags, using identical sampling and handling methods as the dry weather procedures described in Section 2 of this Plan. As stated by the Permit, PFHD will use methods that can achieve EPA maximum minimum levels less than or equal to those specified below and determine threshold levels based on existing state water quality standards. Pollutants and corresponding threshold and minimum levels are shown in Table 3-1 and the sampling analysis is described in Table 3-2. After sampling, samples will be placed in a temperature-controlled container and given to the Contract Laboratory as soon as possible after testing. Sampling and preservation methods are detailed in the QAPP. Refer to the QAPP and Monitoring and Assessment Plan in the appendix.

Indicator Constituent	Threshold Level
Cadmium	1.3 (µg/L) CMC
	0.6 (µg/L) CCC
Lead	65 (µg/L) CMC
	2.5 (µg/L) CCC
Zinc	120 (µg/L) CMC
	120 (µg/L) CMC
Total Phosphorus	0.08 mg/L

Pollutant Reduction Activities

The permit requires PFHD to implement two pollutant reduction activities to both reduce and quantify pollutant loading.

POLLUTION REDUCTION ACTIVITY #1: BIOCHAR SOCKS

Biochar is a carbon-rich material produced by a pyrolysis, the process of heating of biomass in the absence of oxygen. Research suggests biochar as a low-cost tool for biological remediation. The biochar socks consist of rice husk biochar, lined in plastic fabric. Research indicates biochar has the capacity to absorb phosphorous and heavy metals, while sequestering carbon and improving soil quality. Biochar socks will the potential to reduce for cadmium, lead, zinc, and total phosphorous discharging to Waters of the US. Refer to Northwest Carbon, Inc. for detail on the products and technology at <https://northwestcarboninc.com>.

Place a sufficient length and amount of biochar sock at a selected outfall to Spokane River in the PFHD Permit area. The amount of biochar used and placement location will be determined based on the velocity of flow and size of the outfall. Pollutant load testing will occur at two locations at each outfall, above and below stream of the biochar socks. Biochar socks will be checked four times yearly, in

coordination with the impaired waters sampling schedule. Socks should be maintained and replaced as needed. The project aims to reduce cadmium, lead, zinc, and total phosphorous pollutant loadings discharging the Spokane River. Interim progress will be summarized and reported yearly in the Annual Report and summarized in the final report at the end of the permit term.

The biochar socks were implemented in fall 2023 at outfall 11. The wet weather monitoring was attempted in early November, but the outfall was dry despite heavy rainfall. The wet weather monitoring will continue to be attempted until the winter season.

POLLUTION REDUCTION ACTIVITY #2: INFILTRATION/SETTLING BASIN

Currently, outfall conditions in Permit area provide little infiltration settling time, often discharging directly into waterways. Bioinfiltration swales combine vegetation and soils to remove storm water pollutants. soil sorption, and uptake by vegetated root zones. Refer to BMP 9 in the IDEQ Best Management Practices Manual. Swales remove sediment, phosphorus, litter, bacteria, and metals from stormwater. Filters are designed to intercept and reduce direct site surface runoff. They hold or retain runoff long enough to allow it to enter the underlying soil.

Small infiltration facilities consisting of vegetation and armoring rock will be installed at one outfall to the Spokane River. Locating a site with proper conditions and adequate space will be necessary. The material, size, quantity, and location will be determined based on the flow and size of the outfall chosen. The project will be maintained as needed and checked annually, in coordination with the impaired waters sampling schedule. The project aims to reduce cadmium, lead, zinc, and total phosphorous pollutant loadings discharging into the Spokane River. The desired outcome of this pollutant reduction activity is to reduce the pollutant loadings of discharging waters by a quantifiable amount by the end of the Permit term.

The ditch immediately upstream of outfall 10 was selected as the location to implement infiltration and settling basin and was installed in fall 2023. The mitigation included armoring in the ditch to combat eroding soils and reseeding slope that were eroding. To aid infiltration, a French drain was installed and the culverts were cleaned. The wet weather monitoring was attempted in early November, but the outfall was dry despite heavy rainfall. The wet weather monitoring will continue to be attempted until the winter season.

Refer to the appendix for the wet weather monitoring memo.

IMPLEMENTATION SCHEDULE

The schedule for implementing the dry weather inspections, wet weather monitoring, and pollutant reduction activities is proposed as follows:

Timeframe	Activity
Spring 2023	Test for impaired waterway pollutants in all outfalls to the Spokane River within the permit area.
Spring – Summer 2023	Determine at which outfalls to implement the two pollutant reduction projects.
July/August	Conduct dry weather inspections.
Fall 2023	Install pollutant reduction projects.
September/October (starting 2023)*	Conduct wet weather sampling and testing at outfalls where pollutant reduction projects were implemented.
Spring 2024	Test for impaired waterway pollutants in all outfalls to the Spokane River within the permit area.

*2023 had a very dry fall and sampling in October was not possible. Sampling in November/December will be attempted.

4. LEGAL AUTHORITY AND ENFORCEMENT

Post Falls Highway District has no ordinance authority under Idaho Code and must rely on the authority of Kootenai County, Idaho Department of Environmental Quality, and Panhandle Health for enforcement.

Post Falls Highway District relies on the following legal authorities.	
To prohibit and eliminate illicit discharges to the MS4.	Kootenai County, Idaho Department of Environmental Quality, Panhandle Health
To control the discharge of spills, dumping or disposal of materials other than stormwater to the MS4.	Kootenai County, Idaho Department of Environmental Quality, Panhandle Health
To control the discharge of storm water and pollutants from land disturbance and development, both during the construction phase and after site stabilization has been achieved.	Kootenai County
To control the contribution of pollutants from one MS4 to another interconnected MS4.	Idaho Department of Environmental Quality
To require local compliance with such requirements.	Kootenai County, Idaho Department of Environmental Quality, Panhandle Health
To carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with the Permit.	Idaho Department of Environmental Quality

5. STORM WATER CONTROL MEASURES TO REDUCE POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE

The following sections describe Post Falls Highway District’s program to reduce pollutants in the MS4 discharges to the maximum extent practicable, as required by Permit Part 3. Each section summarizes the mandatory program and describes how Post Falls Highway District meets each program component.

5.1 Construction Site Runoff Control

To control the discharge of storm water and pollutants from land disturbance during the construction phase Post Falls Highway District must:

- ✓ Require appropriate erosion, sediment, and waste management requirements for construction site activity that results in land disturbance of 1 acre or more.
- ✓ Establish installation and use guidelines for required erosion/sediment/waste management during all phases of construction site activity.
- ✓ At a minimum, review preconstruction site plans for construction sites that will result in land disturbance of one (1) or more acres, using a checklist or similar process to consider and address potential water quality impacts from the site activities.
- ✓ Inspect and enforce erosion, sediment, and waste management requirements on construction sites.
- ✓ Establish an inspection prioritization plan.
- ✓ Establish an enforcement response policy.
- ✓ Ensure that Permittee staff is trained to conduct these activities.

Staff Training

Date	Entities	Training Topics
2010 & 2011	LHD	Municipal Storm Water Pollution Prevention Training (Storm Watch)
2013	LHD & PFHD	Presentation by LHD’s consulting engineer regarding MS4 areas and IDDE; video titled “Rain Check: Storm Water Pollution Prevention for MS4’s”; Q&A session
December 22, 2014	LHD & PFHD	Annual Staff Training
December 11, 2015	LHD, PFHD, & ESHD	Annual Staff Training
November 29, 2016	LHD, PFHD, & ESHD	Annual Staff Training: BMPs, IDDE, “Rain Check” Videos
December 14, 2017	LHD, PFHD, & ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
December 7, 2018	LHD, PFHD, & ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
December 18, 2019	LHD, PFHD, & ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
September 30, 2021	PFHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
September 14, 2022	PFHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
Fall 2023	PFHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE

The training materials and sign-in sheet are provided in the appendix.

Requirements for Construction Site Operators Disturbing >1 Acre

- PFHD is aware of the NPDES Construction General Permit requirements and complies with permit requirements for its own projects. PFHD will also assist with review and monitoring of private construction projects that discharge to its MS4. The District also tracks approach and utility permits within the MS4 and distributes information regarding stormwater BMPs to those projects located in the MS4 at the time of permit issuance.

Process of Informing Construction Project Proponents to Obtain the NPDES CGP Coverage for Site Disturbing > 1 acre.

- PFHD continues its public education and outreach program through a partnership with SEEP in order to meet its requirements for distributing information to local construction site operators.

Enforcement of Local Erosion, Sediment, and Waste Management Control Requirements for Sites Disturbing >1 Acre

- PFHD is in compliance to the best of the District's legal authority. The District does not have ordinance authority but will notify Kootenai County, IDEQ, and EPA if it becomes aware of potential violations of the CGP and/or the Kootenai County Site Disturbance Ordinance.

The Public Input Tracking Log is included in the appendix.

Prioritization of Inspection of Construction Sites:

- Highest Priority – Projects with one acre or more of disturbance and with potential to discharge to Post Falls Highway District MS4 jurisdiction.
- Medium Priority – Projects with less than one area of disturbance and potential to discharge to Post Falls Highway District MS4 jurisdiction.
- Lower Priority – Projects that have no potential to discharge to Post Falls Highway District MS4 jurisdiction.

Post Falls Highway District will log the nature and number of inspections, follow up actions, and subsequent enforcement actions. The Construction Site Inspection log is included in the appendix.

Enforcement Response Policy

The North Idaho Highway Districts will continue to refer enforcement policy instances to the authorities listed in Section 4.

Planned Activities for 2024

Post Falls Highway District will do the following during the 2024 calendar year:

- Continue to develop, discuss with the Associated Highway District supervisors and commissioners, and adopt when finalized the NPDES related standards approved for inclusion in the next Associated Highway Districts of Kootenai County Highway Standards.
- Comply with CGP requirements for Post Falls Highway District constructed projects.
- Review erosion control plans as part of its review process for private projects under Post Falls Highway District jurisdiction.

- As part of the road inspection process for new private projects, ensure that the appropriate level of erosion control is in place during construction.
- Educate staff on construction storm water discharges and direct staff to keep an eye on construction storm water discharges from private projects during road maintenance activities and maintenance rounds.
- Document and report to IDEQ and Kootenai County any detected illegal construction storm water discharges.
- The District will track approach and utility permits within the MS4 and at the time of permit issuance will distribute SEEP Field Guides regarding storm water BMPs to those projects located in the MS4.

5.2 Storm Water Management for Areas of New Development and Redevelopment

To control the discharge of storm water and pollutants from land disturbance and development, after construction is completed, East Side, Post Falls, and Lakes Highway Districts must:

- ✓ Require the installation and long-term maintenance of permanent storm water controls at new development and redevelopment project sites that result from land disturbance of 1 acre or more.
- ✓ Permanent storm water controls must be sufficient to retain onsite the runoff volume produced from a 24-hour, 95th percentile storm event; or sufficient to provide the level of pollutant removal greater than the pollutant removal expected by using onsite retention of runoff volume produced from a 24 hour, 95th percentile storm event.
- ✓ Alternatively, storm water treatment requirements must be required that can attain an equal or greater level of water quality benefits as onsite retention of storm water discharges from new development and redevelopment sites.
- ✓ Other alternatives may be allowed for projects to meet the onsite retention requirement at a particular project site based on technical infeasibility, and/or site constraints.
- ✓ Establish proper installation and use guidelines for permanent storm water controls – the Permittee may establish different types of controls for different types and/or sizes of site development activity.
- ✓ At a minimum, review and approve preconstruction plans for permanent storm water controls at new development and redevelopment sites that result from land disturbance of one (1) or more acres
- ✓ Periodically inspect “high priority” permanent storm water controls for proper installation and operation, using an inspection prioritization system
- ✓ Maintain an inspection prioritization plan and enforcement response policy,
- ✓ Maintain a database inventory to track and manage the operational condition of permanent storm water controls
- ✓ Ensure the appropriate Permittee staff is trained to conduct these activities.

Post Falls Highway District

Implement and Enforce Installation Requirements of Permanent Sites

Ordinances are already in place through Kootenai County, the City of Post Falls, and the City of Coeur d’Alene that require post-construction stormwater controls for significant private construction projects in the Post Falls Highway District’s jurisdiction. Post Falls Highway District design and construction practices have historically followed the principles of the ordinances. The Post Falls Highway District

maintains all drainage facilities within its right of way and provides plan review of post-construction stormwater designs for projects within its jurisdiction.

Prioritization of Permanent Stormwater Controls

- Highest Priority – Projects with one acre or more of disturbance and with potential to discharge to Post Falls Highway District MS4 jurisdiction.
- Medium Priority – Projects with less than one area of disturbance and potential to discharge to Post Falls Highway District MS4 jurisdiction.
- Lower Priority – Projects that have no potential to discharge to Post Falls Highway District MS4 jurisdiction.
- The Highway Districts will log the nature and number of inspections, follow up actions, and subsequent enforcement actions.

Enforcement Response Policy

As stated previously, Post Falls Highway District does not have ordinance authority. Therefore, the District will notify Kootenai County, IDEQ and Panhandle Health if it becomes aware of any potential violations.

Tracking of Operation & Maintenance of Permanent Controls

Post Falls Highway District staff provide the Operations & Maintenance for permanent stormwater controls within their own jurisdiction. As the Outfall maps are revised to include all permanent stormwater controls, a tracking sheet will be developed to track the Operations & Maintenance activities. It is anticipated this task to be completed by 2024.

Planned Activities for 2024

Since PFHD's authority is limited to road rights-of-way accepted into the District, future work on this item will include:

- Continue efforts to advocate NPDES standards to be included in the Associated Highway District Standards.
- Continue to follow local stormwater management design principles for Highway District construction projects.
- Provide installation inspection of stormwater controls for private projects within the right of way.
- Continue maintaining all drainage facilities within the right of way.

5.3 Pollution Prevention/Good Housekeeping for MS4 Operations

To properly operate and maintain the MS4, and its facilities using prudent pollution prevention and good housekeeping, Post Falls Highway Districts must:

- ✓ Maintain a current Map of the MS4, including an inventory of all Outfalls and other features.
- ✓ Inspect catch basins and inlets at least once every five years using an inspection prioritization plan.
- ✓ Maintain or clean catch basins based on those inspections.
- ✓ If applicable, maintain Operation and Maintenance (O&M) Procedures for Streets, Roads, Highways and Parking Lots.
- ✓ If applicable, inventory and manage Street/Road Maintenance Materials.
- ✓ If applicable, implement a Street, Road, Highway and Parking Lot Sweeping Management Plan.

- ✓ Maintain O&M Procedures for Other Municipal Areas and Activities to protect water quality.
- ✓ Use best practices to reduce the discharge of pollutants to the MS4 associated with the Permittee's application and storage of pesticides, herbicides and fertilizers.
- ✓ Develop site-specific Pollution Prevention Plans for Permittee-owned facilities.
- ✓ Work cooperatively with other entities to control litter on a regular basis.
- ✓ Ensure the appropriate Permittee staff is trained to conduct these activities.

Operations & Maintenance Requirements

PFHD Maintenance staff attends annual training (refer to latest training log in the appendix). The District's Operation and Maintenance has been improved through annual training on the Highway District's winter maintenance and snow removal policy. The District will continue to perform street sweeping in the MS4 area in spring annually. The District believes this is adequate to cover the requirement for a Stormwater Pollution Plan for its maintenance facility since the facility is located outside the MS4 boundary.

Inlet/Catch Basin Inspections & Maintenance

As Post Falls Highway District improves and completes their outfall map to include catch basins, an inspection and maintenance schedule will be developed and implemented to meet the requirements of catch basin inspection and cleaning at least once per five years.

Last Review/Update of Inspection and Maintenance Schedules

Post Falls Highway District will implement a yearly checklist (see attached) of Pollution Prevention and Good Housekeeping Practices.

Material Storage Locations

The Post Falls District Maintenance yards are located outside of the Coeur d'Alene Urbanized Area and MS4 Boundary. Therefore, action contained in Section 3.5.4 is not specifically required. No further action will be taken under this permit.

Sweeping Management Plan

Post Falls Highway District spring and summer maintenance efforts include street sweeping in the MS4 boundary. The District will include their Street Sweeping Management Plan in the SWMP no later than April 3, 2025. The map of 2022 street sweeping activities is included in the appendix.

Planned Activities for 2024

- Continued implementation of the Operations & Maintenance Program.
- Conduct another training session for LHD employees in 2023 on good housekeeping, BMPs, and illicit discharge detection.
- Perform a Pollution Prevention & Good Housekeeping Check
- Send additional staff members to SEEP certification classes.

5.4 Illicit Discharge Detection and Elimination

To prohibit and eliminate illicit discharges to the MS4, Post Falls Highway District must:

- ✓ Respond to Complaints or Reports of illicit Discharges from the Public.
- ✓ Keep Track of Complaints/Reports, and any Response Actions Taken.
- ✓ Conduct MS4 outfall screening inspections during dry weather.
- ✓ Follow-up to determine the source of a recurring illicit discharge identified as a result of complaints, or of the dry weather screening investigations within thirty (30) days.
- ✓ Take appropriate action to address the source of an ongoing illicit discharge.
- ✓ Prevent and Respond to Spills to the MS4, as appropriate.
- ✓ Coordinate with other entities for the proper disposal of used oil and toxic materials.
- ✓ Ensure the appropriate Permittee staff is trained to conduct these activities.

Illicit Discharge Policies

The Highway District's will monitor MS4 areas for illicit discharges in accordance with the Illicit Discharge and Spill Response Plan (see attached plan in the appendix). Examples of illicit discharges that the District will be looking for include:

- Sanitary sewage or drain field effluent running over the surface into a ditch,
- Paint or oil dumped into a ditch or storm drain,
- A shop floor drain discharging to a ditch,
- Turbid construction site runoff,
- Other harmful pollutants (use common sense).

The Highway Districts have also developed a Spill Response Procedure detailing the actions to be taken when an illicit discharge is detected by a District employee:

1. Be Safe: Identify the pollutant and determine if it is safe to remain in the area and if safety equipment is needed
2. Stop the Source: If the source is readily identifiable and can be stopped quickly and safely, do so.
3. Notify: Dial 911 if you deem it an emergency.
4. Report the spill to your supervisor.
5. Notify the following agencies:
 - Kootenai County Fire and Rescue: (208) 772-8500
 - Kootenai County Sheriff's Office: (208) 446-1850 for chemical spills
 - Idaho Department of Environmental Quality: (208) 769-1422 for wastewater discharges
 - Kootenai County Building and Planning Department: (208) 446-1070 for minor sediment discharges and code violations.
6. Protect Stormwater: If it can be safely done, while help is on the way, confine the spill with sandbags, berms, diversion ditches, etc.
7. Assist with Clean Up: Remain on site and assist by providing materials, labor and equipment as directed by the authority agency. Examples include sand, gravel, the District's Spill Kit, etc. Communicate with the authority agency and make sure that they are aware of concerns for protecting downstream surface water.
8. Notify EPA within 24 hours at (206) 553-1846.
9. Report: Supervisor to write a summary report of the incident and file it with SWMP monitoring records. Submit a copy of the report to EPA and IDEQ within 30 days.

The Dry Weather Outfall Screening procedures are as follows:

Task	Description
Dry Weather Field Inspections	Outfall Reconnaissance Inventory (ORI) – MS4’s shall be visited at a minimum of one time during the months of July through September.
Dry Weather Quality Testing	At a minimum, if the inspector observes actual flow from an MS4 outfall, during dry weather, he/she should specifically note any observed color, odor, clarity, floating solids, foam, sheen, suspended or settled solids or other indicators of pollution. Additional water quality testing may also be warranted. If deemed necessary by the permit coordinator, obtain a sample kit from Accurate Testing Labs in Hayden or other approved source and sample for parameters identified.
Analysis of Water Quality Data	Compare background tests to dry weather sampling results, if water present during dry weather inspections.
Reporting	Prepare a technical memo identifying the following: <ul style="list-style-type: none"> • Work performed • Results from Water Quality Testing • Illicit Discharge Detected, Reported and Results

The dry weather screening memo with inspection reports, photos, and test results are included in the appendix.

Conditional Allowance of Non-Stormwater Discharges

The District does not have ordinance authority and it is not aware of any existing local conditions on non-storm water discharges. If the District observes what it deems to be repeated violations of state surface water quality standards (IDAPA 58.01.02.200), it will notify EPA and IDEQ for enforcement assistance.

Some examples of allowable non-storm water discharges that may not need to be addressed include:

- Water line flushing
- Irrigation water
- Discharges from potable water sources
- Foundation drains
- Air-conditioning condensate
- Individual residence car wash water
- Dechlorinated swimming pool discharges
- Street wash water
- Groundwater

Response to Illicit Discharges, Typical Complaints, and Other Findings

Responsibilities for illicit discharge detection and typical illicit discharge inspection type are as follows:

Tasks	Jurisdictional Authority	Responsible Parties
Inspection of Potential Illicit Discharge within Public Road Right-of-Way	PFHD	PFHD
Inspection of Potential Illicit Discharge from a Private Property	County	County
Repair/Cleanup of Illicit Discharge within Public Right-of-Way	PFHD / County HazMat / Sewer District	PFHD / County HazMat
Enforcement	County	County

All actions relating to illicit discharge detection will be recorded in a database administered by Post Falls Highway District. The database will be organized by MS4 outfall and will contain information such as: the outfalls inspected, any complaints received, and tests conducted. Illicit discharge detection activities will also be documented on the storm sewer system map.

If an illicit discharge is identified, the Highway District will notify EPA within 24 hours by phone at (206) 553-1846, and provide a written report within 5 days (see Permit Part 7.9).

Outfall Screening During Dry Weather

Post Falls Highway District conducts annual dry weather screening of all outfalls within the District (see Post Falls Highway District Dry Weather Report 2023 in attachments).

All outfalls, except outfall 2 and 8, were dry at the time of inspection. Outfalls 2 and 8 contained discharge during dry weather inspections and were tested for water quality. All samples were taken by Welch Comer staff and tested by Accurate Testing Labs, LLC. Results of the water quality samples are as follows:

Post Falls Highway District Dry Inspection Discharge Testing Results					
Analyte	Outfall Results		Unit	PQL	Analysis Date
	2	8			
E. Coli Bacteria	ND	7.4	CFU (MPN)/ 100mL	1	8/9/23
Chlorine, Total Residual	ND	ND	mg/L	0.01	8/9/23
Phosphorus, Total	0.508	0.026 mg/L	mg/L	0.004	8/9/23
pH	7.27	7.04	pH Units	6.5-9.0	8/9/23
Phenolics	ND	ND	mg/L	0.05	8/9/23
Total Suspended Solids	ND	63	mg/L	1	8/9/23

Note: If the RESULT is 'ND' (Not Detected) or 'Absent', that means the concentration is less than the PQL (Practical Quantitation Limit for this method). See attached test results for method and analyst information. Refer to enclosed test results for method and analyst information.

Outfall 2

Outfall 2 is located on W. Riverview Drive east of Shilling Loop. The samples were taken at the outfall. Special care was taken to ensure samples were taken from Active outfall 2 flow and not from water pooling below the outfall. At outfall 2, E. Coli, chlorine, phenolics, and Total Suspended Solids were not detected. Total phosphorus was detected at 0.508 mg/L, which exceeds the water quality trigger of 8.0 µg/L or 9 µg/L listed for various locations in the 2009 Coeur d'Alene Lake Management Plan.

The pH of 7.27 is within the acceptable range of 6.5 to 9.

The phosphorus levels are relatively high, but no other pollutants (even TSS) were present which does not lead to suspect illicit discharge. Rather, the drainage is likely picking up phosphorus naturally in the forested areas upstream of the outfall.

Outfall 8

Outfall 8 is located off of W. Riverview Drive in an area with residential development. The actual outfall is on private property with restricted access. The sample was taken upstream at the roadside ditch and culvert. At outfall 8, chlorine (Total Residual) and phenolics were not detected.

E. Coli was detected at 7.4 CFU/100 mL. However, if a cross section to sewer or a failing septic were present, we would expect that number to be much higher. E. Coli was not detected in the 2022 sample.

Total phosphorus was detected at 0.026 mg/L which equals 26 µg/L. This exceeds the water quality trigger of 8.0 µg/L or 9 µg/L listed for various locations in the 2009 Coeur d'Alene Lake Management Plan. This is also higher than the 2022 phosphorus reading of 12 µg/L. Additionally, TSS is 63 NTU which exceeds the limit of 25 NTU. We suspect some of the phosphorus is coming from the sediment suspended in the discharge.

The pH of 7.04 is within the acceptable range of 6.5 to 9.

There were other HDPE pipes present in the vicinity, which indicates presence of ground water. There is quite a lot of vegetation present, which could account for the phosphorus. Additionally, the uphill slopes have some erosion, which could contribute sediment, and therefore, phosphorus to the stormwater runoff. At this point, it appears the runoff is likely ground water and the test results do not indicate that additional follow up is necessary.

Planned Activities for 2024

The Post Falls Highway District will do the following during the 2023 calendar year:

- Visually monitor the MS4 area during routine maintenance rounds.
- Screen all outfalls during July-September in accordance with the Dry Weather Screening Plan.
- Conduct additional screening in spring and fall during maintenance and monitoring.
- Document and report detected illicit discharges to Kootenai County, EPA and IDEQ in accordance with the Spill Response Plan.

5.5 Education, Outreach, and Public Involvement

To educate and involve members of the public to learn about pollutants in storm water and similarly significant issues, Post Falls Highway District must conduct, or contract with other entities to conduct, an ongoing education, outreach, and public involvement program. The Highway District must also comply with applicable State and local public notice requirements when implementing any public involvement activities.

Within one year of the Permit effective date, LHD, PFHD, and ESHD must, at a minimum:

- ✓ Select at least one audience and focus its efforts on conveying relevant messages
- ✓ Distribute and/or offer at least eight (8) educational messages or activities over the permit term to selected audience(s)
- ✓ Begin to assess, and track, activities to gauge the audience's understanding of the relevant messages and adoption of appropriate behaviors.
- ✓ Target specific educational material to the construction/engineering/design community regarding construction site runoff control and permanent storm water controls.
- ✓ Maintain and advertise a publicly accessible website to provide all relevant SWMP materials.

Post Falls Highway District will track the Public Education and Outreach efforts during the permit term and provide reports in the Annual Reports. The permit requires at least 8 educational messages or activities during the permit term. The permit requires an effort to assess the understanding of the relevant messages and adoption of appropriate behaviors by the target audience.

The North Idaho Highway Districts have already established a public education and outreach program during the last permit term, and they will continue to build upon through this permit term.

The target audiences have been children and families with the following outreach efforts:

Earth Day – We had a booth with interactive activity for children and families who attended the Earth Day event on April 22, 2023. The booth educated students about stormwater drainage systems and groundwater. Students learned where drinking water comes from, the definition of groundwater and stormwater, and how to prevent and reduce stormwater pollution. Photos from the event are below.



Silverwood Physics & Science Day – Local middle and high schools from Eastern Washington and North Idaho traveled to Silverwood Amusement Park to participate in Science and Physics Day, while also enjoying the amusement park. Students took part in educational activities such as visiting the stormwater education booth, creating rollercoaster models, and measuring area using a circle. Together with the IDEQ and the City of Coeur d'Alene we ran the stormwater education booth. The booth educated students about stormwater drainage systems and groundwater. Students learned where

drinking water comes from, the definition of groundwater and stormwater, and how to prevent and reduce stormwater pollution. Photos from the event are below.



Ramsey Elementary Field Trip – Ramsey Elementary 5th grade students visited the Coeur d’Alene Wastewater Treatment Plant, were given a tour, and took part in other informational activities. One of these informational activities was learning about the stormwater drainage systems. This involved how they are cleaned and certain types of pollution that can be caused by stormwater runoff and how to prevent it. We informed the students about different types of swales, specifically mentioning grassy swales and how they work in providing clean water seepage. We also informed the students about the different sources of pollution that are involved with stormwater including pet waste, litter, fertilizer, motor oils, and chemicals. Along with covering where these pollutants come from, the students were taught about ways in which they can lower the number of pollutants that reach stormwater drains. Below are pictures from the fieldtrip.



Information on the Website

Flyers were placed on the website prior to Earth Day. The excerpts from the website are included in the appendix.

In 2015, Post Falls Highway District along with Lakes Highway District and East Side Highway District, wrote a letter of support and agreed to co-fund a “Learning Station” for the University of Idaho grant application to develop the “Cleaner. Water. Faster: Bi-State Interpretive Clean Water Trail” Interpretive Trail for the four corners area in Coeur d’Alene. The University of Idaho was successful in securing the grant. The design of the “Learning Station” was completed in 2018 and was installed by the City of Coeur d’Alene in the spring of 2019. The “Learning Station” for the Storm Water Pollution Prevention Interpretive Trail Project will be maintained as a cooperative effort with East Side Highway District, Post Falls Highway District, and Lakes Highway District (see picture of Learning Station in attached).

The Highway Districts were approached with an opportunity to develop a PSA through the University of Idaho’s “Cleaner. Water. Faster.” grant. On September 19, 2017, the video was filmed and in October of 2018 the video was completed and published on YouTube and linked by the University of Idaho website. The video has also been posted to the Lakes Highway District website.

To supplement our Public Outreach Stormwater Demonstrations, the three Highway Districts along with the City of Coeur d’Alene designed and produced two large banner displays for stormwater and pollution prevention education purposes.

Planned Activities for 2024

Post Falls Highway District plans to perform the following Public Outreach and Education activities during the 2023 calendar year:

- Earth Day Stormwater booth
- Ramsey Elementary Field Trip Stormwater Pollution Prevention Presentation

- Silverwood Physics and Science Day Stormwater Pollution Prevention Presentation
- One public information brochures on the website.
- SEEP Field Guides distributed to all Contractors and Permit Applicants

6. UNIQUE PROVISIONS SPECIFIC TO LAKES, POST FALLS, AND EAST SIDE HIGHWAY DISTRICTS

6.1 Annual Compliance Evaluation

The annual report that is required by Part 6.4.2 of the NPDES Permit is accessible on the Post Falls Highway District website at www.postfallshd.com

6.2 Alternative Control Measure Requests

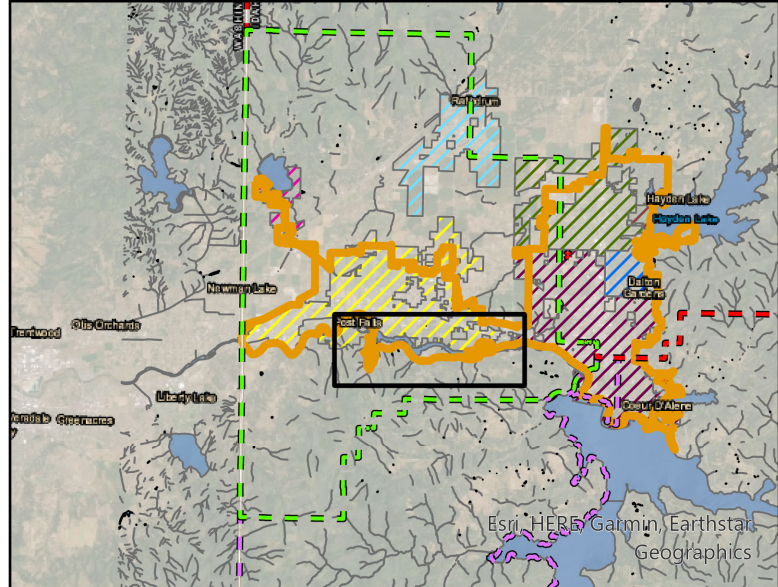
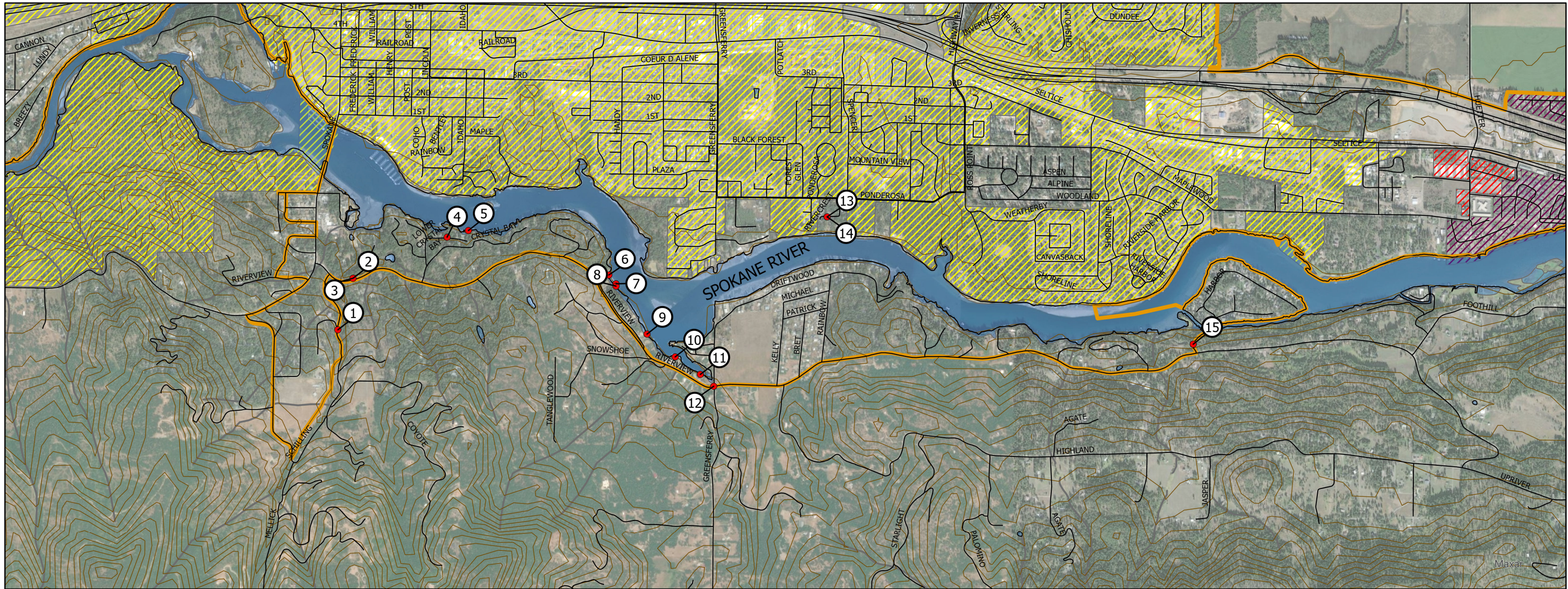
No requests were made for Alternative Control Measures.

6.3 Adaptive Management Actions

There are no adaptive management actions to date.

APPENDIX

MS4 Outfall Map



LEGEND

- OUTFALL POINTS
- CITY OF COEUR D'ALENE
- CITY OF HUETTER
- CITY OF POST FALLS
- 2020 CENSUS DEFINED URBANIZED AREA
- POST FALLS HIGHWAY DISTRICT

0 1,000 2,000 4,000 Feet

N

OUTFALL TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.693564	-116.947953	15" CMP TO SPRING CREEK FROM SCHILLING DITCH, JUST SOUTH OF S MINNALOOSA LN
2	47.696556	-116.946722	36" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
3	47.696556	-116.946722	12" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
4	47.699042	-116.938702	12" CMP TO TREES FROM SOUTH LOWER CRYSTAL BAY RD
5	47.699446	-116.936883	12" HDPE TO SPOKANE RIVER FROM SOUTH LOWER CRYSTAL BAY RD CATCH BASIN
6	47.696972	-116.924771	18" HDPE TO SPOKANE RIVER, 12025 W RIVERVIEW DR
7	47.696469	-116.924146	18" CMP TO SPOKANE RIVER, 11917 W RIVERVIEW DR
8	47.696335	-116.924138	12" CMP TO UPRIGHT PIPE TO 4" HDPE TO SPOKANE RIVER, 11879 W RIVERVIEW DR
9	47.693591	-116.921419	18" CMP TO SPOKANE RIVER, 11555 W RIVERVIEW DR
10	47.692297	-116.918976	18" CMP TO GREEN FERRY BAY BOAT LAUNCH (SR) FROM RIVERVIEW DITCH
11	47.691307	-116.916792	18" HDPE TO GREEN FERRY BAY (SR) FROM RIVERVIEW DITCH, 11075 W RIVERVIEW DR
12	47.690633	-116.91563	15" CMP TO CEDAR CK (ABOVE STREAM CULVERT) FROM DITCH, GREENFERRY DITCH
13	47.700547	-116.906121	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
14	47.700547	-116.906115	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
15	47.693475	-116.874507	24" CMP FROM HARBOR DRIVE DITCH



NOTE: LATITUDE & LONGITUDE WERE RECALCULATED FROM SOURCE. SKEWED COORDINATES POTENTIALLY CAUSED BY HANDHELD GPS USE UNDER TREE CANOPY.



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**POST FALLS HIGHWAY DISTRICT
MUNICIPAL SEPERATE STORM SEWER SYSTEM (MS4) MAP**

Sources: ESRI Basemaps, Idaho Tax Commission GIS, Kootenai County GIS, IDWR GIS,

PROJECT NO :41447
 DRAWN BY :AMC
 FILENAME :20220518_PFHD_OutfallLocations
 DATE :05-26-2022

Monitoring and Assessment Plan

WELCH COMER

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Coeur d'Alene, ID 83814

MONITORING & ASSESSMENT PLAN

FOR

POST FALLS HIGHWAY DISTRICT
NPDES PERMIT #IDS028207

SUBMITTED TO THE
ENVIRONMENTAL PROTECTION AGENCY & IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY

SEPTEMBER 2022

Table of Contents

1.	INTRODUCTION	1
	1.1. PURPOSE	1
	1.2. OBJECTIVES	1
2.	DRY WEATHER DISCHARGE MONITORING	1
	2.1. DRY WEATHER OUTFALL SCREENING PROCESS	1
3.	IMPAIRED WATERS MONITORING	3
	3.1. IMPAIRED WATERS SAMPLING LOCATIONS	3
	3.2. IMPAIRED WATERS SAMPLING PROCEDURES	3
	3.3. IMPAIRED WATERS REPORTING AND DATA USE	3
4.	POLLUTION REDUCTION ACTIVITIES	4
	4.1. POLLUTION REDUCTION ACTIVITY #1: BIOCHAR SOCKS	4
	4.2. POLLUTION REDUCTION ACTIVITY #2: INFILTRATION/SETTLING BASIN	4
5.	IMPLEMENTATION SCHEDULE	5
	APPENDICES	
	APPENDIX A: OUTFALL MAP	
	APPENDIX B: QUALITY ASSURANCE PROJECT PLAN	
	APPENDIX C: EMAIL CHAIN CLARIFYING WET WEATHER TESTING REQUIREMENTS	

MONITORING & ASSESSMENT PLAN FOR:

POST FALLS HIGHWAY DISTRICT

1. INTRODUCTION

1.1. PURPOSE

The Monitoring and Assessment Plan (Plan) defines the Post Falls Highway District's (PFHD) approach for quantifying and identifying pollutant loadings from the municipal separate storm sewer system (MS4) as required by the North Idaho Highway District National Pollutant Discharge Elimination System Municipal Stormwater Permit #IDS028207 (Permit). This Plan serves as a Monitoring and Assessment Plan required by Permit Part 4 Special Conditions for Discharges to Impaired Waters and Permit Part 4.2 Monitoring/Assessment Activities.

PFHD has 15 outfalls that fall under the Permit and those are shown in Appendix A.

1.2. OBJECTIVES

This plan is designed to assist in meeting the following objectives:

- Detect and identify dry weather flows, illicit discharges, and illegal connections.
- Monitor cadmium, zinc, lead, and total phosphorous loadings from MS4s into the Spokane River.
- Develop two pollutant reduction activities and quantify the estimated pollutant reduction accomplished during the permit term.

2. DRY WEATHER DISCHARGE MONITORING

2.1. DRY WEATHER OUTFALL SCREENING PROCESS

PFHD must conduct visual dry weather screenings of all MS4 outfalls annually in accordance with the Permit. The outfall screening process requires visual inspection and when flow is present, water quality testing and source tracing. Water quality data collection will be accomplished through sample bottles and analytical methods. Sample bottles will be collected for laboratory analysis by the Contract Laboratory.

2.2. VISUAL DRY WEATHER INSPECTIONS

Prior to dry weather outfall screening, it cannot have rained more than 0.1 inches in the last 72 hours. A GPS device will be used to accurately report the location of outfalls and possible illicit discharge. A visual dry inspection consists of description of the outfall pipe and surrounding area. If outfall access is restricted, the outfall should be checked at the first point of accessibility upstream of the outfall location. Note this location in the notes section of the report. The following information will be collected for each outfall, annually.

- Location in terms of identifying landmarks such as nearby streets and receiving water
- Time since last rain event; estimated quantity of last rain event
- Weather description

- Site description
- Description and condition of outfall
- Flow estimation
- Visual observations (e.g., odor, color, clarity, floatable, deposits/stains, vegetation condition, structural condition, presence of trash, and biology)
- Photographs of outfall and any features useful to reporting

After completing the discharge monitoring procedures, the Permittees must identify the source and take appropriate action to eliminate the flows to the extent allowable pursuant to authority granted under Idaho law. If the discharge was deemed an immediate public threat, document the responding agency and type of discharge. Reports shall be obtained from the responding agency. Illicit Discharges must be reported to EPA and IDEQ within 24-hours from the time PFHD becomes aware. It is important to document each discharge response, regardless of whether actual discharge was determined.

2.3. DRY WEATHER FLOW SAMPLING PROCEDURES

Samples will be collected using grab sampling methods from a point near the center of flow of the outfall. Results of sampling must be compared to the trigger threshold levels and/or as shown below in Table 2-1. All threshold levels were found based on the *Idaho Department of Environmental Quality 58.01.02 -Water Quality Standards*. Sampling will be collected for each indicator as shown in Table 2-1. After sampling, samples will be placed in a temperature-controlled container and given to the Contract Laboratory as soon as possible after testing. Sampling and preservation methods are detailed in the QAPP.

Table 2-1: Sampling Threshold Levels

Indicator Constituent	Threshold Level
pH	6.5 - 9.0
Total Chlorine	0.019 mg/L CMC 0.011 mg/L CCC
Total Phenols*	3.8 mg/L
E. Coli	410 MPN/100 mL
Total Phosphorus**	0.08 mg/L
Turbidity	Cannot exceed 50 NTUs (2 on severity index)
*Obtained from Page 67, in Idaho Human Health Criteria: https://www2.deq.idaho.gov/admin/LEIA/api/document/download/14640 **Obtained from Page 65, in Coeur d'Alene LMP: https://www2.deq.idaho.gov/admin/LEIA/api/document/download/11122	

Turbidity/TSS will be measured by visual inspection by a relative severity index of 1(slight cloudiness), 2 (cloudy), and 3 (opaque) measurements for visual inspections will be record on Outfall Inspection Report (See QAPP in Appendix B).

2.4. DRY WEATHER FLOW FOLLOW UP

Within thirty days of its detection, PFHD must reinvestigate recurring illicit discharges identified as a result of complaints or dry weather discharge monitoring to determine the source of such discharge. Permittees must take appropriate action to address and eliminate the source of an ongoing illicit discharge within sixty days of its detection, to the extent allowable under Idaho law.

3. IMPAIRED WATERS MONITORING

3.1. IMPAIRED WATERS SAMPLING LOCATIONS

In addition to dry weather monitoring, PFHD must monitor and assess the impairment pollutants discharging to the Spokane River. The four pollutants of concern, cadmium, lead, zinc, and phosphorus will be sampled annually as described in the implementation schedule in Section 4, once per year in September or October (if runoff present) or November (if no runoff present in September or October). If a pollutant reduction project has been implemented, then sampling will take place both upstream and downstream of the project to aid in the assessment of pollutant reduction.

3.2. IMPAIRED WATERS SAMPLING PROCEDURES

Impaired waters sampling will be done via grab bags, using identical sampling and handling methods as the dry weather procedures described in Section 2 of this Plan. As stated by the Permit, PFHD will use methods that can achieve EPA maximum minimum levels less than or equal to those specified below and determine threshold levels based on existing state water quality standards. Pollutants and corresponding threshold and minimum levels are shown in Table 3-1 and the sampling analysis is described in Table 3-2. After sampling, samples will be placed in a temperature-controlled container and given to the Contract Laboratory as soon as possible after testing. Sampling and preservation methods are detailed in the QAPP.

Table 3-1: Sampling Threshold Levels

Indicator Constituent	Threshold Level
Cadmium	1.3 (µg/L) CMC
	0.6 (µg/L) CCC
Lead	65 (µg/L) CMC
	2.5 (µg/L) CCC
Zinc	120 (µg/L) CMC
	120 (µg/L) CMC
Total Phosphorus	0.08 mg/L

3.3. IMPAIRED WATERS REPORTING AND DATA USE

The collected pollutant loading data will be used to assess the viability of the pollutant reduction activities described in Section 4 of this Plan. An Impaired Waters Inspection Report, attached in the QAPP in Appendix B, will be filled out per sampling location. Information found

in impaired waters monitoring will be summarized yearly in Annual Report and in the final report at the end of the permit period.

4. POLLUTION REDUCTION ACTIVITIES

The Permit requires PFHD to implement two pollutant reduction activities to both reduce and quantify pollutant loading.

4.1. POLLUTION REDUCTION ACTIVITY #1: BIOCHAR SOCKS

4.1.1. Introduction

Biochar is a carbon-rich material produced by a pyrolysis, the process of heating of biomass in the absence of oxygen. Research suggests biochar as a low-cost tool for biological remediation. The biochar socks consist of rice husk biochar, lined in plastic fabric. Research indicates biochar has the capacity to absorb phosphorous and heavy metals, while sequestering carbon and improving soil quality. Biochar socks will the potential to reduce for cadmium, lead, zinc, and total phosphorous discharging to Waters of the US. Refer to Northwest Carbon, Inc. for detail on the products and technology at <https://northwestcarboninc.com>.

4.1.2. Project Description

Place a sufficient length and amount of biochar sock at a selected outfall to the Spokane River in the PFHD Permit area. The amount of biochar used and placement location will be determined based on the velocity of flow and size of the outfall. Pollutant load testing will occur at two locations at each outfall, above and below stream of the biochar socks. Biochar socks will be checked annually, in coordination with the impaired waters sampling schedule. Socks should be maintained and replaced as needed.

4.1.3. Desired Outcome

The project aims to reduce cadmium, lead, zinc, and total phosphorous pollutant loadings discharging into the Spokane River.

4.1.4. Reporting

Interim progress will be summarized and reported yearly in the Annual Report and summarized in the final report at the end of the permit term.

4.2. POLLUTION REDUCTION ACTIVITY #2: INFILTRATION/SETTLING BASIN

4.2.1. Introduction

Currently, outfall conditions in Permit area provide little infiltration settling time, often discharging directly into waterways. Bioinfiltration swales combine vegetation and soils to remove storm water pollutants. soil sorption, and uptake by vegetated root zones. Refer to BMP 9 in the IDEQ Best Management Practices Manual¹. Swales remove sediment, phosphorus, litter, bacteria, and metals from stormwater. Filters are designed to intercept and reduce direct site surface runoff. They hold or retain runoff long enough to allow it to enter the underlying soil.

¹ IDEQ Catalog of Best Management practices; <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/14968>

4.2.2. Project Description

Small infiltration facilities consisting of vegetation and armoring rock will be installed at one outfall to the Spokane River. Locating a site with proper conditions and adequate space will be necessary. The material, size, quantity, and location will be determined based on the flow and size of the outfall chosen. The project will be maintained as needed and checked annually, in coordination with the impaired waters sampling schedule.

4.2.3. Desired Outcome

The project aims to reduce cadmium, lead, zinc, and total phosphorous pollutant loadings discharging into the Spokane River. The desired outcome of this pollutant reduction activity is to reduce the pollutant loadings of discharging waters by a quantifiable amount by the end of the Permit term.

4.2.4. Reporting

Interim progress will be summarized and reported yearly in the Annual Report.

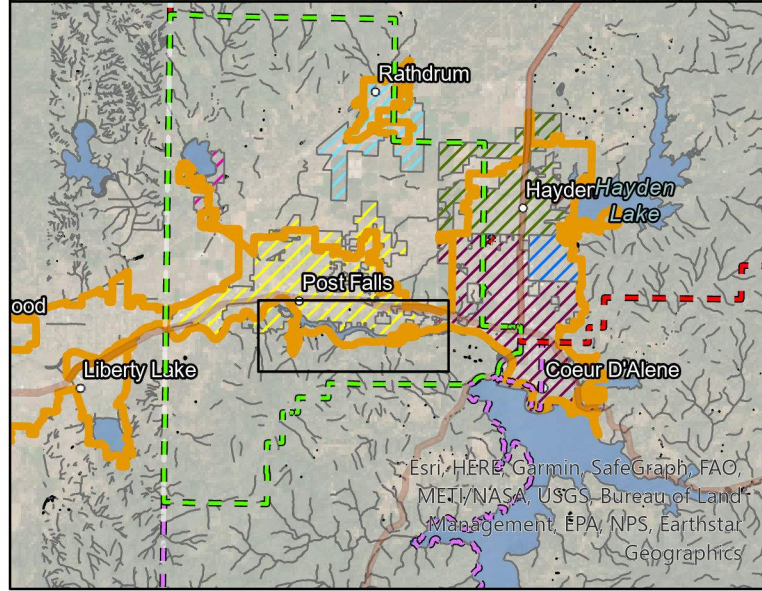
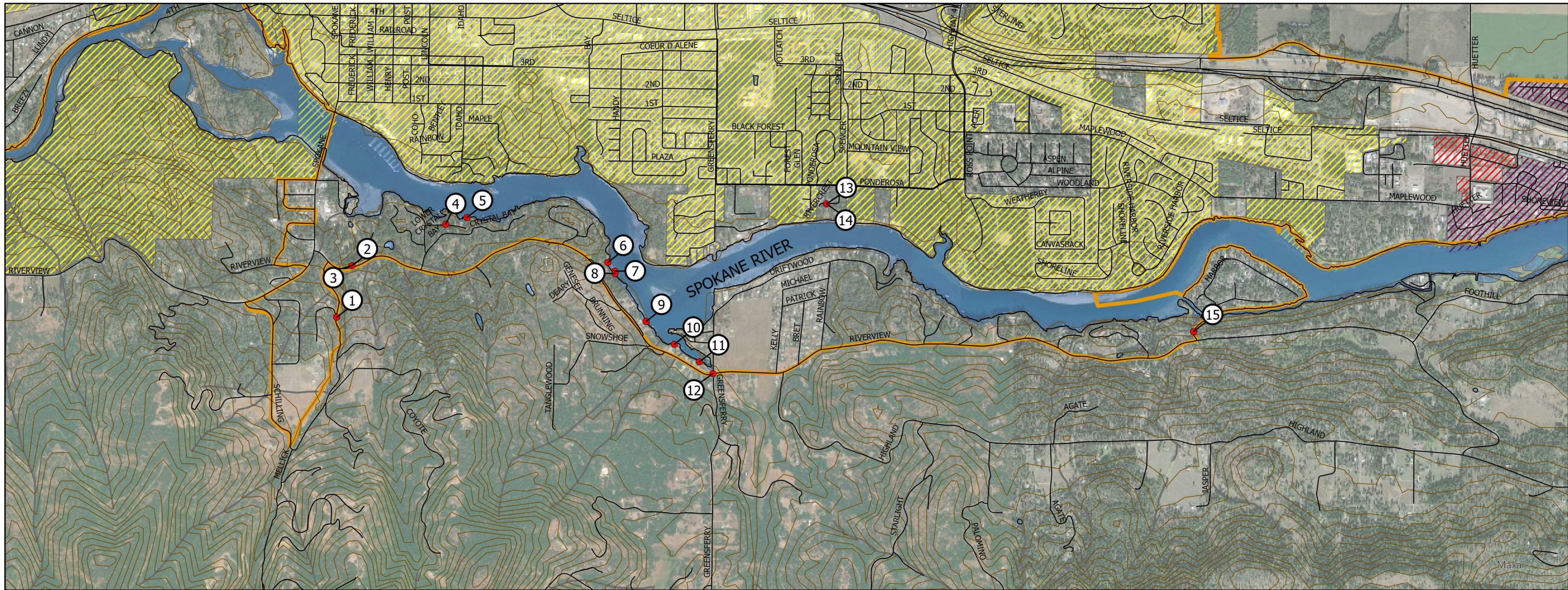
5. IMPLEMENTATION SCHEDULE

The schedule for implementing the dry weather inspections, wet weather monitoring, and pollutant reduction activities is proposed as follows:

Timeframe	Activity
Spring 2023	Test for impaired waterway pollutants in all outfalls to the Spokane River within the permit area.
Spring – Summer 2023	Determine at which outfalls to implement the two pollutant reduction projects.
Summer 2023	Install pollutant reduction projects.
July/August	Conduct dry weather inspections.
September/October (starting 2023)	Conduct wet weather sampling and testing at outfalls where pollutant reduction projects were implemented.

APPENDIX A

OUTFALL MAP



LEGEND

- OUTFALL POINTS
- CITY OF COEUR D'ALENE
- CITY OF HUETTER
- CITY OF POST FALLS
- 2020 CENSUS DEFINED URBANIZED AREA
- POST FALLS HIGHWAY DISTRICT

N

0 1,000 2,000 4,000
Feet

OUTFALL TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.693564	-116.947953	15" CMP TO SPRING CREEK FROM SCHILLING DITCH, JUST SOUTH OF S MINNALOOSA LN
2	47.696556	-116.946722	36" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
3	47.696556	-116.946722	12" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
4	47.699042	-116.938702	12" CMP TO TREES FROM SOUTH LOWER CRYSTAL BAY RD
5	47.699446	-116.936883	12" HDPE TO SPOKANE RIVER FROM SOUTH LOWER CRYSTAL BAY RD CATCH BASIN
6	47.696972	-116.924771	18" HDPE TO SPOKANE RIVER, 12025 W RIVERVIEW DR
7	47.696469	-116.924146	18" CMP TO SPOKANE RIVER, 11917 W RIVERVIEW DR
8	47.696335	-116.924138	12" CMP TO UPRIGHT PIPE TO 4" HDPE TO SPOKANE RIVER, 11879 W RIVERVIEW DR
9	47.693591	-116.921419	18" CMP TO SPOKANE RIVER, 11555 W RIVERVIEW DR
10	47.692297	-116.918976	18" CMP TO GREEN FERRY BAY BOAT LAUNCH (SR) FROM RIVERVIEW DITCH
11	47.691307	-116.916792	18" HDPE TO GREEN FERRY BAY (SR) FROM RIVERVIEW DITCH, 11075 W RIVERVIEW DR
12	47.690633	-116.91563	15" CMP TO CEDAR CK (ABOVE STREAM CULVERT) FROM DITCH, GREENFERRY DITCH
13	47.700547	-116.906121	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
14	47.700547	-116.906115	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
15	47.693475	-116.874507	24" CMP FROM HARBOR DRIVE DITCH



NOTE: LATITUDE & LONGITUDE WERE RECALCULATED FROM SOURCE. SKEWED COORDINATES POTENTIALLY CAUSED BY HANDHELD GPS USE UNDER TREE CANOPY.

**POST FALLS HIGHWAY DISTRICT
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) MAP**

APPENDIX B

QUALITY ASSURANCE PROJECT PLAN (QAPP)

WELCH COMER

O: 208-664-9382
F: 208-664-5946

330 E. Lakeside Avenue, Suite 101
Coeur d'Alene, ID 83814

QUALITY ASSURANCE PROJECT PLAN (QAPP)

FOR

EAST SIDE HIGHWAY DISTRICT & POST FALLS HIGHWAY
DISTRICT

NPDES PERMIT #IDS028207

SUBMITTED TO THE
ENVIRONMENTAL PROTECTION AGENCY & IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY

SEPTEMBER 2022

Table of Contents

1. PROJECT MANAGEMENT	2
1.1. DISTRIBUTION LIST	2
1.2. PURPOSE AND PROJECT/TASK ORGANIZATION	2
1.3. INTENDED USE OF DATA	3
1.4. DOCUMENTATION AND RECORDS	3
2. DATA GENERATION AND ACQUISITION	4
2.1. SAMPLING LOCATIONS	4
2.2. SAMPLING METHODS	4
2.3. INSTRUMENTS/EQUIPMENT TESTING, INSPECTION AND MAINTENANCE	4
2.4. SAMPLE HANDLING AND CUSTODY	5
2.5. DATA MANAGEMENT	5
2.6. REPORTS	5

APPENDICES

APPENDIX A: OUTFALL INSPECTION REPORT

APPENDIX B: IMPAIRED WATERS INSPECTION REPORT

APPENDIX C: CHAIN OF CUSTODY FORM

QUALITY ASSURANCE PROJECT PLAN FOR:

NORTH IDAHO HIGHWAY DISTRICTS

1. PROJECT MANAGEMENT

1.1. DISTRIBUTION LIST

All recipients on the distribution list will be issues copies of the Quality Assurance Project Plan (QAPP) as provided in Table 1-1. Major revisions to the QAPP will cause a reissue in full to all persons on the distribution list. Minor revisions to the QAPP will be addressed by issuing revised pages on an as-need basis.

Table 1-1 Distribution List

Name	Contact Information
Welch Comer Engineers	330 E Lakeside Ave, Ste 101 Coeur d'Alene, ID 83814
East Side Highway District	Ben Weymouth, Director of Highways 6095 E Mullan Trail Rd Coeur d'Alene, ID 83814 (208) 765-4714
Post Falls Highway District	Michael Lenz, Director of Highways 5629 E Seltice Way Post Falls, Idaho 83854
Accurate Testing Labs, LLC	7950 Meadowlark Way, Coeur d'Alene, ID 83815
Idaho DEQ Regional Office	Mathew Colling, IPDES Compliance Officer IDEQ Coeur d'Alene Regional Office 2110 Ironwood Parkway, Coeur d'Alene, ID 838814 (208)666-4639
US EPA, Region 10	Daniel D. Opalski EPA, Water Division Director 1200 Sixth Avenue Seattle, Washington 98101

1.2. PURPOSE AND PROJECT/TASK ORGANIZATION

The purpose of this Quality Assurance Project Plan (QAPP) is to describe the requirements and quality assurance activities of the Monitoring and Assessment Plan operations performed under the North Idaho Highway District National Pollutant Discharge Elimination System Municipal Stormwater Permit #IDS028207 (Permit). It describes the scope of monitoring, the organization and persons involved, the data quality objectives, the monitoring procedures, and the specific quality control measures to be employed. All QAPP activities are implemented to

determine whether the results of the sampling and monitoring performed are the right type, quantity, and quality to satisfy the requirements of the permit.

This QAPP is intended to be used in conjunction with the Permittees' Monitoring and Assessment Plan (Plan). The Permittees are East Side Highway District (ESHD) and Post Falls Highway District (PFHD). QAPP EPA requirements are addressed in either this QAPP or the Plan of each Permittee.

1.3. INTENDED USE OF DATA

The data collected as required by the Permit, is used to assess and monitor the environmental health of the Permit area's associated Waters of the United States. Data will be used by the Permittee, IDEQ, and the Environmental Protection Agency (EPA) to determine whether the MS4s of the Permit Area are in compliance with the provisions of the Clean Water Act.

1.4. DOCUMENTATION AND RECORDS

Documentation for all permit-required monitoring, sampling, and analyses conducted according to this QAPP is summarized in Table 1-5. The generated documentation will be stored electronically on computer database. All Permit relates records will be maintained for a minimum of five years or until the date of the next permit renewal, whichever is sooner.

Table 1-2: Required Monitoring and Sample Analysis

Monitoring and Sample Analysis	Documentation	Disposition of Documentation
Dry Weather Monitoring Samples	Chain of custody record for each sampling event. Laboratory analyses results sheets from laboratory	Hard copies are transferred to electronic excel files inputted after each sampling event. Annual report compilation of all sampling events
Impaired Waters Monitoring Samples	Chain of custody record for each sampling event. Laboratory analyses results sheets from laboratory	Hard copies are transferred to electronic excel files inputted after each sampling event. Annual report compilation of all sampling events
Outfall Inspection Report	Chain of custody record for each sampling event. Laboratory analyses results sheets from laboratory	Hard copies are transferred to electronic excel files inputted after each sampling event. Annual report compilation of all sampling events
Impaired Waters Sampling Report	Chain of custody record for each sampling event. Laboratory analyses results sheets from laboratory	Hard copies are transferred to electronic excel files inputted after each sampling event. Annual report compilation of all sampling events

2. DATA GENERATION AND ACQUISITION

2.1. SAMPLING LOCATIONS

Sampling locations are listed within Section 2.2 of each permittee's respective Monitoring and Assessment Plan for dry weather and impaired waters monitoring. Locations have been chosen based on MS4 outfall locations discharging into the Waters of the United States

2.2. SAMPLING METHODS

Samples will be collected using grab sampling methods from a point near the center of flow of the outfall. Grab sampling techniques include but are not limited to: wearing appropriate PPE, filling container to brim with care as to not flush out preservatives if applicable, and protection from foreign debris entering into container. More sampling procedures are described in Sections 2 and 3 of the Plan for each permittee.

Sampling will be collected for each indicator as shown in Table 2-1. After sampling, samples will be placed in a temperature-controlled container and given to the Contract Laboratory as soon as possible after testing.

2.3. INSTRUMENTS/EQUIPMENT TESTING, INSPECTION AND MAINTENANCE

To minimize downtime of measurement systems, all instruments and equipment must be maintained in working condition and inspected before and after use by visual inspection. The supplies required for this QAPP are obtained through the contract laboratory. Necessary reagent and calibration standard of appropriate grade and unexpired shelf life are used. Samples must be collected, transported, and analyzed per the requirements and procedures as presented in Table 2-1 below.

Table 2-1: Sample Analysis

Indicator	Container Type	Sample Volume	Analytical Method	Preservation Requirements	Hold Time
pH	Plastic	120 mL	SM4500 -H B	None	Immediately
Total Chlorine	Plastic	120 mL	SM4500-CI	None	Immediately
Total Phenols	Amber Glass	1000 mL	420.1	Sulfuric Acid	28 Days
E Coli	Plastic	120-150 mL	Colilert QT	Sodium Thiosulfate/ 4°C	30 Hours
Total Phosphorus	Plastic	500 mL	EPA 365.4	Sulfuric Acid	28 Days
Turbidity	Visual	NA	NA	NA	NA
Suspended Solids	Plastic	500 mL	SM2540D	None	7 Days
Cadmium	Plastic	1000 mL	EPA 200.8	Nitric Acid	6 Months
Lead	Plastic	1000 mL	EPA 200.8	Nitric Acid	6 Months

Zinc	Plastic	1000 mL	EPA 200.8	Nitric Acid	6 Months
Total Phosphorus	Plastic	500 mL	EPA 365.4	Sulfuric Acid	28 Days

2.4. SAMPLE HANDLING AND CUSTODY

Samples are collected by monitoring staff under the supervision of the Sampling and Monitoring Supervisor. Samples are labeled, preserved, and packaged as specified by the sampling procedures outlined in each Permittee’s respective Monitoring and Assessment Plan. The Outfall Inspection Report form and Impaired Waters field sample sheet (see Appendix) are used to document information pertaining to each sampling event at each location. The packing of samples prior to shipping to the contract laboratory is described in the Plan for each Permittee. Transport time is minimized to ensure that samples reach the laboratory without exceeding holding times and to reduce exposure to temperature variations. Sample delivery is coordinated in advance with the laboratory and laboratory instructions and procedures are followed. All sampling material is obtained through the contract laboratory.

For each sample taken, a chain of custody (COC) form (found in Appendix C) is completed. The COC form is necessary to ensure sample integrity from the time of sample collection through data reporting. This includes the ability to trace possession and handling of the sample from the time of collection through the final disposition. The COC form accompanies each sample or group of samples and includes who it was delivered by, the delivery date and time, sample identification, the time of collection and identifies who collected the sample and analysis to be performed. This form includes the sample name, an ID code, date of sample collection and receipt, and analyses to be performed.

Throughout all sample collection and analysis activities, the Permittees must use the EPA-approved and chain-of-custody procedures described in Requirements for Quality Assurance Project Plans (EPA/QA/R-5) and Guidance for Quality Assurance Project Plans (EPA/QA/G-5). Copies of these documents can be found at <https://www.epa.gov/sites/default/files/2015-06/documents/g5-final.pdf>.

2.5. DATA MANAGEMENT

All field data forms are completed by the operator who performed the test. The Monitoring Supervisor electronically stores all data from monitoring processes on computer database. To ensure uniform data are reported, results are to be expressed in the appropriate number of significant figures and rounded correctly.

2.6. REPORTS

Once the sampling has been completed and all sample results have been received, sampling results pertinent to the permit shall be prepared and included in the annual report. The report will then be finalized and submitted to IDEQ and EPA for review.

APPENDIX A

OUTFALL INSPECTION REPORT

Stormwater Outfalls

Watershed/Subshed:	Assessed By:
Outfall ID:	Date of Last Rainfall:
Date: _____ Time: _____	Rainfall Quantity:

TYPE	MATERIAL	SHAPE	SUBMERGED	GENERAL OBSERVATIONS	
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> Concrete <input type="checkbox"/> PVC/Plastic <input type="checkbox"/> Metal <input type="checkbox"/> Brick <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double	<u>In Water:</u> <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully <u>With Sediment:</u> <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully	
<input type="checkbox"/> Open Channel	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid: <input type="checkbox"/> Parabolic: <input type="checkbox"/> Other: _____			
Flow	<input type="checkbox"/> None <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial <input type="checkbox"/> Estimate Flow Rate _____				

FOR BOTH FLOWING and NON-FLOWING OUTFALLS:

INDICATOR	DESCRIPTION	COMMENTS
<input type="checkbox"/> Pipe Condition	<input type="checkbox"/> Chip/Cracked <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Other: _____	
<input type="checkbox"/> Odor	<input type="checkbox"/> Gas <input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Other: _____	
<input type="checkbox"/> Deposits/Stains	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Iron	
<input type="checkbox"/> Vegetation	<input type="checkbox"/> Normal <input type="checkbox"/> Inhibited <input type="checkbox"/> Excessive	

FOR FLOWING OUTFALLS:

INDICATOR	DESCRIPTION	RELATIVE SEVERITY INDEX			
<input type="checkbox"/> Odor	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily Detected	<input type="checkbox"/> 3 – Noticeable from a Distance
<input type="checkbox"/> Color	<input type="checkbox"/> Color <input type="checkbox"/> Orange <input type="checkbox"/> Brown	<input type="checkbox"/> Grey <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 – Trace Colors	<input type="checkbox"/> 2 – Faint Colors	<input type="checkbox"/> 3 – Clearly Visible
<input type="checkbox"/> Turbidity	_____ NTU's <input type="checkbox"/> Sample Collected		<input type="checkbox"/> 1 – Slight Cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 - Opaque
<input type="checkbox"/> Floatables (not including trash)	<input type="checkbox"/> Sewage <input type="checkbox"/> Iron	<input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen)	<input type="checkbox"/> 1 – Few/Slight	<input type="checkbox"/> 2 – Some; indication of origin	<input type="checkbox"/> 3 - Many

Photos

APPENDIX B

IMPAIRED WATERS INSPECTION REPORT

Impaired Waters Inspection Report

Highway District:	Assessed By:
Discharging Waterbody:	Date of Last Rainfall:
Location:	Rainfall Quantity:
Coordinates:	Weather:
Date:	Time:

POLLUTANT REDUCTION ACTIVITY CONDITION:

ACTIVITY	CONDITION		COMMENTS
<input type="checkbox"/> Biochar Sock	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> Missing <input type="checkbox"/> Teared <input type="checkbox"/> Clogged/Covered	
<input type="checkbox"/> Infiltration Facility	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> Dead <input type="checkbox"/> Erosion <input type="checkbox"/> Flooding	

OUTFALL DESCRIPTION:

INDICATOR	DESCRIPTION
<input type="checkbox"/> Turbidity	<input type="checkbox"/> 1 – Slight Cloudiness <input type="checkbox"/> 2 – Cloudy <input type="checkbox"/> 3 - Opaque
<input type="checkbox"/> Flow	<input type="checkbox"/> Present/Measurable <input type="checkbox"/> Present/Minimal <input type="checkbox"/> None
<input type="checkbox"/> Other	

SAMPLING:

SAMPLE	LOCATION	COMMENTS
<input type="checkbox"/> Prior to Outfall and Pollution Reduction Activities	<input type="checkbox"/> Upstream: _____ft <input type="checkbox"/> Other: _____	
<input type="checkbox"/> At Outfall	<input type="checkbox"/> At center of flow <input type="checkbox"/> Other: _____	

Photos

APPENDIX C

CHAIN OF CUSTODY FORM

APPENDIX C

**EPA EMAIL
CORRESPONDENCE**

Laura Winter

From: Laura Winter
Sent: Wednesday, July 1, 2020 4:01 PM
To: Mike Lenz (mlenz@postfallshd.com); Shirley Walson
Subject: FW: Testing Frequency Clarification

FYI....

From: Vakoc, Misha <Vakoc.Misha@epa.gov>
Sent: Wednesday, July 1, 2020 3:55 PM
To: Laura Winter <lwinter@ruenyeager.com>
Cc: Chantilly.Higbee@deq.idaho.gov
Subject: RE: Testing Frequency Clarification

Hi Laura,

To clarify, it is EPA's intention that the minimum sampling frequency of "four times per year" in NPDES Permit #IDS028207 applies only to discharges from the Eastside Highway District MS4 into Coeur d'Alene Lake.

It was not EPA's intention to require this sampling frequency to the Post Falls Highway District MS4 discharges into Spokane River.

Permit Table 4.2.1 for Eastside Hwy District discharges to Coeur d'Alene Lake (page 35) includes a column addressing minimum monitoring frequency;

in contrast, Permit Table 4.3.1 for Post Falls Highway District discharges into Spokane River (page 37) does not include any specified monitoring frequency.

The text of Permit Part 6.2.5.4 (page 42) was intended to reinforce Permit Part 4.2 for the Eastside Highway District discharges only. I apologize for any confusion.

I discussed this issue with Chantilly Higbee of IDEQ and have copied her on this message, to ensure IDEQ is aware of EPA's clarification on this question as well.

Thank you,
Misha Vakoc

*Misha Vakoc, Municipal Stormwater Permit Coordinator
Permitting, Drinking Water and Infrastructure Branch - Water Division
U.S. EPA Region 10
1200 6th Avenue, Suite 155
Mail Code WD-19-H16
Seattle, WA 98101-3188
(206) 553-6650
(800) 424-4372, extension 6650*

Laura Winter

From: Vakoc, Misha <Vakoc.Misha@epa.gov>
Sent: Tuesday, June 30, 2020 10:17 PM
To: Laura Winter
Subject: RE: Testing Frequency Clarification

Hi Laura –

I am sorry I wasn't able to respond earlier today – I saw the email but just realized I hadn't replied. I will get back to you in the AM with a written response to give them the clarification.

Thanks
Misha

From: Laura Winter <lwinter@ruenyeager.com>
Sent: Tuesday, June 30, 2020 10:21 AM
To: Vakoc, Misha <Vakoc.Misha@epa.gov>
Subject: Testing Frequency Clarification

Hi Misha,

Can you provide your explanation that I can share with the Commissioners as to how you were going to clarify that the PFHD was not required to monitor four times a year? They were good with not appealing but did want something that would provide clarification for when DEQ takes over. You had mentioned making that small revision in a way that would not require an appeal? I have a meeting with them tomorrow night and wanted to be able to give them an update.

Thank you,
Laura

Laura Winter, P.E., CFM
RUEN-YEAGER & ASSOCIATES, INC.

3201 North Huetter Road, Suite 102
Coeur d'Alene, Idaho 83814
219 Pine Street
Sandpoint, Idaho 83864
208.292.0820
208.292.0821 (Fax)
lwinter@ruenyeager.com

Training Documentation

2023 ANNUAL TRAINING MS4 PERMIT
POST FALLS HIGHWAY DISTRICT

SIGN-IN SHEET

Date: 11/08/2023	Time: 6:30	Location: PFHD Office	JOB TITLE	INITIAL IF IN ATTENDANCE
NAME				
Darrel Stevens	Rep Air			DS
Eric Prestegard	Crew			EAT
Travis Hall	Crew	TRAFFIC		RH
Michael Ketchum	Crew			MK
Luis Bicandi	Crew			TAA
Twekota Tate-Vandever	Crew			LB
Debra Liska	Crew			TIV
Jim Wines	Crew			JW
David Trunk	Crew			DT
Jeff Ferguson	Crew			JF
Larry Howell	Crew			LH
Ed Marel	Crew			EM
Michael Lenz	Director			ML
Jason Coffman	Crew			JC



Stormwater Management Training



OVERVIEW



MS4 introduction and permit



Stormwater Management Program
(SWMP)



Identifying Illicit Discharge



Responding to Illicit Discharge



Best Management Practices



MS4 PERMIT



National Pollutants Discharge Elimination System (NPDES) permit program for Municipal Separate Storm Sewer (MS4s)



Goal is to reduce the discharge of pollutants into waterways



Issued by the EPA



Developed as a result of the Clean Water Act (1972)



Administered by the Idaho DEQ



Allows MS4's to discharge stormwater to waterways



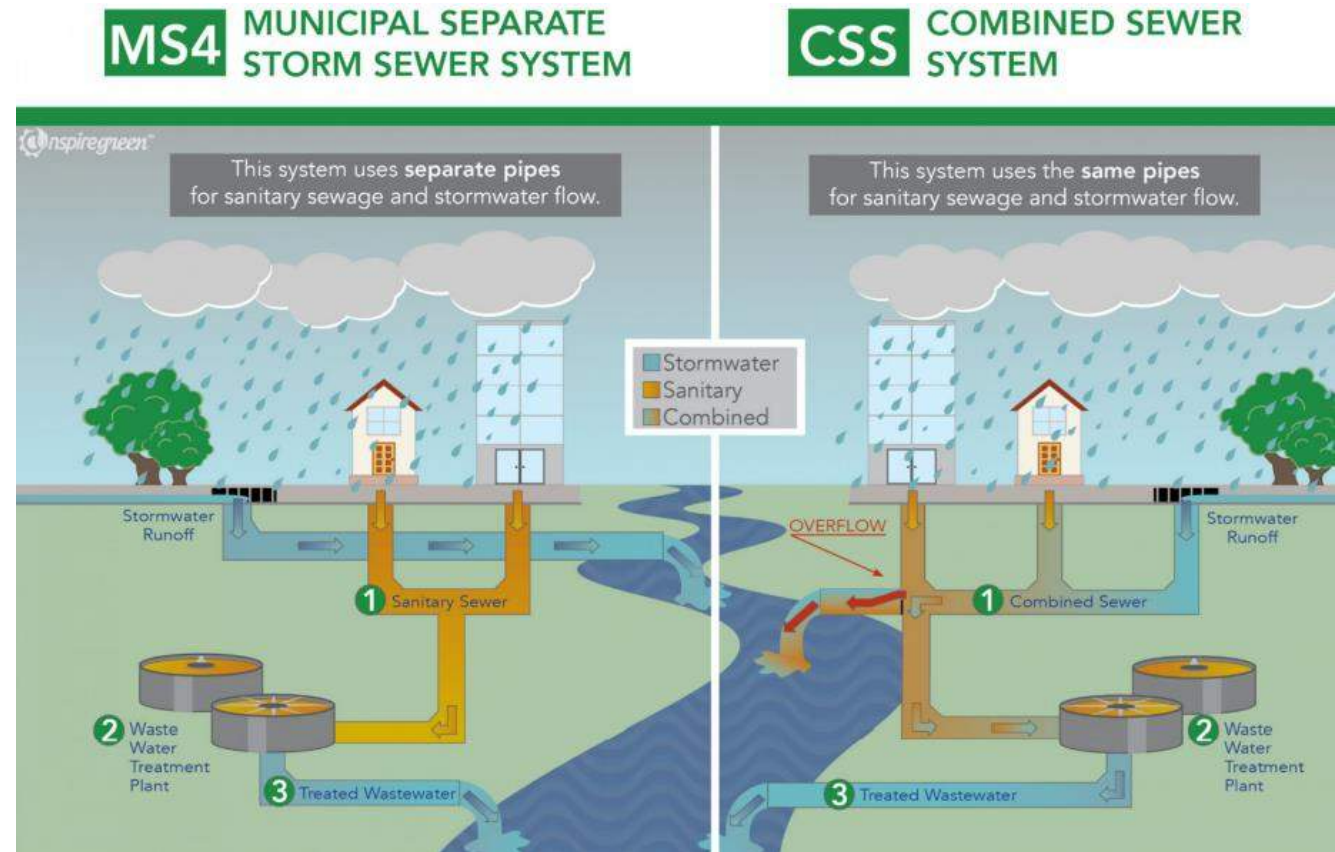
Must be clear, specific, measurable, enforceable



Keeps water uncontaminated

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4s)

A publicly owned conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains that collect or conveys stormwater and discharges to surface waters of the State





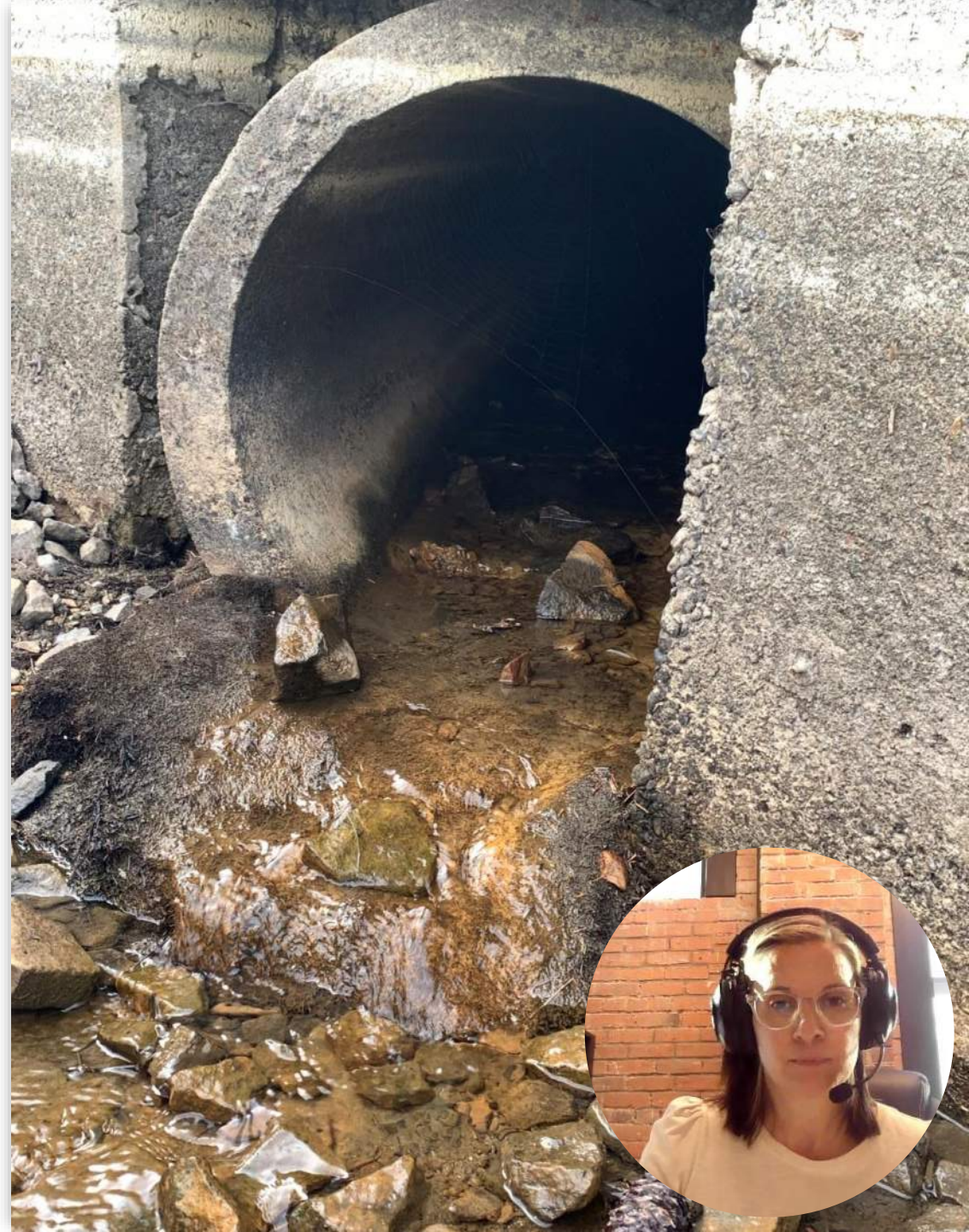
MS4 ROAD DRAINAGE SYSTEMS

- Catch basins
- Ditches
- Curb & Gutter
- Culverts
- Drainage Swales
- Snow storage



MS4 IMPORTANCE TO OPERATORS

- Anything inside your right of way
- Within the MS4 boundary (urbanized areas)
- Anything that collects stormwater
- Outfalls to the waterways



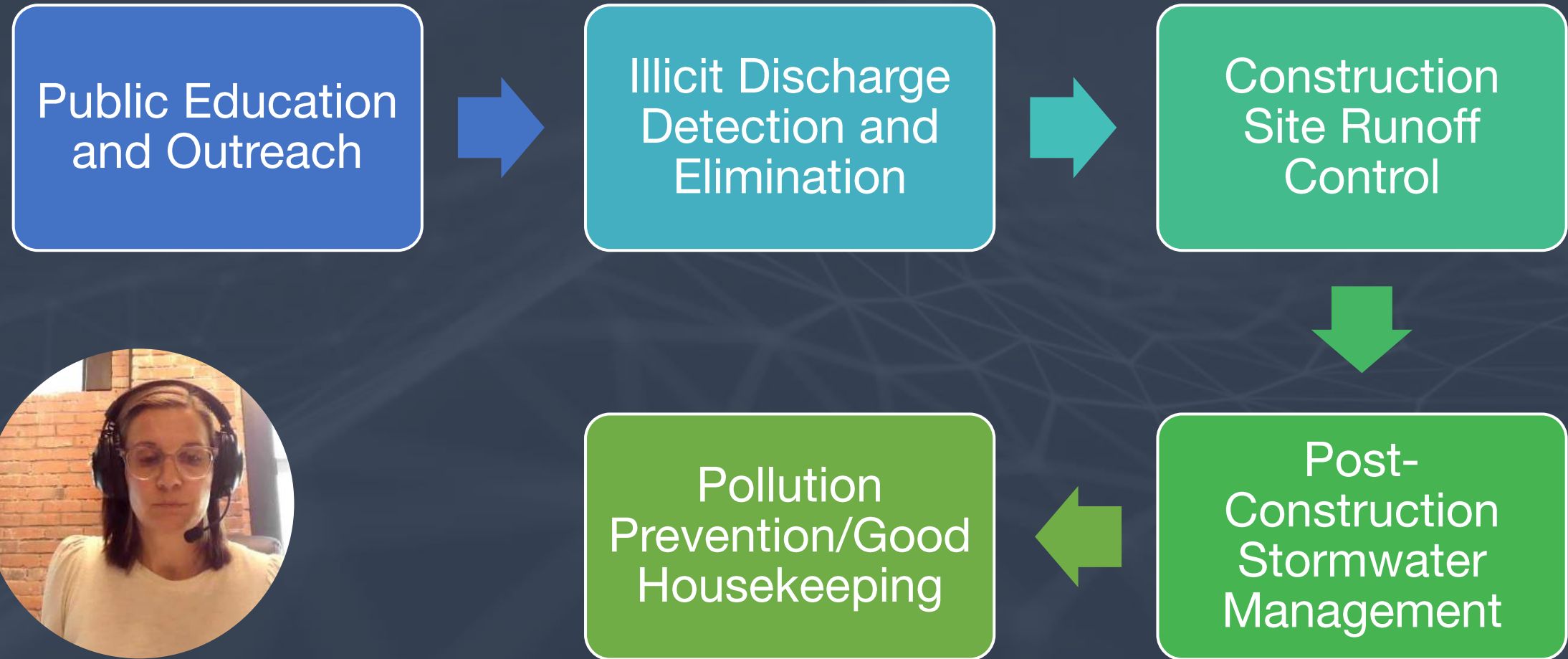
STORMWATER MANAGEMENT PROGRAM

All operators of Regulated MS4s must implement and enforce a Storm Water Management Program (SWMP) to

- Reduce pollutants to the maximum extent practicable
- Protect Water Quality
- Satisfy the appropriate water quality requirements of the Clean Water Act



SWMP REQUIREMENTS



SWMP EDUCATIONAL REQUIREMENT

“Permittees’ construction inspectors, maintenance field staff, and code compliance officers must be sufficiently trained to conduct dry weather screening activities and to respond to reports of illicit discharges and spills into the MS4.”



“Permittees must ensure that all persons responsible for the stormwater infrastructure management and O&M activities as required by this Part are trained or otherwise qualified to conduct such activities.”



ILLICIT DISCHARGE

- Illicit Discharge-Any discharge to a MS4 that is not composed entirely of stormwater; except discharges pursuant to a NPDES permit and from firefighting
- Illicit Connection- A physical connection to an MS4 that primarily conveys non-stormwater discharges
 - Sewer connections
 - Floor drains
 - Inlets





STORMWATER POLLUTANTS

• The term pollutant is defined very broadly in the Clean Water Act includes any type of industrial, municipal, and agricultural waste discharged into water such as:

- Litter
- Pesticides
- Oils and Grease
- Sewage and grey water
- Fertilizers
- Household chemicals
- Soil erosion
- Nutrients



IMPACT OF ILLICIT DISCHARGE

- Rainwater from storm events flows to surface water bodies
- Keeping pollution out of stormwater protects our waterways

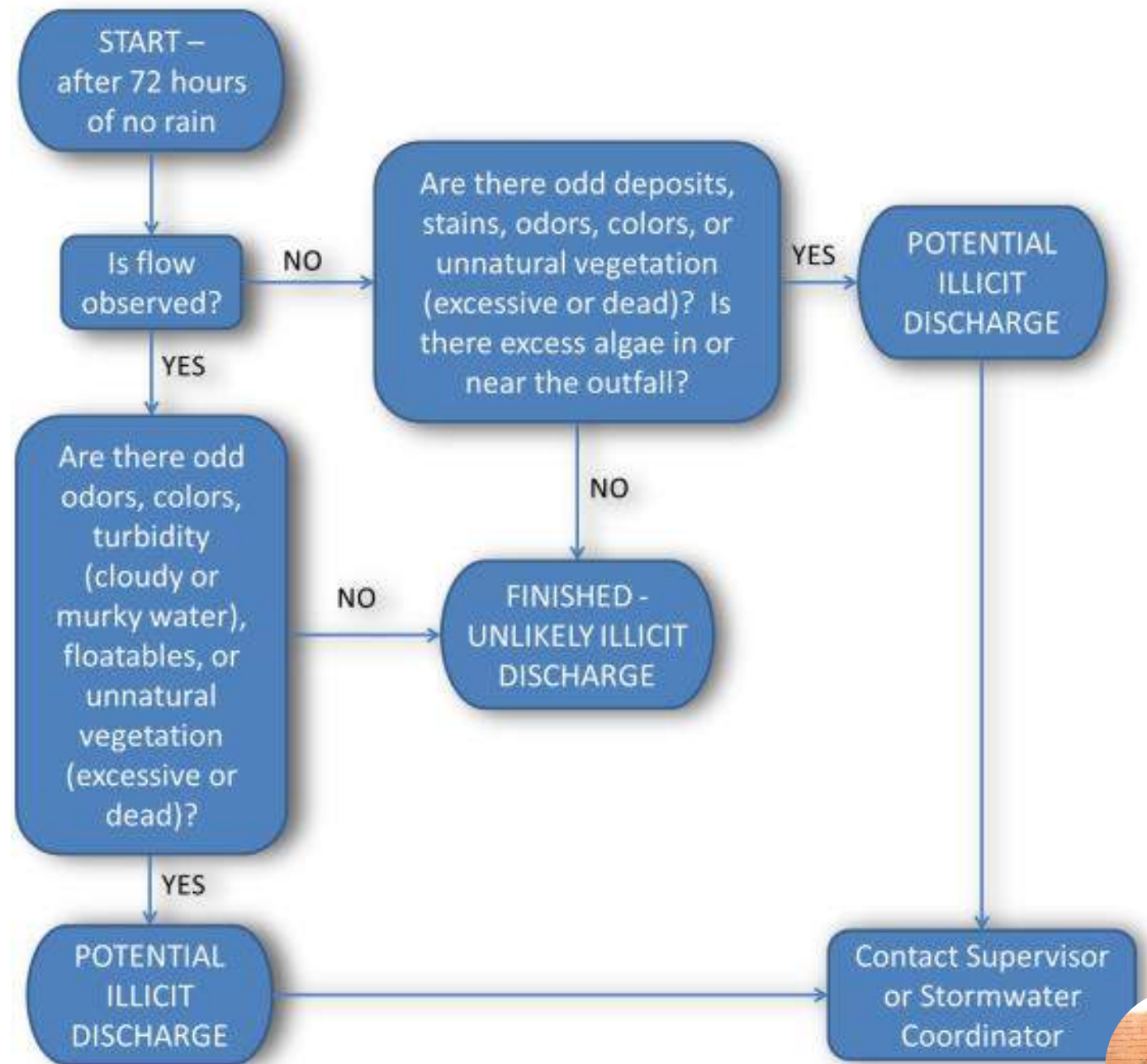


SIGNS OF ILLICIT DISCHARGE: DRY WEATHER FLOW

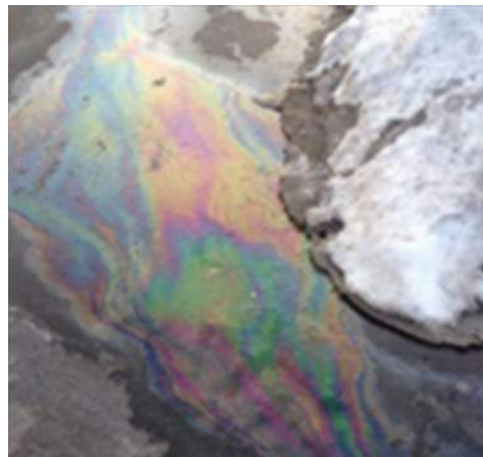
- A storm drain with measurable flow during dry weather
 - Dry - has rained less than 0.1 inches in 72 hours
- Exceptions
 - Ground water
 - Irrigation
 - Footing drains
- Perform illicit discharge screening during dry weather



DRY WEATHER SCREENING FOR ILLICIT DISCHARGE



SIGNS OF ILLICIT DISCHARGE: STAINING, SHEEN, OR DISCOLORATION





Color	Possible Sources
Yellow	<ul style="list-style-type: none"> Chemical, textile, tanning plants
Brown	<ul style="list-style-type: none"> Construction activities Meat packing facilities Printing facilities Concrete, metal, stone operations Agricultural land
Tan to light brown	<ul style="list-style-type: none"> Construction activities Suspended sediments Agricultural land
Light to dark brown	<ul style="list-style-type: none"> Decaying organic matter from soil, leaves, or other vegetation
Green (pea green, bright green, blue-green, brown-green)	<ul style="list-style-type: none"> Chemical plants, textiles Algae or plankton bloom Antifreeze Fertilizer
Gray (milky/dirty dishwater, gray-black)	<ul style="list-style-type: none"> Dairies/ food processing Sewage discharge Concrete wash-outs
Milky white	<ul style="list-style-type: none"> Paint, lime, grease, concrete Swimming pool filter backwash Concrete wash-outs
Clear black	<ul style="list-style-type: none"> Sulfuric acid spill Turnover of oxygen-depleted water
Red, purple, blue, black	<ul style="list-style-type: none"> Fabric dyes, inks from paper and cardboard manufacturers
Red	<ul style="list-style-type: none"> Meat packing/processing

SIGNS OF ILLICIT DISCHARGE: VEGETATION

- Stressed or dead vegetation
- Overgrown or excessive algae



SIGNS OF ILLICIT DISCHARGE: SUDS/FOAM, SMELL



Odor	General Causes
Musty	<ul style="list-style-type: none">Raw or partially treated sewageLivestock waste
Sewage	<ul style="list-style-type: none">Sanitary wastewater from cross-connection with the drainage systemSeptic tank/ failing septic system
Rotten Eggs (sulfide)	<ul style="list-style-type: none">Stale sanitary wastewaterMeat processing plants/ canneries/ dairiesDecomposing organic matter
Gas or Oil	<ul style="list-style-type: none">Gas stationsVehicle maintenance operationsIllegal disposalIndustrial operations: refineries/ manufacturing
Sharp, pungent	<ul style="list-style-type: none">ChemicalsPesticides
Rancid, sour	<ul style="list-style-type: none">Food processing facilitiesDairies
Chlorine	<ul style="list-style-type: none">Wastewater treatment plant dischargesSwimming pool dischargesLocal manufacturing / industrial sites
Sweet, fruity	<ul style="list-style-type: none">Commercial wash water

COMMON ILLITICT DISCHARGE: FAILED SEPTIC, SEDIMENT, OILS

- Septic
 - Foul odor
 - Pools of water near drain field
 - Unusually bright green water or grass
 - Algae blooms in nearby water
- Sediment
 - Bare soils or banks with no erosion fencing
 - Sediment tracking
 - Muddy discharge from an outfall
- Sheen



COMMON
ILLICIT
DISCHARGE:
OILS, FLOOR
CLEANERS,
DUMPSTERS



COMMON
ILLICIT
DISCHARGES:
CONCRETE,
PAINT,
DRYWALL



COMMON ILLICIT DISCHARGES: LITTER/DEBRIS



RESPONDING TO ILLICIT DISCHARGE

- Refer to the illicit discharge and spill response plan
- Contact your supervisor
- Documentation
 - Document location and date
 - Take photos
- Stay in Highway District right of way
- In the event of a suspected illicit discharge, it will be the responsibility of the Highway District to:
 - Investigate
 - Discharge Abatement
 - Document the corrective action

ILLICIT DISCHARGE AND SPILL RESPONSE PLAN

FOR

POST FALLS HIGHWAY DISTRICT

LAKES HIGHWAY DISTRICT

AND

EAST SIDE HIGHWAY DISTRICT



Address:
11341 N. Sarnary Road
Hayden, IL 60141
Phone:
208.772.7527



Address:
5025 E. Seltice Way
Post Falls, ID 83854
Phone:
208.765.8737

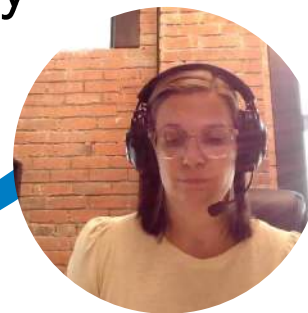


Address:
6095 E. Mulan Trail Road
Coeur d'Alene, ID 83814
Phone:
208.765.4714



INVESTIGATING ILLICIT DISCHARGE

- Investigate no later than two working days
- If illicit discharge is confirmed
 - If safe, begin process to eliminate
 - If public health concern, perform water sampling or notify local responders
 - If the discharge falls under the jurisdiction of an existing plan, notify the appropriate party
 - Begin abatement process
- If investigation finds no illicit discharge
 - Document results
 - Notify the party that notified the Highway District of the investigation result



DOCUMENTING ILLICIT DISCHARGE

Regardless of whether an actual discharge was determined, it is important to document each discharge response

At a minimum, the report shall contain the following:

- Time and date of discharge notification
- Time and date that the investigation began/ended
- Time and date the discharge was eliminated (if discovered)
- The responsible party (if discovered)
- Steps taken to eliminate the discharge
- Any environmental impacts
- If discharge was deemed an immediate public threat, document responding agency and discharge type

All investigations will be filed with the Annual Stormwater Report



ILLICIT DISCHARGE VS SPILLS

Illicit discharge - a discharge of non-stormwater to the storm sewer system

Spill-any release of material that threatens human health or the environment

A spill can become an illicit discharge once it enters the storm sewer system.



SPILL CONTROL

- Prompt response is the best way to minimize impact
- Spill Preparation
 - Equipment and materials for cleanup
 - Appropriate spill personnel
 - Designate a point of contact
- Train everyone on spill control response actions:
 - What to do
 - Who to call
 - Where is spill equipment



SPILL RESPONSE

Be Safe	Identify the pollutant and determine if it is safe to remain in the area and if safety equipment is needed
Stop the Source	If the source is readily identifiable and can be stopped quickly and safely, do so
Corrective Action	Provide corrective action if spill is within right of way
Communicate	Notify the correct agency and report the spill to your supervisor
Protect Stormwater	If safe, while help is on the way, confine the spill
Assist with Clean Up	Remain on site and assist by providing materials, labor, and equipment as directed by the authority agency
Notify EPA	Notify EPA within 24 hours at (206) 553-1846
Report	Supervisor to write a summary report of the incident and SWMP monitoring records. Submit a copy of the report IDEQ within 30 days



AGENCIES TO NOTIFY FOR SPILLS

Emergencies-Dial 911

Flammable Spills-Local Fire District

Chemical Spills-Kootenai County Sheriff's Office: (208) 446-1850

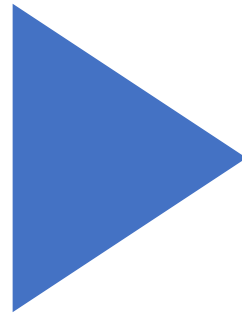
Wastewater Issues-Idaho Department of Environmental Quality: (208) 769-1422

Minor sediment discharge and code violations-Kootenai County Building and Planning Department: (208) 446-1070



BEST MANAGEMENT PRACTICES (BMPs)

BMPs are schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States



For the purposes of the NPDES Permit, BMP broadly refers to any type of structural or non-structural practice or activity undertaken by the permittee to implement an SWMP

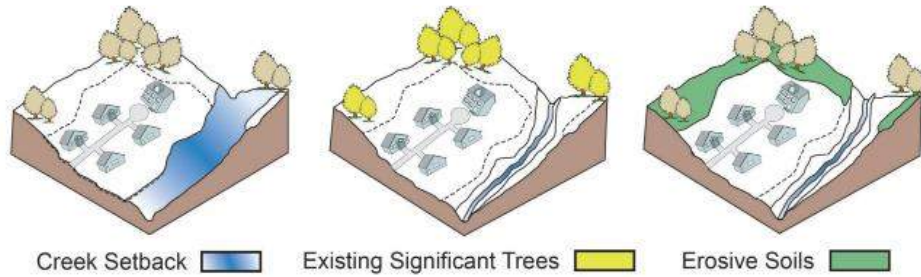


TYPES OF BMPs

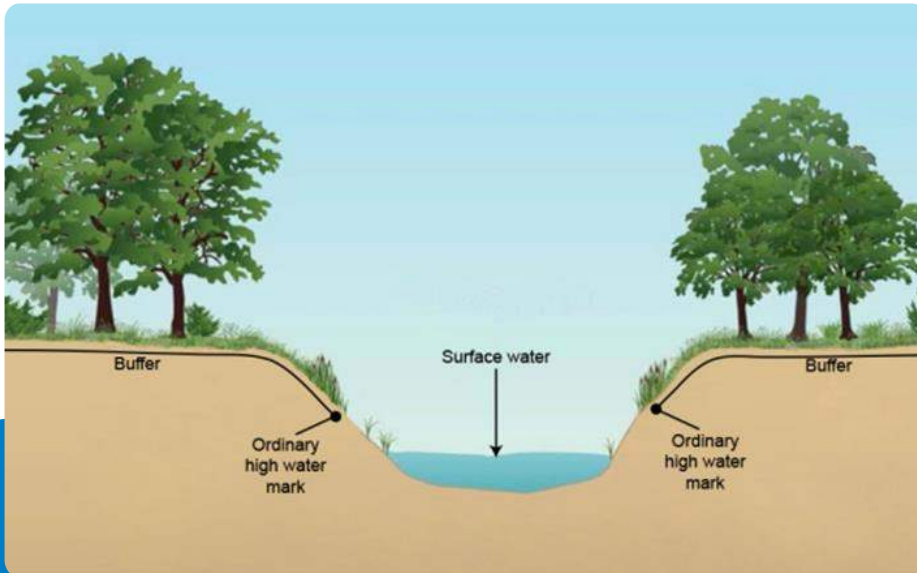
- BMPs are either temporary or permanent



MINIMIZE LAND DISTURBANCE & PROVIDE NATURAL BUFFERS



- Protect sensitive areas such as floodplain, stream buffers, and existing vegetation by planning and clearly marking limits of disturbance prior to construction
- Avoid construction on slopes greater than 15%
- Sites within 50 feet of surface water should consider natural buffers or erosion controls to reduce sediment load



PLAN TO PHASE CONSTRUCTION

Sequence

- Sequence construction activities with installation of controls practices

Stabilize

- Disturb only a portion of a site at one time and stabilize before moving on

Reduce

- Reduce the amount and duration of soil exposed

Schedule

- Perform construction in accordance with planned schedule





PRESERVE VEGETATION & CONTROL EROSION



- Cover soil in inactive areas and finished slopes, open space, and utility backfills
- Slope roughening
 - Roughens the soil surface to create horizontal grooves running parallel to the contour
 - Should be applied immediately after grading
- Erosion control blankets
- Mulching



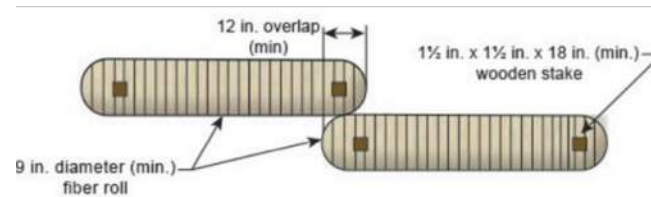
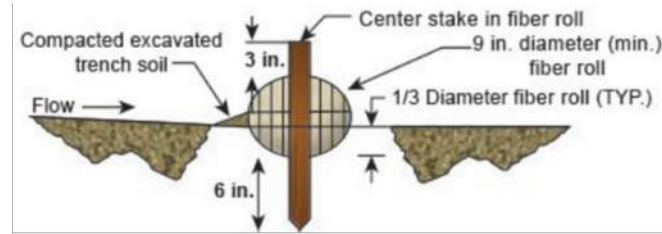
DUST CONTROL

- Apply water to dry areas
- Maintain stable entrances and exits with angular stone
- Soil Roughening-tilling or disking perpendicular to wind direction
- Barriers-a wind barrier generally protects soil downwind for a distance ten times height of barrier
- Tackifiers-chemical or organic compounds sprayed on loose soil to hold it in place



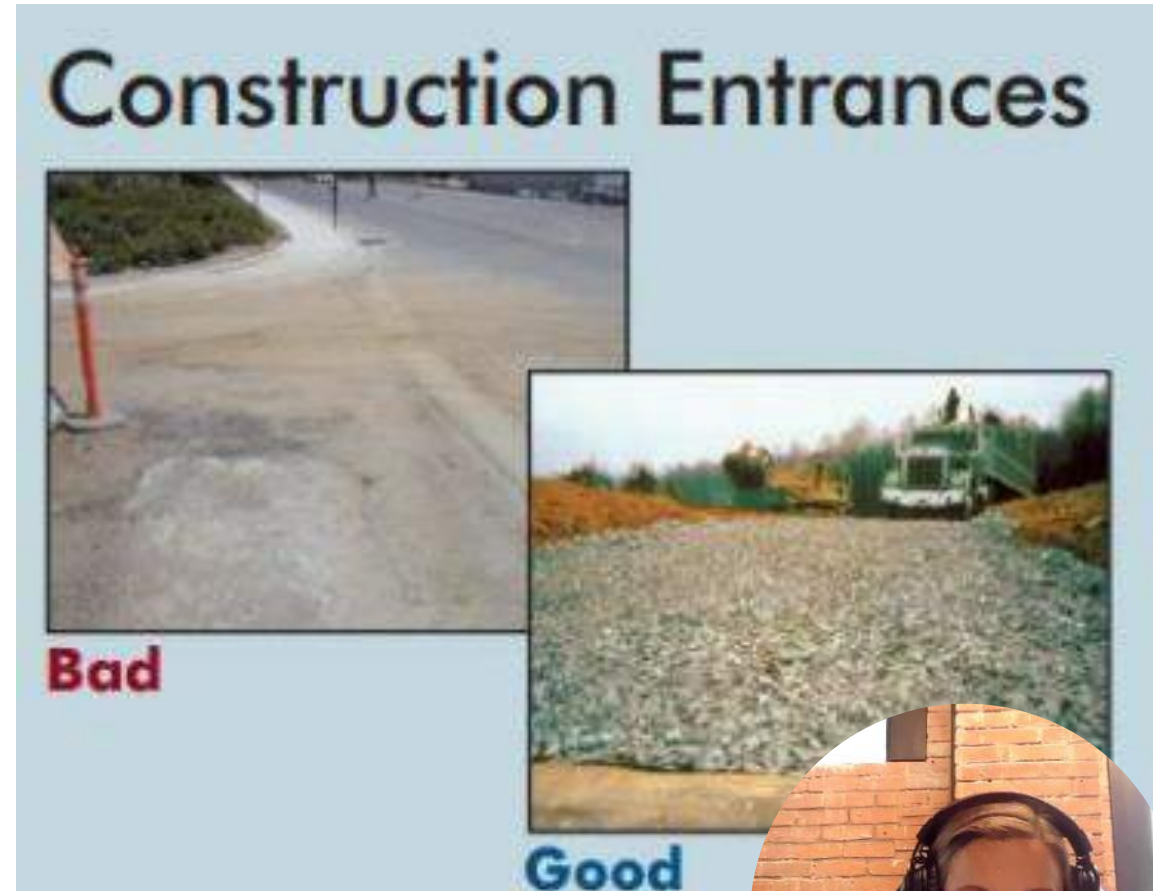
SEDIMENT CONTROL

- Install and maintain controls at perimeters and inlets
- Apply controls at toe, the toe, face and grade break of the slopes
- Buffer strip before waterways, if possible
- Install/maintain silt fence and fiber rolls property



STABILIZING ENTRANCES AND EXITS

- Aggregate pad, underlain with fabric
- Inspect weekly and after rainfall for gravel loss or sediment buildup
- Vehicles should experience two complete tire rotations



EQUIPMENT MAINTENANCE



- Maintain equipment, checking regularly for leaks
 - When leaks occur clean immediately and dispose of waste properly
- Use drip pans to collect leaks or spills during maintenance activities
- Store equipment and vehicles in designated areas with appropriate BMPs
 - Impervious surface
 - Bermed area
- Wash vehicles in a designated wash area, using power washer to avoid detergents
- Collect wash water if possible



CONCRETE WASHOUT

- Ensure pit is large enough to contain all waste and washout
- Berm containment area so wash water is fully contained
- Allow water discharged into the containment area to infiltrate or evaporate
- Remove and properly dispose of dried cement waste
- Locate at least 50 feet away from storm drains or receiving waters
- Dangers
 - pH of 12, similar to Drano
 - Increased toxicity
 - Contaminates soils, kills plants, and clogs fish gills



MATERIAL STORAGE

- Label appropriately
- Store materials in covered areas where possible
- All outdoor storage must have adequate lid
- Minimize exposure to precipitation
- Do not stockpile sediment, aggregate, sand, or asphalt near drainage systems (at least 50 feet away)
- Make sure all stockpiled materials have been covered and bermed
- Fuels, Oils, and Hydraulic fluids should have double containment



SNOW REMOVAL AND DISPOSAL

- Use upland areas for storage and disposal of snow
- Choose flat pervious areas where melting snow can infiltrate
- Keep snow storage at least 100 feet away from water bodies, wetlands, and public or private drinking water wells
- Remove sediment and debris from dumping areas each spring



WASTE MANAGEMENT & DISPOSAL

- Inspect dumpsters and other waste containers periodically
- Repair or replace leaky dumpsters and containers
- Cover dumpsters and other waste containers
- Never dispose of waste products in storm drain inlets
- Provide adequate number of trash receptacles to avoid overflow
- Prevent disposal of wash water on impervious surfaces, pervious site surfaces, or into storm drain



PERMANENT STORMWATER CONTROLS

- Detention Swales
- Filtration Basins
- Ditches
- Culverts





PERMANENT BMP MAINTENANCE

- Trash and debris can accumulate in MS4s and should be maintained as needed
- Ditches need periodic reshaping and reseeded
- Culverts and catch basins must be cleaned out



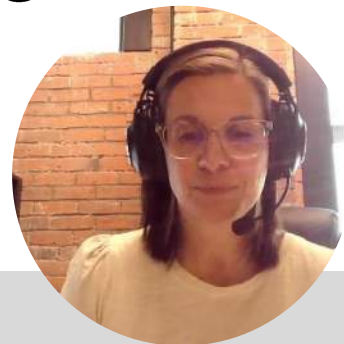
WHAT TO REMEMBER

What is an MS4

What is illicit discharge and
stormwater pollutants

How to identify and respond to
illicit discharge

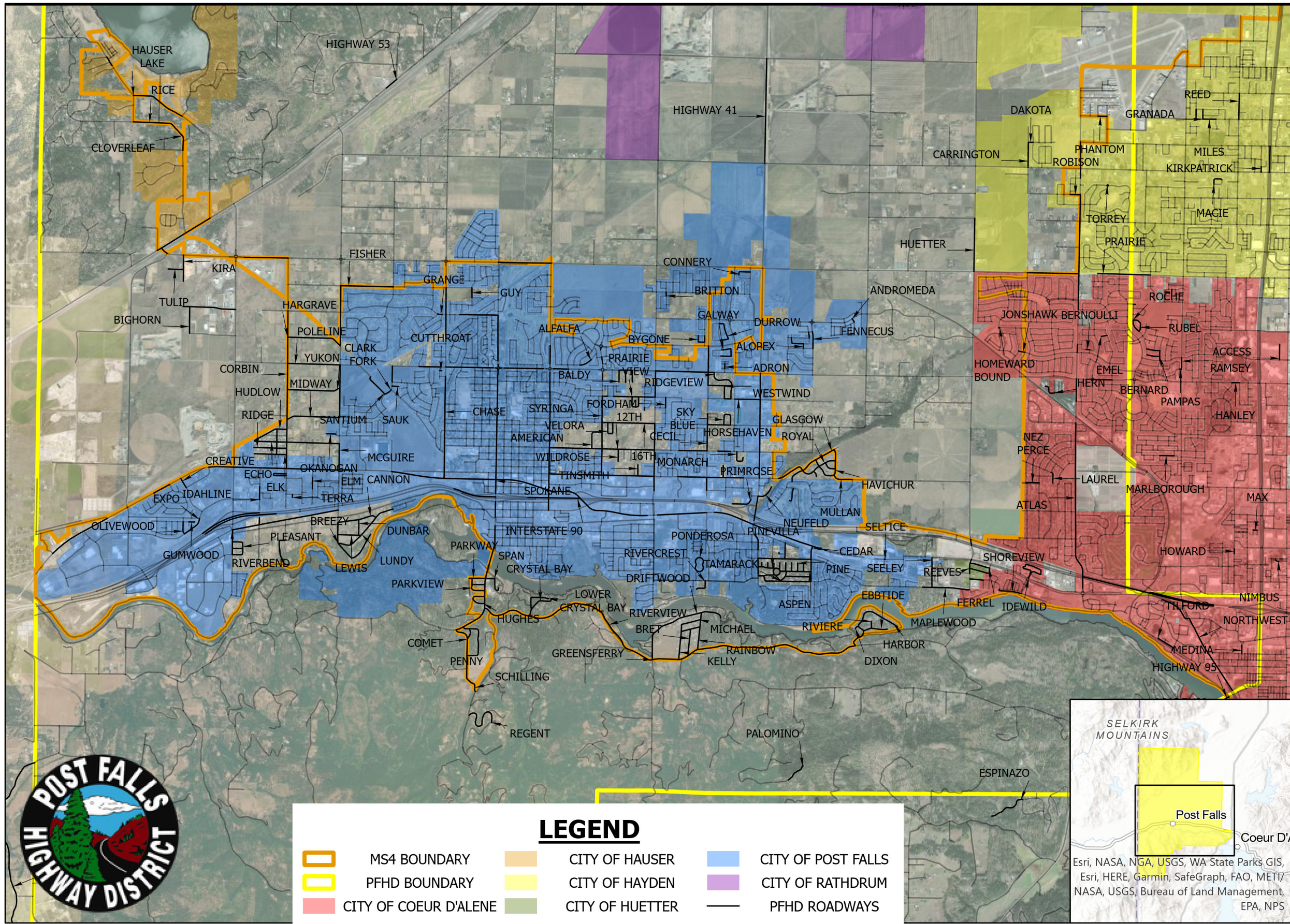
Best Management Practices



THANK YOU

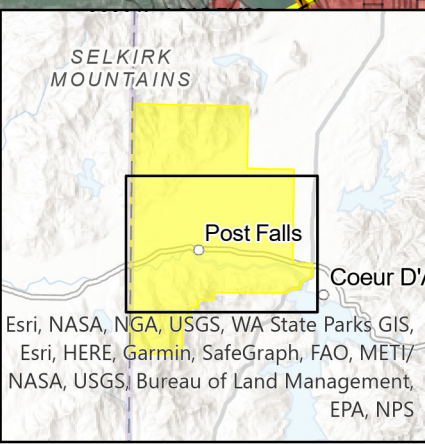


Street Sweeping Map

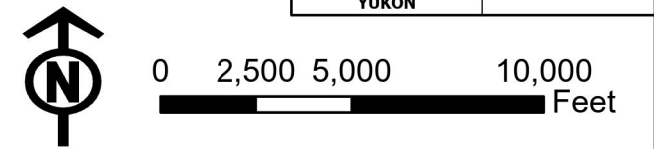


LEGEND

	MS4 BOUNDARY		CITY OF HAUSER		CITY OF POST FALLS
	PFHD BOUNDARY		CITY OF HAYDEN		CITY OF RATHDRUM
	CITY OF COEUR D'ALENE		CITY OF HUETTER		PFHD ROADWAYS



STREET NAME	DATE SWEEP	STREET NAME	DATE SWEEP
12TH	All in March 2023	LEWIS	All in March 2023
16TH		LOWER CRYSTAL BAY	
22ND		LUKE	
AERO		LUNDY	
ALPINE		MAJESTY	
AMERICAN		MAPLEWOOD	
ASPEN		MCGUIRE	
ATLAS		MICHAEL	
BALDY		MIDWAY	
BOX CANYON		MILLER	
BRADY	MONARCH		
BREEZY	MULLAN		
BRET	NEUFELD		
BURDETTE	NORTHWEST		
CANNON	PARK		
CECIL	PARKVIEW		
CEDAR	PARKWAY		
CHASE	PATRICK		
CLOVERLEAF	PENNY		
COMET	PERIWINKLE		
CORBIN	PINE		
COTTONWOOD	PINEVILLA		
CRUZE	PINION PARK		
CRYSTAL BAY	PLEASANT		
CYPRESS	PLEASANT VIEW		
DIXON	POLELINE		
DOUGLAS	PRAIRIE		
DRIFTWOOD	PRAIRIE VIEW		
DUNBAR	PRIMROSE		
EBBTIDE	RAINBOW		
ECHO	REEVES		
ELK	RICE		
ELM	RIDGE		
EVERGREEN	RIDGEVIEW		
FERREL	RIVERBEND		
FISHER	RIVERCREST		
GALLATIN	RIVERVIEW		
GLASGOW	RIVERWAY		
GRACIE	RIVIERE		
GRANGE	ROBISON		
GREENSFERRY	ROSS POINT		
GUY	ROYAL		
HALIFAX	SAW BLADE		
HARBOR	SCHILLING		
HARGRAVE	SEELEY		
HAUSER LAKE	SELTICE		
HAVICHUR	SEQUOIA		
HEATHER	SKY BLUE		
HEMLOCK	SKY MASTER		
HIGHWAY 41	SOCKEYE		
HIGHWAY 53	SPAN		
HORSEHAVEN	SPOKANE		
HUCKLEBERRY	SPRUCE		
HUDLOW	SYRINGA		
HUETTER	TAMARACK		
HUGHES	TINSMITH		
IDAHO	TWIG		
INTERSTATE 90	VELORA		
JUNIPER	WESTWIND		
KELLY	WILDROSE		
KIMBERLY	WOODLAND		
	YUKON		



POST FALLS HIGHWAY DISTRICT DISTRICT ROADWAYS MAP WITHIN MS4 BOUNDARIES

Tracking Logs & Checklists



Construction Site Inspection Log

Project Name	Project Location	Does Project have SWPPP?
Inspection No.	Inspection Date	Weather at time of Inspection
Describe Present Phase of Construction:		
Type of Inspection <input type="checkbox"/> Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post Storm Event		
Is there evidence of any discharges?		
List BMP's in place:		
Are there any site conditions that need to be addressed?		



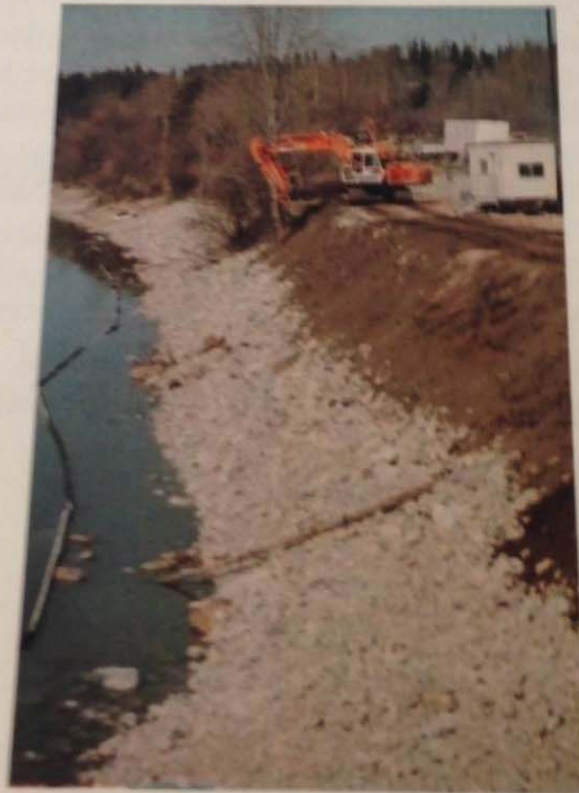
Pollution Prevention / Good Housekeeping Checklist
 (to be performed annually)

Date	Item to Check for Good Practices	Comments
	<i>Fleet Maintenance and Vehicle Washing Operations</i>	
	<i>Building Maintenance</i>	
	<i>Snow Management and Snow Disposal Sites</i>	
	<i>Solid Waste Transfer Activities</i>	
	<i>Materials Storage</i>	
	<i>Heavy Equipment Storage Area</i>	
	<i>Hazardous Materials Storage</i>	
	<i>Used Oil Recycling</i>	
	<i>Spill Control & Prevention Measure for Refueling</i>	

SEEP Field Guide Cover



North Idaho
**Stormwater
Erosion &
Sediment Control
Field Guide**



www.PanhandleSEEP.org

Illicit Discharge and Spill Response Plan

ILLICIT DISCHARGE AND SPILL RESPONSE PLAN
for
LAKES HIGHWAY DISTRICT
POST FALLS HIGHWAY DISTRICT
AND
EAST SIDE HIGHWAY DISTRICT



Address:
11341 N. Ramsey Road
Hayden, ID 83835

Phone:
208.772.7527



Address:
5629 E. Seltice Way
Post Falls, ID 83854

Phone:
208.765.3717



Address:
6095 E. Mullan Trail Road
Coeur d'Alene, ID 83814

Phone:
208.765.4714

PURPOSE

The purpose of the Illicit Discharge and Spill response plan is to provide guidance for:

- Responding to and investigating discharge complaints
- Who to notify in the event of a discharge
- Corrective action needed
- Documentation

This plan is not intended to replace any existing plans that were designed to address cleanup of hazardous material (HAZMAT) or sanitary sewer overflows. This plan will serve as a supplement to those plans and provide guidance for spills that are not included in plans already set in place.

ILLICIT DISCHARGE

DEFINED

40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to an MS4 that is not composed entirely of storm water, except allowable discharges pursuant to an NPDES permit, including those resulting from firefighting activities.

COMMON ILLICIT DISCHARGES

- Sewage and septage flows
- Chemical/Oil
- Car wash wastewaters (non-residential)
- Laundry wastewater (grey water)
- Irrigation water

COMMON CAUSES OF ILLICIT DISCHARGE

- Improper sewer line connections
- Sanitary sewer overflows
- Failing septic systems
- Industrial/Commercial waste discharge
- Accidental spills
- Excess landscaping irrigation water
- Leaking underground storage tanks

HIGHWAY DISTRICT ROLES AND RESPONSIBILITIES

In the event of an illicit discharge, it will be the responsibility of the Highway District with jurisdiction to:

- Investigate the complaint no later than two (2) working days.
- If the investigation confirms an illicit discharge, the Highway District will begin the process of eliminating the discharge. Water sampling shall be performed if there is reason to believe the discharge is considered a public health threat.
- Any discharge that is identified as an immediate threat to public health and safety will be reported to local emergency responders (911). If the investigation determines the discharge falls under another agency's jurisdiction, the Highway District will notify that entity (see Contact List below). Once the investigation confirms an illicit discharge, the Highway District will begin the abatement process. The party responsible for the discharge, once identified, will be notified immediately and will be required to eliminate the illicit discharge. The Highway District will attempt to educate the responsible party to prevent any future discharge. If the responsible party cannot be identified, the Highway District will contact residents and/or businesses near the discharge, in an effort to further educate and prevent future discharges.
- Provide Corrective Action if spill is within Highway District Right-of-Way, use a hazardous spill kit to prevent further discharge
- If the investigation finds no illicit discharge, the investigation results will be documented. In addition, the party that notified the Highway District of a possible discharge will be notified of the investigation results.

It is important to document each discharge response, regardless of whether an actual discharge was determined. At a minimum, an illicit discharge report shall contain the following:

- Time and date of discharge notification
- Time and date that the investigation began/ended
- Time and date the discharge was eliminated (if discovered)
- The responsible party (if discovered)
- Steps taken to eliminate the discharge
- Any environmental impacts

If the discharge was deemed an immediate public threat, document the responding agency and type of discharge (hazardous material, sewage, etc.). Reports shall be obtained from the responding agency.

Illicit Discharges must be reported to EPA by telephone at (206)553-1846 within 24-hours from the time the Permittee becomes aware of the noncompliance (see Permit Section 7.9).

All investigations shall be filed with the Highway District’s Annual Stormwater Report, or equivalent.

LOCAL AGENCY CONTACT LIST

AGENCY	OFFICE
LAKES HIGHWAY DISTRICT	(208) 772-7527
POST FALLS HIGHWAY DISTRICT	(208) 765-3717
EAST SIDE HIGHWAY DISTRICT	(208) 765-4714
IDAHO STATE POLICE	(208) 772-6055
KOOTENAI COUNTY SHERRIFF	(208) 446-1300
KOOTENAI COUNTY CODE ENFORCEMENT	(208) 446-1075
IDAHO DEP. OF ENVIRONMENTAL QUALITY	(208)769-1422
PANHANDLE HEALTH	(208) 415-5100
COEUR D’ALENE POLICE DEPARTMENT	(208) 769-2320
HAYDEN LAKE POLICE DEPARTMENT	(208) 772-2161
POST FALLS POLICE DEPARTMENT	(208) 773-3517
SPIRIT LAKE POLICE DEPARTMENT	(208) 623-2701

Dry Weather Monitoring Memo and Inspection Reports

Memorandum

TO: MICHAEL LENZ
FROM: MELISSA CLEVELAND, P.E.
PRJ. #: 41447
SUBJECT: MS4 PERMIT DRY WEATHER INSPECTIONS MEMO
DATE: 10/30/2023
CC: PFHD COMMISSIONERS

Introduction

On August 8 and 9 of 2023, all Post Falls Highway District MS4 outfalls were inspected in accordance with the North Idaho Highway Districts NPDES MS4 Permit. At each outfall site, an inspection report was completed, and photos were taken. Where discharge was present, samples were taken and sent for testing at Accurate Testing Labs, LLC. Discharge was tested for pH, total chlorine, total phenols, E. Coli, total phosphorus, and total suspended solids. GIS mapping was also updated while performing dry weather inspections. The purpose of this memo is to give you a summary of the dry weather inspection results.

Water Quality Standards

IDAPA 58.01.02, Water Quality Standards and the Coeur d'Alene Lake Management Plan (2009) were referenced for applicable standards. Triggers are as follows:

- E. Coli concentrations should be less than 126/100 mL (IDAPA 58.01.02 Section 251)
- Chlorine should be less than 11µg/L (IDAPA 58.01.02 Section 210)
- Total Phosphorus should be less than 8.0 µg/L (Coeur d'Alene Lake Management Plan)
- pH should be between 6.5 and 9.0 (IDAPA 58.01.02 Section 250)
- Turbidity should be less than 25 NTUs (IDAPA 58.01.02 Section 250)

Water Quality Testing Results

All outfalls, except outfall 2 and 8, were dry at the time of inspection. Outfalls 2 and 8 contained discharge during dry weather inspections and were tested for water quality. All samples were taken by Welch Comer staff and tested by Accurate Testing Labs, LLC. Results of the water quality samples are as follows:

Post Falls Highway District Dry Inspection Discharge Testing Results					
Analyte	Outfall Results		Unit	PQL	Analysis Date
	2	8			
E. Coli Bacteria	ND	7.4	CFU (MPN)/ 100mL	1	8/9/23
Chlorine, Total Residual	ND	ND	mg/L	0.01	8/9/23
Phosphorus, Total	0.508	0.026 mg/L	mg/L	0.004	8/9/23
pH	7.27	7.04	pH Units	6.5-9.0	8/9/23
Phenolics	ND	ND	mg/L	0.05	8/9/23
Total Suspended Solids	ND	63	mg/L	1	8/9/23

Note: If the RESULT is 'ND' (Not Detected) or 'Absent', that means the concentration is less than the PQL (Practical Quantitation Limit for this method). See attached test results for method and analyst information. Refer to enclosed test results for method and analyst information.

Outfall 2

Outfall 2 is located on W. Riverview Drive east of Shilling Loop. The samples were taken at the outfall. Special care was taken to ensure samples were taken from Active outfall 2 flow and not from water pooling below the outfall. At outfall 2, E. Coli, chlorine, phenolics, and Total Suspended Solids were not detected. Total phosphorus was detected at 0.508 mg/L, which exceeds the water quality trigger of 8.0 µg/L or 9 µg/L listed for various locations in the 2009 Coeur d'Alene Lake Management Plan.

The pH of 7.27 is within the acceptable range of 6.5 to 9.

The phosphorus levels are relatively high, but no other pollutants (even TSS) were present which does not lead to suspect illicit discharge. Rather, the drainage is likely picking up phosphorus naturally in the forested areas upstream of the outfall.

Outfall 8

Outfall 8 is located off of W. Riverview Drive in an area with residential development. The actual outfall is on private property with restricted access. The sample was taken upstream at the roadside ditch and culvert. At outfall 8, chlorine (Total Residual) and phenolics were not detected.

E. Coli was detected at 7.4 CFU/100 mL. However, if a cross section to sewer or a failing septic were present, we would expect that number to be much higher. E. Coli was not detected in the 2022 sample.

Total phosphorus was detected at 0.026 mg/L which equals 26 µg/L. This exceeds the water quality trigger of 8.0 µg/L or 9 µg/L listed for various locations in the 2009 Coeur d'Alene Lake Management Plan. This is also higher than the 2022 phosphorus reading of 12 µg/L. Additionally, TSS is 63 NTU which exceeds the limit of 25 NTU. We suspect some of the phosphorus is coming from the sediment suspended in the discharge.

The pH of 7.04 is within the acceptable range of 6.5 to 9.

There were other HDPE pipes present in the vicinity, which indicates presence of ground water. There is quite a lot of vegetation present, which could account for the phosphorus. Additionally, the uphill slopes have some erosion, which could contribute sediment, and therefore, phosphorus to the stormwater runoff. At this point, it appears the runoff is likely ground water and the test results do not indicate that additional follow up is necessary.

Action Needed

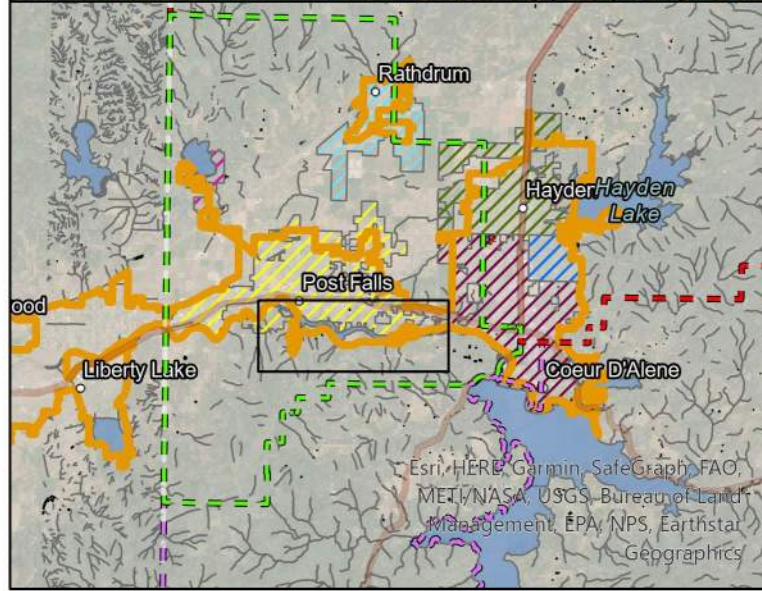
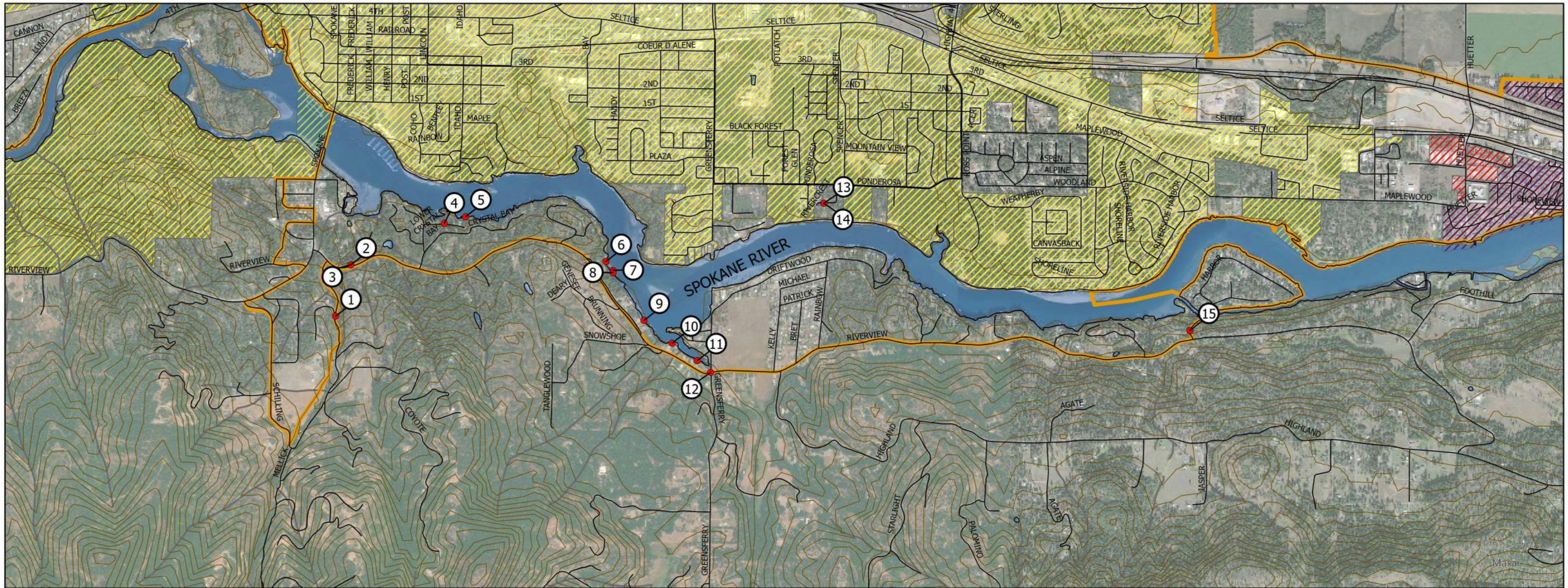
Clear litter and vegetation from outfall 7.

Clear litter, vegetation, and sediment from outfall 9.

Clear sediment from outfall 12.

At this point, no illicit discharge is suspected.

Enclosures: Outfall map, precipitation records, inspection reports, outfall 2 and 8 test reports.



LEGEND

- OUTFALL POINTS
- ▨ CITY OF COEUR D'ALENE
- ▨ CITY OF HUETTER
- ▨ CITY OF POST FALLS
- ▭ 2020 CENSUS DEFINED URBANIZED AREA
- ▭ POST FALLS HIGHWAY DISTRICT

0 1,000 2,000 4,000 Feet

N

OUTFALL TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.693564	-116.947953	15" CMP TO SPRING CREEK FROM SCHILLING DITCH, JUST SOUTH OF S MINNALOOSA LN
2	47.696556	-116.946722	36" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
3	47.696556	-116.946722	12" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
4	47.699042	-116.938702	12" CMP TO TREES FROM SOUTH LOWER CRYSTAL BAY RD
5	47.699446	-116.936883	12" HDPE TO SPOKANE RIVER FROM SOUTH LOWER CRYSTAL BAY RD CATCH BASIN
6	47.696972	-116.924771	18" HDPE TO SPOKANE RIVER, 12025 W RIVERVIEW DR
7	47.696469	-116.924146	18" CMP TO SPOKANE RIVER, 11917 W RIVERVIEW DR
8	47.696335	-116.924138	12" CMP TO UPRIGHT PIPE TO 4" HDPE TO SPOKANE RIVER, 11879 W RIVERVIEW DR
9	47.693591	-116.921419	18" CMP TO SPOKANE RIVER, 11555 W RIVERVIEW DR
10	47.692297	-116.918976	18" CMP TO GREEN FERRY BAY BOAT LAUNCH (SR) FROM RIVERVIEW DITCH
11	47.691307	-116.916792	18" HDPE TO GREEN FERRY BAY (SR) FROM RIVERVIEW DITCH, 11075 W RIVERVIEW DR
12	47.690633	-116.91563	15" CMP TO CEDAR CK (ABOVE STREAM CULVERT) FROM DITCH, GREENFERRY DITCH
13	47.700547	-116.906121	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
14	47.700547	-116.906115	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
15	47.693475	-116.874507	24" CMP FROM HARBOR DRIVE DITCH



NOTE: LATITUDE & LONGITUDE WERE RECALCULATED FROM SOURCE. SKEWED COORDINATES POTENTIALLY CAUSED BY HANDHELD GPS USE UNDER TREE CANOPY.



www.welchcomer.com 208-664-9382

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**POST FALLS HIGHWAY DISTRICT
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) MAP**

Sources: ESRI Basemaps, Idaho Tax Commission GIS, Kootenai County GIS, IDWR GIS,

PROJECT NO :41447
DRAWN BY :AMC
FILENAME :20220518_PFHD_OutfallLocations
DATE :09-20-2022

NOAA NOWdata: Climatological Data for Coeur d'Alene, ID-2023

Date	Temperature				HDD	CDD	Precipitation
	Maximum	Minimum	Average	Departure			
7/1/2023	89	60	74.5	8.6	0	10	0
7/2/2023	85	61	73	6.7	0	8	0
7/3/2023	82	50	66	-0.6	0	1	0
7/4/2023	84	51	67.5	0.5	0	3	0
7/5/2023	83	51	67	-0.3	0	2	0
7/6/2023	86	51	68.5	0.8	0	4	0
7/7/2023	89	51	70	2	0	5	0
7/8/2023	91	60	75.5	7.2	0	11	0
7/9/2023	93	59	76	7.3	0	11	0
7/10/2023	96	63	79.5	10.5	0	15	0
7/11/2023	75	57	66	-3.3	0	1	0.1
7/12/2023	80	54	67	-2.6	0	2	0
7/13/2023	85	60	72.5	2.6	0	8	0
7/14/2023	83	58	70.5	0.4	0	6	0
7/15/2023	89	59	74	3.6	0	9	0
7/16/2023	93	59	76	5.4	0	11	0
7/17/2023	95	59	77	6.1	0	12	0
7/18/2023	80	55	67.5	-3.6	0	3	0
7/19/2023	82	55	68.5	-2.8	0	4	0
7/20/2023	M	M	M	M	M	M	M
7/21/2023	95	62	78.5	6.9	0	14	0
7/22/2023	95	64	79.5	7.8	0	15	0
7/23/2023	90	60	75	3.1	0	10	0
7/24/2023	95	63	79	7	0	14	0
7/25/2023	87	62	74.5	2.5	0	10	0
7/26/2023	79	53	66	-6.1	0	1	0
7/27/2023	M	M	M	M	M	M	M
7/28/2023	85	56	70.5	-1.7	0	6	0
7/29/2023	88	59	73.5	1.3	0	9	0
7/30/2023	91	66	78.5	6.3	0	14	0
7/31/2023	85	58	71.5	-0.6	0	7	0
8/1/2023	87	53	70	-2.1	0	5	0
8/2/2023	90	57	73.5	1.5	0	9	0
8/3/2023	M	M	M	M	M	M	M
8/4/2023	92	61	76.5	4.7	0	12	0
8/5/2023	87	65	76	4.3	0	11	0
8/6/2023	79	65	72	0.4	0	7	0
8/7/2023	82	55	68.5	-3	0	4	0
8/8/2023	80	58	69	-2.3	0	4	0
8/9/2023	82	65	73.5	2.3	0	9	0
8/10/2023	82	61	71.5	0.5	0	7	0

Note: M stands for Missing. Data for an element will be missing if the primary sensor for that weather element is inoperable (e.g., has an outage) or malfunctioning (e.g., producing errant data) AND any collocated backup sensor is also inoperable or malfunctioning. T stand for Trace. This is a small amount of precipitation that will wet a raingage but is less than the 0.01 inch measuring limit.

Accurate Testing Labs, LLC

7950 Meadowlark Way
Coeur d'Alene, ID 83815
Phone (208) 762 8378 Fax (208) 762 9082
www accuratetesting.com
info@accuratetesting.com

Certificate of Analysis

Order No.: **2023080222**

Page: 1 of 1

Welch Comer
330 E Lakeside Ave Ste 101
CDA , ID 83814

Project: POST FALLS HIGHWAY DIST

Date Received: 08/09/2023 08:50

Sample: **1** Matrix: Non-Potable Water
Location: # 2 PROJ 41447.01.0 D/T Collected: 08/09/2023 07:45
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
E. Coli Bacteria	ND	MPN/100mL	SM 9223B	1	08/10/23	ME
Chlorine, Total Residual	ND	mg/L	EPA 330.5	0.01	08/09/23	WM
Phosphorus, Total	0.508	mg/L	EPA 365.1	0.004	08/10/23	WM
pH	7.27	pH Units	EPA 150.1		08/09/23	WM
Phenolics	ND	mg/L	EPA 420.1	0.05	08/25/23	ANA
Total Suspended Solids	ND	mg/L	SM 2540D	1	08/10/23	TH

Sample: **2** Matrix: Non-Potable Water
Location: # 8 PROJ 41447.01.0 D/T Collected: 08/09/2023 08:15
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
E. Coli Bacteria	7.4	MPN/100mL	SM 9223B	1	08/10/23	ME
Chlorine, Total Residual	ND	mg/L	EPA 330.5	0.01	08/09/23	WM
Phosphorus, Total	0.026	mg/L	EPA 365.1	0.004	08/10/23	WM
pH	7.04	pH Units	EPA 150.1		08/09/23	WM
Phenolics	ND	mg/L	EPA 420.1	0.05	08/25/23	ANA
Total Suspended Solids	63	mg/L	SM 2540D	1	08/10/23	TH

If the RESULT is 'ND' (Not Detected) or 'Absent', that means the concentration is less than the PQL (Practical Quantitation Limit for this method).

Comments:

[Sub Lab: Anatek Labs](#)



Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 08/30/23

Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	1
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Date:	08/08/2023	Time:	12:35 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: No With Sediment:No
Flow:	None		
General Observations:	Outfall contained dead grass and Pineneedles. Outfall discharges into larger stream downhill. Upstream culvert across street contains gravel area consists of grass and nettles.		

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		No odor
Deposits/Stains		No staining
Vegetation	Normal	
Surrounding Land Use		

Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	2
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Date:	08/09/2023	Time:	7:36 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	PVC/Plastic
Shape:	Circular	Submerged:	In Water: No With Sediment:No
Flow:	Trickle		
General Observations:	Outfall two and three share drainage basin with large CMP culvert. Large CMP culvert had moderate flow, causing water to pool in drainage basin. Outfall 2 had a trickle of water flowing and pool of water below it. Surrounding area consisted of large rocks and trees. Litter present.		

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		No odor
Deposits/Stains		No staining
Vegetation	Normal	
Surrounding Land Use		

Indicator	Description	Relative Severity Index
Odor		
Color	Clear, no turbidity	
Turbidity	N/A	
Floatables	No floatable or sheen	

Photos



Stormwater Outfalls

Highway District: PFHD		Outfall ID: 3	
Date of Last Rainfall: 07/11/2023	Rainfall Quantity: 0.1 inches	Weather: Cloudy	
Date: 08/09/2023	Time: 7:41 AM	Assessed By: Some longer name	

Type: Closed Pipe		Material: PVC/Plastic	
Shape: Circular		Submerged: In Water: Partially With Sediment:No	
Flow: None			
General Observations: Outfall two and three, share same drainage basin as large CMP Culvert. Large CMP culvert had moderate flow causing water to pool and drainage basin. Water partially submerged out fall three. No flow. Litter present. Surrounding area contained gravel, small rocks, and trees.			

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		No odor
Deposits/Stains		No staining
Vegetation	Normal	
Surrounding Land Use		

Photos



Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	4
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Date:	08/08/2023	Time:	1:14 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: No With Sediment:No
Flow:	None		
General Observations:	Upstream Culver on south side of road is sediment laden and contains Pineneedles. Outfall isn't good condition and discharges on the sediment and gravel on private property.		

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		No odor
Deposits/Stains		
Vegetation	Normal	
Surrounding Land Use		

Upstream culvert



Outfall



Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	5
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Date:	08/08/2023	Time:	1:18 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: No With Sediment:No
Flow:	None		
General Observations:	Outfall located on private property, upstream manhole assessed. Manhole was dry and contained gravel.		

Indicator	Description	Comments
Pipe Condition		
Odor		
Deposits/Stains		
Vegetation	Normal	
Surrounding Land Use		

Manhole Assessed:



Manhole Interior:



Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	6
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Date:	08/08/2023	Time:	1:21 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: No With Sediment:No
Flow:	None		
General Observations:	Outfall located on private property upstream cover on south side of road assessed. Outfall contains Pineneedles pinecones and gravel. Roadside ditch consists of gravel and grass.		

Indicator	Description	Comments
Pipe Condition		Good condition, slight corrosion on edges
Odor		No odor
Deposits/Stains		
Vegetation	Normal	
Surrounding Land Use		

Photos



Stormwater Outfalls

Highway District: PFHD	Outfall ID: 7
Date of Last Rainfall: 07/11/2023	Rainfall Quantity: 0.1 inches
Date: 08/08/2023	Time: 1:26 AM
	Weather: Cloudy
	Assessed By: Some longer name

Type: Closed Pipe	Material: Metal
Shape: Circular	Submerged: In Water: No With Sediment:No
Flow: None	
General Observations: outfall on private property, upstream culvert assessed. Culvert contains stagnant water and mud,insufficient flow to sample. Long grass in upstream roadside ditch. Litter present. Culvert contains gravel and sediment	

Indicator	Description	Comments
Pipe Condition		
Odor		No odor
Deposits/Stains		No staining
Vegetation	Normal	
Surrounding Land Use		

Photos



Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	8
Date of Last Rainfall:	08/06/2023	Rainfall Quantity:	0.04
Date:	08/09/2023	Time:	8:05 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: Partially With Sediment: Partially
Flow:	Trickle		
General Observations:	Outfall discharge point located on private property. Outfall discharges into manhole covered with grate. Exterior assessed and flow confirmed, samples taken from upstream culvert. Roadside ditch contains long grasses frog eggs, and stagnant water. Culvert is sediment laden and partially submerged in water. Samples were taken from active flow, being mindful not to sample standing water. Litter present.		

Indicator	Description	Comments
Pipe Condition		
Odor		No odor
Deposits/Stains		No staining
Vegetation	Normal	
Surrounding Land Use		

Indicator	Description	Relative Severity Index
Odor		
Color	Clear, no turbidity	
Turbidity	N/A	
Floatables	No floatables or sheen	

Outfall Located on private property,
not assessed:



Upstream culvert assessed:



Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	9
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Date:	08/08/2023	Time:	1:43 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: No With Sediment:Partially
Flow:	None		
General Observations:	Outfall located on private property, upstream culvert assessed. Culvert is sediment laden and contains pine needles, broken glass, and pinecones. Roadside swale contains grass and pine needles and is completely dry. Litter present.		

Indicator	Description	Comments
Pipe Condition	Clogged	Sediment and pine needle laden. Partially clogged
Odor		No odor
Deposits/Stains		
Vegetation	Normal	
Surrounding Land Use		

Photos



Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	10
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Date:	08/08/2023	Time:	1:53 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: Fully With Sediment:No
Flow:	None		
General Observations:	Are outfall located in boat launch completely submerged in water. Upstream culvert on south side of road assessed. Culvert contains large rocks. Fiber wattle has been installed. Surrounding area contains grass, yarrow, and sediment. Sparse vegetation in drainage basin.		

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		No odor
Deposits/Stains		No staining
Vegetation	Normal	
Surrounding Land Use		

Outfall Fully Submerged in
Spokane River:



Upstream Culvert Assessed:



Stormwater Outfalls

Highway District: PFHD	Outfall ID: 11
Date of Last Rainfall: 07/11/2023	Rainfall Quantity: 0.1 inches
Date: 08/08/2023	Time: 2:03 PM
	Weather: Cloudy
	Assessed By: Some longer name

Type: Closed Pipe	Material: Metal
Shape: Circular	Submerged: In Water: No With Sediment:No
Flow: None	
General Observations: How old is ChargePoint on private property upstream culvert on south side of road assessed. Culvert contains large rock riprap rock sediment controls have been installed in roadside ditch. Litter present. Roadside ditch discharges into small drainage basin containing grass and gravel then flow into culvert. Culverts running parallel to the road are gravel and sediment laden.	

Indicator	Description	Comments
Pipe Condition		Slightly bent
Odor		No odor
Deposits/Stains		No staining
Vegetation	Normal	
Surrounding Land Use		

Photos



Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	12
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Weather:	Cloudy		
Date:	08/08/2023	Time:	2:15
Assessed By:	Some longer name		

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: No With Sediment:No
Flow:	None		
General Observations:	Outfall discharges into large drainage basin into 55" CMP culvert. 55" culvert is partially submerged with stagnant water. Outfall contains pine needles. Drainage area contains grass, duckweed, and waterfowl.		

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		No odor
Deposits/Stains		
Vegetation	Normal	
Surrounding Land Use	Recreational	Near swim area

Photos



Stormwater Outfalls

Highway District:	PFHD	Outfall ID:	13
Date of Last Rainfall:	07/11/2023	Rainfall Quantity:	0.1 inches
Date:	08/08/2023	Time:	2:50 AM
		Weather:	Cloudy
		Assessed By:	Some longer name

Type:	Closed Pipe	Material:	Metal
Shape:	Circular	Submerged:	In Water: No With Sediment:No
Flow:	None		
General Observations:	Outfall I located on private property upstream manhole assessed. Manhole contained gravel and sediment and no stagnant water. Manhole is in good condition. Unknown pipes within culvert.		

Indicator	Description	Comments
Pipe Condition		
Odor		No odor
Deposits/Stains		Stained with road oil or tar
Vegetation	Normal	
Surrounding Land Use		

Photos



Stormwater Outfalls

Highway District: PFHD	Outfall ID: 14
Date of Last Rainfall: 07/11/2023	Rainfall Quantity: 0.1 inches
Date: 08/08/2023	Weather: Sunny
Time: 2:57 AM	Assessed By: Some longer name

Type: Closed Pipe	Material: Metal
Shape: Circular	Submerged: In Water: No With Sediment:No
Flow: None	
General Observations: Outfall located on private property upstream touch base and assessed. Catch basin lid covered in sediment and pine needles. Road surface partially paved over catch basin, making it difficult to remove. Catch basin contains sediment, Pineneedles, and gravel. Catch basin is dry and road tar/oil has been sprayed in interior walls and culvert.	

Indicator	Description	Comments
Pipe Condition		Sprayed with road oil or tar. Slightly dented and corroded on edges.
Odor		None
Deposits/Stains	Paint, Oily	
Vegetation	Normal	
Surrounding Land Use		

Photos



Stormwater Outfalls

Highway District: PFHD	Outfall ID: 15
Date of Last Rainfall: 07/11/2023	Rainfall Quantity: 0.1 inches
Date: 08/08/2023	Time: 2:25 PM
	Weather: Cloudy
	Assessed By: Some longer name

Type: Closed Pipe	Material: Metal
Shape: Circular	Submerged: In Water: No With Sediment:No
Flow: None	
General Observations: Outfall is in good condition and free from debris. Outfall discharges on to river rock. Surrounding area contains healthy vegetation. Outfall is located on eroding steep slope with loose, gravel and sediment.	

Indicator	Description	Comments
Pipe Condition		Slightly bent on edges
Odor		No odor
Deposits/Stains		No staining
Vegetation		
Surrounding Land Use		

Photos



Wet Weather Monitoring Memo

Memorandum

TO: MICHAEL LENZ
FROM: MELISSA CLEVELAND, P.E.
PRJ. #: 41447.00
SUBJECT: MS4 PERMIT WET WEATHER INSPECTIONS MEMO
DATE: JULY 24, 2023
CC: PFHD COMMISSIONERS

Introduction

On May 16th and June 8th and 9th of 2023, 13 Post Falls Highway District MS4 outfalls were inspected in accordance with the North Idaho Highway Districts NPDES MS4 Permit. At each outfall site, samples were collected and sent for water quality testing. Discharge samples were tested for total phosphorus, cadmium, lead, and zinc to monitor pollutants entering the Spokane River. Inspection occurred during wet weather and samples were taken at the outfall, if possible. If discharge levels were dry or too low, samples were taken upstream at the nearest roadside ditch, culvert, or catch basin. Dry outfalls were reinspected during the following storm event. The purpose of this memo is to give you a summary of the wet weather inspection results.

Water Quality Standards

IDAPA 58.01.02, Water Quality Standards and the Coeur d'Alene Lake Management Plan (2009) were referenced for applicable standards. The IDAPA Criterion Maximum Concentration (CMC) threshold levels were used for cadmium, lead, and zinc. CMC refers to the highest concentration of a material in ambient water to which an aquatic community can be briefly exposed without unacceptable adverse effect. Thresholds are as follows:

Contaminant Thresholds				
Analyte	CMC Threshold Level	Unit	Source	Analyst Method
Cadmium	1.3	µg/L	IDAPA 58.01.02 Section 210	SM 3120B
Lead	65	µg/L	IDAPA 58.01.02 Section 210	SM 3120B
Phosphorus, Total	0.008	mg/L	Coeur d'Alene Lake Management Plan	EPA 365.1
Zinc	120	µg/L	IDAPA 58.01.02 Section 210	SM 3120B

Water Quality Testing Results

The discharge from all 15 Post Fall Highway District Outfalls were tested for the above contaminants. All water samples were taken by Welch Comer staff and tested by Accurate Testing Labs, LLC. Results of the water quality sample are as follows:

Post Falls Highway District Wet Weather Results						
OUTFALL	CADMIUM (µg/L)	TOTAL PHOSPHORUS (mg/L)	LEAD (µg/L)	ZINC (µg/L)	SAMPLE COLLECTION DATE	SAMPLING LOCATION
Outfall 1	ND	0.433	ND	7.22	6/9/2023	roadside ditch
Outfall 2	ND	0.227	4.86	114	6/8/2023	Runoff entering catch basin
Outfall 3	ND	0.101	2.09	16.4	6/9/2023	catch basin
Outfall 4	ND	0.18	5.26	24.5	6/9/2023	runoff entering culvert
Outfall 5	ND	0.032	1.54	5.43	6/9/2023	runoff entering manhole
Outfall 6	ND	0.056	1.4	24.7	6/9/2023	roadside ditch
Outfall 7	ND	0.019	ND	5.07	6/9/2023	outfall
Outfall 8	ND	0.016	ND	ND	5/16/2023	outfall
Outfall 9	ND	0.232	2.44	61.7	6/9/2023	submerged culvert
Outfall 10	ND	0.124	1.95	33.2	6/9/2023	roadside ditch
Outfall 11	ND	1	24.3	215	6/8/2023	roadside ditch
Outfall 12	ND	0.041	ND	ND	5/16/2023	outfall
Outfall 13/14	ND	2.2	8.75	115	6/9/2023	Runoff entering catch basin
Outfall 15	ND	0.049	ND	22.36	5/16/2023	outfall

Note: If the results id 'ND' (Not Detected), concentration is less than the PQL (Practical Quantitation Limit) for this method.

Due to low flow rates and outfalls located on private property, most samples were taken upstream either at roadside ditches containing culverts or from stormwater runoff actively draining into catch basin. Wet weather sampling times were also limited due to dry spring conditions with little rainfall. Samples collected via road runoff entering catch basin contained higher levels of contaminants due to minimal infiltration of stormwater. Conversely, samples taken directly from outfalls contained lower levels of contamination. Outfall 13 and 14 contained unusually high levels of contaminants likely due to sampling location and will not be recommended to install pollutant reduction activities.

Outfalls Above Thresholds

All outfalls exceeded the 2009 Coeur d'Alene Lake Management Plan total phosphorus threshold of 0.008 mg/L or 8 µg/L by at least double. Outfall 11, 13, and 14 exhibited the highest levels of phosphorus, with samples containing 1 and 2.2 mg/L of total phosphorus, respectively.

No samples detected cadmium and no samples exceeded the lead threshold. Outfall 11 contained the highest levels of lead and zinc.

Outfall 11 exceeded the IDAPA recommended zinc threshold by 95 µg/L, containing 215 µg/L. Outfall 11 also contained the highest level of lead contamination, 24.3 µg/L, while lower than the threshold of 65 µg/L.

See attached for a copy of the Accurate Testing Lab results.

Pollutant Reduction Activities

As required by the North Idaho Highway District National Pollutant Discharge Elimination System (NPDES) Permit, Post Falls Highway District must implement at least two pollutant reduction activities to both reduce and quantify pollutant loading. As outlined in the 2022 Monitoring and Assessment Plan, Post Falls Highway District must install a small infiltration facility and biochar socks in at least one outfall location to complete the pollution reduction requirement. Two outfalls will be selected to implement activities. The selected outfalls will be monitored during wet and dry weather inspections, sampling both upstream and downstream of the pollutant reduction activity and completing the impaired waters inspection report to assess and monitor progress.

The outfalls will be selected based on the 2023 wet weather water quality results and the existing conditions of the outfall. Photos and reports from the 2023 wet weather inspections and previous year's 2022 dry weather inspections will be utilized in choosing the pollutant reduction activity locations.

The outfall should also be chosen to mitigate external factors that may influence the data, such as high traffic areas and nearby construction. Due to additional monitoring, it is preferred that the selected outfall be within ROW and outside of private property, with adequate space to complete the project.

Recommended Pollutant Reduction Activity Locations

The following is a recommendation for the above pollutant reduction activities.

Outfalls 10 and 11 are located off W. Riverview Drive approximately 400 ft apart in a residential development, near a local boat launch. Both outfalls have shown issues of drainage in the past and were either partially or fully submerged with water or sediment during inspections. Existing soil conditions exhibit drainage issues creating flooding and pollutant concerns.

Outfall 11

The discharge point for Outfall 11 is located on private property, so the inspections were completed upstream at an existing culvert. One culvert extends below a driveway and discharges into the roadside ditch where it drains into a secondary culvert that drains to the outfall discharging into the Spokane River. The first culvert below the driveway is consistently sediment laden and partially submerged during inspections due to the close proximity to the driveway. The secondary culvert is equipped with armored rock and vegetation to protect against sedimentation.

Outfall 11 exceeded thresholds for total phosphorus and zinc and exhibited the highest levels of lead of any Post Falls Highway District Outfall.

Due to the high levels of phosphorus, lead, and zinc and poor existing conditions, it is recommended that Outfall 11 be selected to implement biochar socks as part of the Pollutant Reduction Activity outlined in the 2022 Monitoring and Assessment Plan. It is recommended to install two (2) biochar sock check dams, one upstream of the first culvert and one in the roadside ditch between the culverts. It is also recommended to reduce sedimentation and flooding by cleaning out the first culvert as stated in the previous 2022 Dry Weather Inspection MS4 Summary Memo.

Refer to Figures 1 and 2 below for images of the area.



Dry Weather Inspections 2022

Wet Weather Inspections 2023

Figure 1: Outfall 11, Culvert 1



Dry Weather Inspection 2022

Wet Weather Inspection 2023

Figure 2: Outfall 11, Culvert 2

Outfall 10

Outfall 10 discharges into the existing boat launch and is consistently submerged under the Spokane River at the time of inspection. Inspections are completed upstream at the roadside swale and culvert across the street from the outfall.

The submerged outfall is also visually examined during inspection with notable water discoloration in the area during the 2023 wet weather inspection. During the 2022 dry weather inspections, the culvert was sediment laden and equipped with a fiber wattle. The existing swale contains native soils and minimal vegetation with no notable material added to improve infiltration.

Despite water quality contaminants being lower than other outfalls, Outfall 10 could greatly benefit from infiltration facilities to aid in infiltration and mitigate sedimentation. It would also be beneficial to alleviate pollution concerns due to its proximity to the public boat launch. It is recommended to armor the existing ditch with fabric and rock, and re-seed any remaining slopes with dryland hydroseed as a part of the infiltration/settling basin pollutant reduction activity outline in the 2022 Monitoring and Assessment Plan. To aid in infiltration, a French drain could also be installed in the settling basin. As a part of the mitigation, we also recommend cleaning the existing culverts.

Refer to Figures 3 through 5 below for photos of existing conditions.



Figure 3: Outfall 10



Figure 4: Outfall 10 Culvert (2022 Dry Weather Inspection)

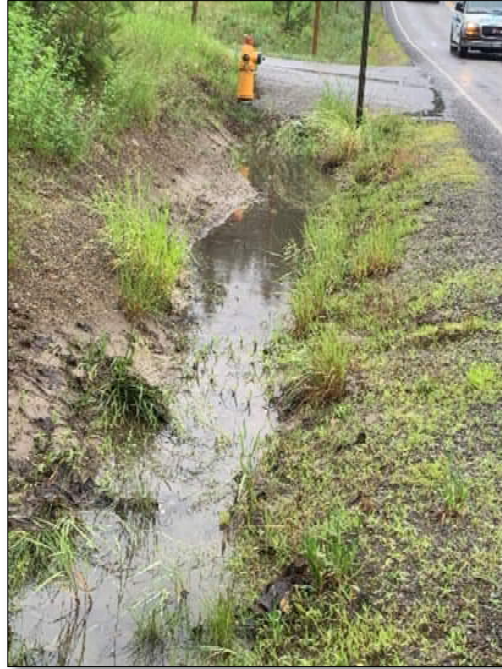


Figure 5: Outfall 10 Swale/Culvert (2023 Wet Weather Inspection)

Next Steps

Dry Weather Outfall Inspections

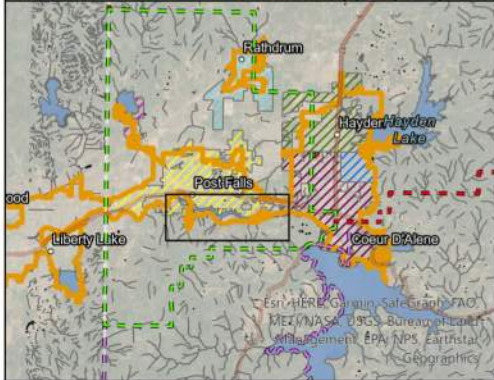
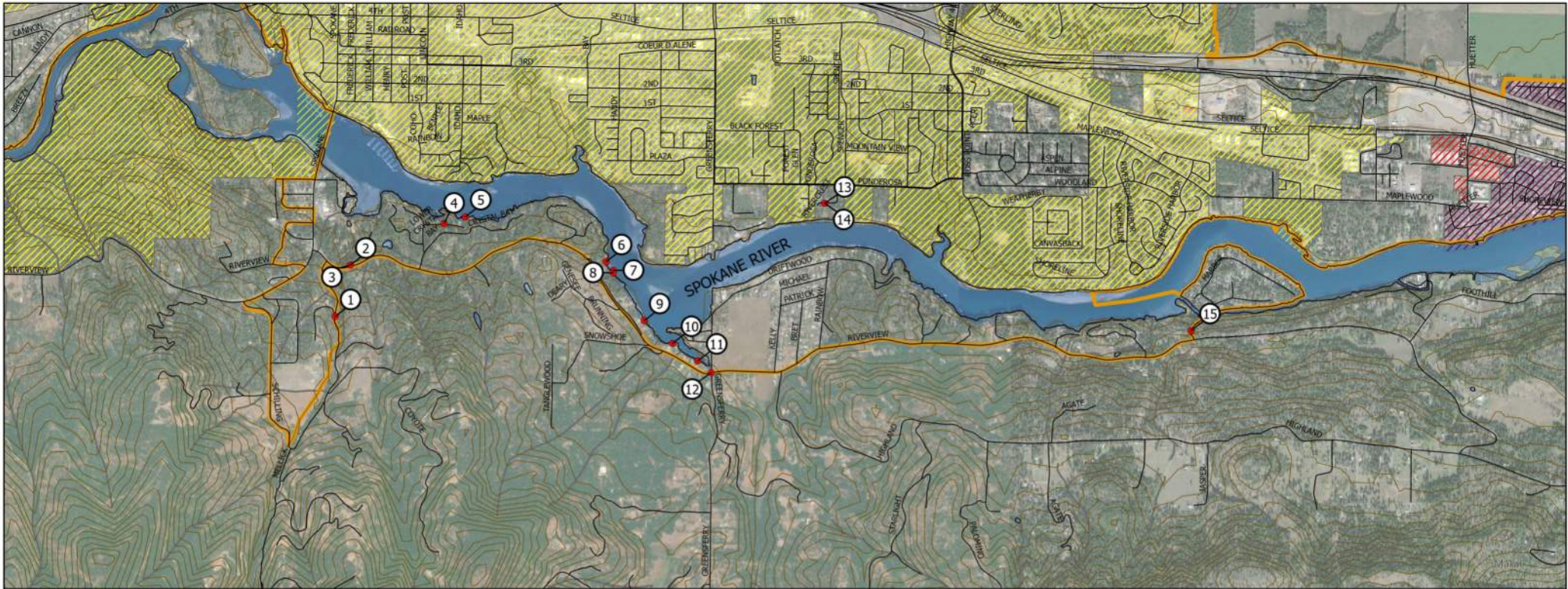
We are prepared to complete the dry weather outfall inspections in late July or early August. Each site will be inspected for illicit discharge, sampling where discharge is present and completing an inspection report at each outfall. A memo with the results of the testing will be prepared and included in the annual report.

Monitoring/Assessment Plan

Install pollutant reduction activities at selected outfalls after recommendations are reviewed by the Highway District. Reduction activities progress will be recorded during dry weather inspections and an update included in a memo. During wet weather, we will test again for pollutants and document reductions, if any.

Draft the Annual Report

We will draft the annual report for review by the Highway District.



- LEGEND**
- OUTFALL POINTS
 - ▨ CITY OF COEUR D'ALENE
 - ▨ CITY OF HUETTER
 - ▨ CITY OF POST FALLS
 - ▭ 2020 CENSUS DEFINED URBANIZED AREA
 - ▭ POST FALLS HIGHWAY DISTRICT



OUTFALL TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.693564	-116.947953	15" CMP TO SPRING CREEK FROM SCHILLING DITCH, JUST SOUTH OF S MINNALOOSA LN
2	47.696556	-116.946722	36" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
3	47.696556	-116.946722	12" PVC TO SPRING CREEK FROM W RIVERVIEW STORM SEWER SYSTEM
4	47.699042	-116.938702	12" CMP TO TREES FROM SOUTH LOWER CRYSTAL BAY RD
5	47.699446	-116.936883	12" HDPE TO SPOKANE RIVER FROM SOUTH LOWER CRYSTAL BAY RD CATCH BASIN
6	47.696972	-116.924771	18" HDPE TO SPOKANE RIVER, 12025 W RIVERVIEW DR
7	47.696469	-116.924146	18" CMP TO SPOKANE RIVER, 11917 W RIVERVIEW DR
8	47.696335	-116.924138	12" CMP TO UPRIGHT PIPE TO 4" HDPE TO SPOKANE RIVER, 11879 W RIVERVIEW DR
9	47.693591	-116.921419	18" CMP TO SPOKANE RIVER, 11555 W RIVERVIEW DR
10	47.692297	-116.918976	18" CMP TO GREEN FERRY BAY BOAT LAUNCH (SR) FROM RIVERVIEW DITCH
11	47.691307	-116.916792	18" HDPE TO GREEN FERRY BAY (SR) FROM RIVERVIEW DITCH, 11075 W RIVERVIEW DR
12	47.690633	-116.91563	15" CMP TO CEDAR CK (ABOVE STREAM CULVERT) FROM DITCH, GREENFERRY DITCH
13	47.700547	-116.906121	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
14	47.700547	-116.906115	12" CMP FROM RIVERCREST DRIVE TO BRUSH THEN SPOKANE RIVER
15	47.693475	-116.874507	24" CMP FROM HARBOR DRIVE DITCH



NOTE: LATITUDE & LONGITUDE WERE RECALCULATED FROM SOURCE. SKEWED COORDINATES POTENTIALLY CAUSED BY HANDHELD GPS USE UNDER TREE CANOPY.



www.welchcomer.com 208-664-9382

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**POST FALLS HIGHWAY DISTRICT
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) MAP**

Sources:
 ESRI Basemaps, Idaho Tax Commission GIS, Kootenai County GIS, IDWR GIS,
 PROJECT NO :41447
 DRAWN BY :AMC
 FILENAME :20220518_PFHD_OutfallLocations
 DATE :09-20-2022

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Certificate of Analysis

Order No.: **2023060205**

Page: 1 of 4

Welch Comer
330 E Lakeside Ave Ste 101
CDA , ID 83814

Project: PF Hwy Dist Wet Weather Tests

Date Received: 06/09/2023 12:15

Sample: **1** Matrix: Non-Potable Water
Location: Outfall 1 D/T Collected: 06/09/2023 10:00
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.433	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	ND	ug/L	SM 3120B	1	06/16/23	WM
Zinc	7.22	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **2** Matrix: Non-Potable Water
Location: Outfall 2 D/T Collected: 06/08/2023 17:00
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.227	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	4.86	ug/L	SM 3120B	1	06/16/23	WM
Zinc	114	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **3** Matrix: Non-Potable Water
Location: Outfall 3 D/T Collected: 06/09/2023 11:00
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.101	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	2.09	ug/L	SM 3120B	1	06/16/23	WM

Comments:



Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 06/19/23

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Order No.: **2023060205**

Page: 2 of 4

Zinc	16.4	ug/L	SM 3120B	2.5	06/16/23	WM
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Sample: **4** Matrix: Non-Potable Water
Location: Outfall 4 D/T Collected: 06/09/2023 09:40
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.180	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	5.26	ug/L	SM 3120B	1	06/16/23	WM
Zinc	24.5	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **5** Matrix: Non-Potable Water
Location: Outfall 5 D/T Collected: 06/09/2023 09:45
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.032	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	1.54	ug/L	SM 3120B	1	06/16/23	WM
Zinc	5.43	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **6** Matrix: Non-Potable Water
Location: Outfall 6 D/T Collected: 06/09/2023 10:15
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.056	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	1.40	ug/L	SM 3120B	1	06/16/23	WM
Zinc	24.7	ug/L	SM 3120B	2.5	06/16/23	WM

Comments:



Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 06/19/23

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Order No.: **2023060205**

Page: 3 of 4

Sample: **7** Matrix: Non-Potable Water
Location: Outfall 7 D/T Collected: 06/09/2023 10:10
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.019	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	ND	ug/L	SM 3120B	1	06/16/23	WM
Zinc	5.07	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **8** Matrix: Non-Potable Water
Location: Outfall 9 D/T Collected: 06/09/2023 10:35
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.232	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	2.44	ug/L	SM 3120B	1	06/16/23	WM
Zinc	61.7	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **9** Matrix: Non-Potable Water
Location: Outfall 10 D/T Collected: 06/09/2023 10:55
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.124	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	1.95	ug/L	SM 3120B	1	06/16/23	WM
Zinc	33.2	ug/L	SM 3120B	2.5	06/16/23	WM

Comments:



Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 06/19/23

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Order No.: **2023060205**

Page: 4 of 4

Sample: **10** Matrix: Non-Potable Water
Location: Outfall 11 D/T Collected: 05/28/2023 16:40
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	1.00	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	24.3	ug/L	SM 3120B	1	06/16/23	WM
Zinc	215	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **11** Matrix: Non-Potable Water
Location: Outfall 113/14 D/T Collected: 06/09/2023 09:30
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	2.20	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	8.75	ug/L	SM 3120B	1	06/16/23	WM
Zinc	115	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **12** Matrix: Non-Potable Water
Location: Outfall 8 **Sample 12 from unrelated project, disregard.** D/T Collected: 06/08/2023 16:00
Sample Type: Grabs Collected by: Sadie Sundahl

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	9.93	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	8.07	mg/L	EPA 365.1	0.004	06/15/23	WM
Lead	649	ug/L	SM 3120B	1	06/16/23	WM
Zinc	3274	ug/L	SM 3120B	2.5	06/16/23	WM

If the RESULT is 'ND' (Not Detected) or 'Absent', that means the concentration is less than the PQL (Practical Quantitation Limit for this method).

Comments:



Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 06/19/23

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Order No.: **2023050311**

Page: 1 of 2

Welch Comer
330 E Lakeside Ave Ste 101
CDA , ID 83814

Project: PFHD - 4114700 - MS4 Permits

Date Received: 05/16/2023 12:25

Sample: **1** Matrix: Non-Potable Water
Location: Outfalls # 8 D/T Collected: 05/16/2023 09:42
Sample Type: Grabs Collected by: Cody Hodgson

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.016	mg/L	EPA 365.1	0.004	05/17/23	WM
Lead	ND	ug/L	SM 3120B	1	06/16/23	WM
Zinc	ND	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **2** Matrix: Non-Potable Water
Location: Outfalls # 12 D/T Collected: 05/16/2023 09:22
Sample Type: Grabs Collected by: Cody Hodgson

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.041	mg/L	EPA 365.1	0.004	05/17/23	WM
Lead	ND	ug/L	SM 3120B	1	06/16/23	WM
Zinc	ND	ug/L	SM 3120B	2.5	06/16/23	WM

Sample: **3** Matrix: Non-Potable Water
Location: Outfalls # 13 **Incorrect sample location listed;** D/T Collected: 05/16/2023 09:20
Sample Type: Grabs **Outfall 15** Collected by: Cody Hodgson

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Cadmium	ND	ug/L	SM 3120B	1	06/16/23	WM
Phosphorus, Total	0.049	mg/L	EPA 365.1	0.004	05/17/23	WM
Lead	ND	ug/L	SM 3120B	1	06/16/23	WM

Comments:



Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 06/19/23

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Order No.: **2023050311**

Page: 2 of 2

Zinc	22.36	ug/L	SM 3120B	2.5	06/16/23	WM
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If the RESULT is 'ND' (Not Detected) or 'Absent', that means the concentration is less than the PQL (Practical Quantitation Limit for this method).

Comments:



Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 06/19/23

Public Education Summaries & Website Brochures

Earth Day 2023



Did You Know?

- ◆ Water that runs down your street drains to our local lakes and rivers.
- ◆ As the water runs, it picks up pollutants and trash.
- ◆ You can help keep our lakes and rivers clean.

What Can You Do To Help?

- ◆ Clean up the outside areas around your home.
- ◆ Help to organize a neighborhood clean-up.
- ◆ Keep water on your property in rain barrels, cisterns, or rain gardens.
- ◆ Always throw your trash away in a garbage can. Don't litter!

Helpful Websites & Activities

Clean Waterways: <https://www.cleanwaterways.org/Resources/Kids-Educators>

Only Rain Down the Drain: <https://www.onlyraindownthedrain.com/kids/>

Watershed Sleuth Challenge: <https://www.neefusa.org/watershed-sleuth>

City of CDA: <https://www.cdaid.org/629/departments/finance/utilitybilling/stormwater/what-we-can-do>

Join in the fun at the CDA Library Earth Day Celebration!

Outdoor activities, games, giveaways, and educational presentations await.

When: Saturday, April 23rd
10:00 am—2:00 pm

Where: 702 Front Ave., CDA



Memorandum

TO: MANAGEMENT OF THE MS4 PERMITT
FROM: SADI REYNOLDS, INTERN
PRJ. #: MS4 PERMITS 41322.11.1 P007, 41348.02.1 P006, 41447.01.0 P006
SUBJECT: RAMSEY ELEMENTARY COEUR D'ALENE WWTP TOUR
DATE: MAY 18, 2023

Ramsey Elementary 5th grade students toured the Coeur d'Alene Wastewater Treatment Plant. The students spent time at different stations where they learned about wastewater treatment and stormwater drainage systems. I was there as a representative for Welch Comer Engineers and Surveyors, informing the students on what stormwater is, what can pollute the stormwater, where the stormwater goes, and what we can do as a community to lower the number of pollutants in the stormwater drainage systems. Some of the pollutants I mentioned were plant fertilizers, animal waste, trash, and motor oils. I informed the students of how to prevent these pollutants including, picking up any trash on the streets, keeping lawn clippings off the sidewalks and roads, picking up any waste an animal leaves behind in the park and at their homes, and to clean any oil spills a car might have. I also mentioned how swales work and how they can help filter out different pollutants before the water goes into the catch basins. Figures 1, 2, and 3 show images of the stormwater learning station from the fieldtrip.



Figure 1: Orange Group in Front of the Stormwater Station



Figure 2: Stormwater Learning Station



Figure 3: Students Learning about how Catch Basins are Cleaned.

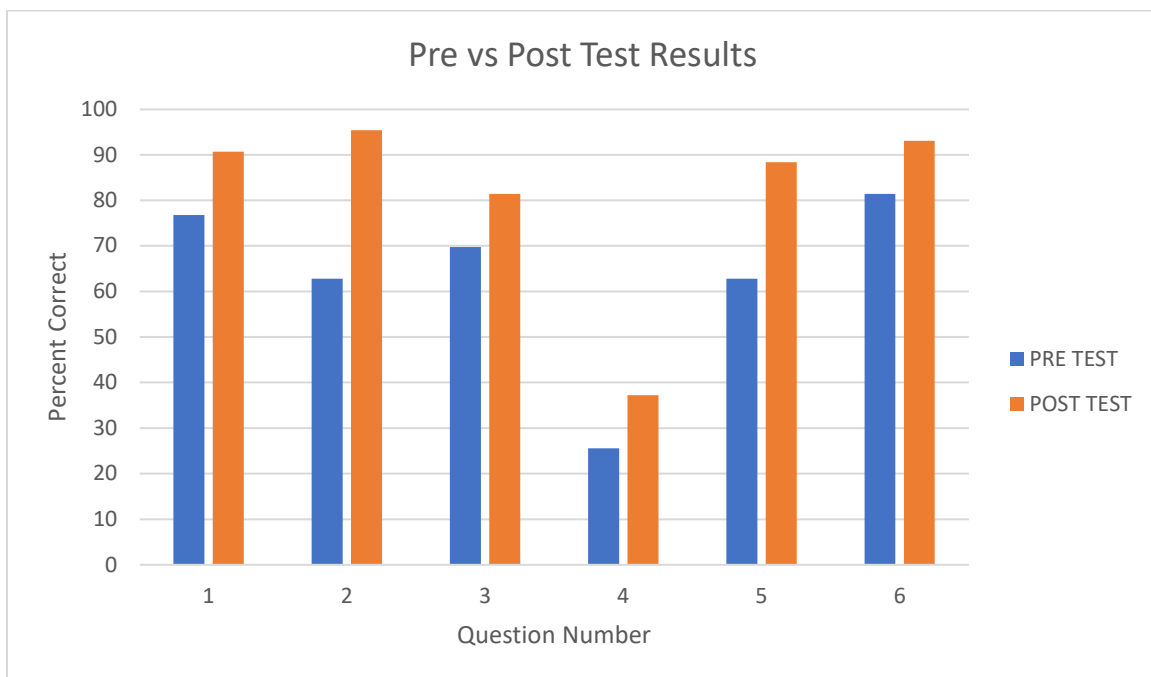
June 8th, 2023

Ramsey Elementary Wastewater Treatment Plant Stormwater Presentation Public Outreach

Two 5th grade classes from Ramsey Elementary traveled to the City of Coeur d'Alene's Wastewater Treatment Plant on June 1st, 2023 to tour the facilities.

Students in groups of 15 participated in educational activities such as touring the wastewater treatment plant and learning about stormwater, water tapping, and macroinvertebrates. As a representative of the Lakes Highway District, East Side Highway District, and Post Falls Highway District, I presented a stormwater presentation, educating the students about the importance of stormwater and water quality. The presentation defined stormwater and highlighted local stormwater facilities and techniques to prevent stormwater pollution. A pre and post survey was handed out to the students to determine the effectiveness of the presentation and student comprehension. On average, students increased their score by 17.8%. See below for survey results and examples of post surveys. Merchandise highlighting water quality were also handed out to students to take home.

	Average Score
Pre Test	63.18%
Post Test	81.01%
Average Increase	17.83%



- 1) Stormwater is water that falls from the sky as rain or snow. T/F *True*
- 2) All water entering the lake is pollution free. T/F *False*
- 3) Stormwater pollution has no effect on aquatic wildlife. T/F *True*
- 4) Stormwater is collected and treated at the wastewater treatment plant. T/F *False*
- 5) Pets and excessive fertilizer can contribute to stormwater pollution. T/F *True*
- 6) Storm drains can be used as trash cans. T/F *False*
- 7) One way kids can help keep storm water clean is to pick up ^{dogs} ~~cars~~ doo.

- 1) Stormwater is water that falls from the sky as rain or snow. T/F
- 2) All water entering the lake is pollution free. T/F
- 3) Stormwater pollution has no effect on aquatic wildlife. T/F
- 4) Stormwater is collected and treated at the wastewater treatment plant. T/F
- 5) Pets and excessive fertilizer can contribute to stormwater pollution. T/F
- 6) Storm drains can be used as trash cans. T/F
- 7) One way kids can help keep storm water clean is to tell people to not dump trash in the storm water trunks

Sadie Sundahl
Engineering Assistant

May 25, 2023

Silverwood Amusement Park Science and Physics Day Stormwater Public Outreach

Local schools from Eastern Washington and North Idaho traveled to Silverwood Amusement Park on May 25th, 2023 to participate in the annual Silverwood Science and Physics Day, while also enjoying the amusement park.

Students participated in educational activities such as visiting the water quality education booths, creating rollercoaster models and egg drop containers, and measuring distances using a wheel. As a representative of the Lakes Highway District, East Side Highway District, and Post Falls Highway District, I worked alongside the City of Coeur d'Alene and the Idaho Department of Environmental Quality to educate students, parents, and school faculty on the importance of water quality. The booth focused on local stormwater drainage systems and groundwater, educating students on stormwater pollution prevention and their home water source. Pamphlets and merchandise highlighting water quality topics were also handed out to students to take home.





Sadie Sundahl
Engineering Assistant